# HEALTH:

# Maternal & Infant Health Care

10-22-87

HOUSE HESS COMMITTEE MEETING MATERIALS

October 22, 1987

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A. GENERAL HEALTH CARE MATERIALS

Separate

Alaska Comprehensive Health Care Financing Study: Description of Policy Options, Final Report, Volumes I and II (also known as the Batelle Study), March 1982

In the Packet

1. "Dukakis Plan puts Spotlight on the Uninsured", State Health Notes, October 1987, pages 1-4.

2. Washington Newsletter, "The Nation's Health", page 4, Sept. 1987, (articles: "Panels Vote Medicare/Medicaid Changes", "House Approves Catastrophic Insurance Plan", "House Backs $85 Billion HHS Budget")

3. "The Right Start: A Proposal to Provide Preventative Health Care for All Minnesota Children", Children's Defense Fund, 1986

4. 9/29/87 House Research Report (Sandi Depue), "Components of Health Care Costs in Alaska"

5. DRAFT: "A Comparison of State Indigent Care," Division of Planning, DHSS, April 1986

6. "The Analyst's Corner: Primary Care Case Management for Medicaid Clients: Michigan's Response", New England Journal of Human Services, Volume VII, Issue 2, page 33

7. Presentation Before the Council of State Governments, Western Legislative Conference Annual Meeting re: Mandated Benefits, Blue Cross and Blue Sheild, Sept. 22, 1987

8. State Mandated Health Care Coverage Laws (enacted through June 1987, Office of Government Relations, State Services Dept., Blue Cross and Blue Sheild Association, August 1987

B. MATERNAL AND INFANT HEALTH CARE STATISTICS

Separate

The Health of America's Children: Maternal and Child Health Data Book - selected portions, Children's Defense Fund, 1987

"Intergovernmental Options for Reducing Infant Mortality" - selected portions, proceedings from a conference, Sept. 13-15

In File Folder

Selected data runs from birth/death certificates - draft analysis/comments by Marty Dilly, AK Dept. of Health and Social Services, October 1987

In the Packet

1. 9/18/87 Memo from Rita Schmidt re: "Prenatal Care and Statistics"
2. 10/12/87 House Research Memo (Mary Jennings) re: Location of Prenatal Care Providers in Alaska
3. 9/28/87 House Research Memo (Jay Livey) re: Maternal and Child Health Statistics for Alaska

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C. MATERNAL AND INFANT HEALTH CARE MATERIALS

1. "Medicaid Eligibility for Pregnant Women: Reforms Contained in the Sixth Omnibus Budget Reconciliation Act", prepared by Sara Rosenbaum, April 1987
2. 10/7/87 House Research Memo (Brad Pierce) re: Omnibus Budget Reconciliation Act Option for Pregnant Women with attachment
3. Alaska's Improved Pregnancy Outcome Project
4. Florida's Handicap Prevention Act of 1986
5. Washington state legislation for prenatal care
6. Letter from and to Governor Cowper re: establishment of National Commission to Prevent Infant Mortality, Sept. 1987
7. "Postneonatal Mortality", Barbara Starfield, Annual Review of Public Health, 1985

8. "The Need for Prenatal Care in the United States: Evidence from the 1980 National Natality Survey", Family Planning Perspectives, May/June 1985

10. "Background Paper on Universal Maternity Care," Journal of Public Health Policy, Spring 1986

11. "Cuts can mean high-risk babes," news article

## HOUSE HESS - HEALTH MATERIALS ON FILE

1. Files containing information from each Canadian Province, and Territory, and from the Canadian federal government, regarding their health insurance programs

2. Report of the Task Force on Medical Liability and Malpractice, U.S. DHSS, Otis Bowen, August 1987

3. New Hampshire HB 393 - "An Act relative to health insurance for part-time employees" and back-up material

4. Connecticut - Comprehensive Health Care Plan (statutes)

5. Health Care Legislative Package (as adopted by the 1987 Washington State Legislature)

6. Washington Health Care Project Commission - Final Report, and List of Appendices, Dec. 1986

7. Wisconsin State - Health Care for the Uninsured information

8. Rhode Island - Catastrophic Health Insurance (statutes)

9. Comprehensive Health Insurance for High-Risk Individuals - A State-by-State Analysis, Aaron K. Trippler, August 1986

10. AETNA XTRA - A comprehensive Major Medical Insurance Plan

11. Blue Cross - Three health plans

12. A Manual on Providing Effective Prenatal Care Program for Teens, Children's Defense Fund, 1985

13. Opting: A Study of Medicaid Client Need, AK Legislative Affairs Agency, February 1977

14. A Decade of Progress, Office of Disease Prevention and Health Promotion, Dec. 1986

15. Major Changes in State Medicaid and Indigent Care Programs, IHPP, Dec. 1986

16. "A Corporate Rx for America: Managing Runaway Health Costs", Joseph A. Califanco, Issues in Science and Technology, Spring 1986

17. What Legislators Need to Know About Long-Term Care Insurance, NCSL, May 1987

18. State Efforts at Health Care Cost Containment: 1986 Update, NCSL, Dec. 1986

19. Medicaid Eligibility: New State Options, NCSL, Feb. 1987

20. What Legislators Need to Know About Health Data/Cost Information Program, NCSL, June 1986




# Dukakis Plan Puts Spotlight on the Uninsured

The announcement by Governor Michael Dukakis in late August of a bold plan to provide health insurance for an estimated 600,000 uninsured MASSACHUSETTS residents has propelled the issue of providing health insurance for all Americans into the headlines. Is this development "just presidential politics," or does it signal renewed interest in closing some of the gaps in the nation's system of health coverage?

Under the Governor's plan, all MASSACHUSETTS employers would be required to provide all of their employees who work a minimum number of hours a week with health insurance benefits. It parallels a measure (S 1265) introduced in Congress by Senator Edward M. Kennedy (D-MA) that would impose minimum health coverage requirements on employers throughout the country.

To implement the plan, the state will need an exemption from federal Employee Retirement Income Security Act (ERISA) rules, which prohibit states from mandating employer insurance coverage. If a waiver is not granted by January, 1989, the state will add a surcharge to the unemployment insurance tax (technically considered a "contribution"), to cover the cost of insuring workers without employer-provided coverage. Companies that voluntarily provide benefits will receive tax credits.

The plan is part of a comprehensive bill (H 6000) that addresses health care cost containment, excess hospital capacity, creation of a new agency -- the MASSACHUSETTS Health Partnership -- to manage and arrange for health coverage for the unemployed who are uninsured, and quality control.

While this approach to covering uninsured workers -- who make up at least two thirds of those without health insurance in the country -- is not new, it is a sufficiently difficult political objective that few other states have attempted it. Nonetheless, many states have created or are designing programs to achieve broader insurance coverage, through different avenues. And as the bills enacted this year demonstrate, there is widespread agreement on the part of state legislatures on the need to work towards the goal, even if all of the money needed is unavailable.

## Forces Behind the MASSACHUSETTS Plan

That MASSACHUSETTS decided it could afford to take on the business groups and allocate state funds to cover other segments of the uninsured population arises from the convergence of a unique set of political developments. Last November, for example, MASSACHUSETTS voters weighed in by a 2-1 margin in favor of a referendum -- the first in the nation on this issue -- urging Congress to enact a national health program covering all citizens and providing a comprehensive set of services. The state is also fortunate to have a budget surplus and an unemployment rate that is about half the national average.

In addition, large businesses in MASSACHUSETTS currently contribute to care for the uninsured through increased premiums paid to health insurers, who must pay the surcharge on hospital bills. These funds support the state's uncompensated care/free care pool. The legislation authorizing the pool is due to expire October 1, 1987, however, creating pressure to devise a new system to deal with

the problems of inequitable financing (as perceived by business interests) and access (as perceived by consumer advocates).

Finally, the fact that Dukakis is running for President has helped marshall support within the state for his plan. All of these factors have fueled the current drive in the legislature to act quickly on the Governor's proposal. Some controversial hospital cost containment provisions of the proposal (capping increases in hospital charges, and certain changes in the certificate of need (CON) program are encountering opposition from hospitals. But according to legislative aides, that is not likely to threaten the part of the plan assuring universal health insurance.

Precedent: HAWAII's Plan

If MASSACHUSETTS succeeds in passing and implementing the Governor's proposal, it will not be the first to mandate universal employer coverage. In 1974, the HAWAII legislature enacted the Prepaid Health Care Act, which included a similar requirement that all employers provide health insurance, with some exceptions for those working part-time. The law was ruled invalid by the U.S. Supreme Court in 1981 as a violation of ERISA, but Congress quickly granted a waiver in 1982, allowing the law to stand.

Even with the law, however, HAWAII's medical indigency problem has not disappeared. In a preliminary report issued earlier this year (The Medically Indigent in HAWAII, January, 1987) the state's Health Department estimated that 5 percent of the population under age 65 remain uninsured. Those who are still without coverage include: 1) low-income self-employed workers and their dependents, 2) wage earners working less than 20 hours a week for more than one employer, seasonal workers, and others who fall into the excluded categories of the Prepaid Health Care Act or the Medicaid program; 3) non-working spouses or children of low-wage earners; 4) full-time students over age 21; and 5) immigrants who do not qualify for public assistance.

The MASSACHUSETTS proposal addresses the needs of these groups as well as the unemployed by subsidizing their insurance premiums or purchasing a plan for them. Funds for this would come from the state's free care/bad debt pool, which derives about $315 million annually from surcharges on hospital bills, and from general revenues.

Financing Dilemmas

While a few other states have expressed interest in obtaining an ERISA exemption, most have been reluctant to impose additional business costs upon employers within their borders.

Nonetheless, both WASHINGTON and WISCONSIN have developed state health insurance plans, providing the working uninsured and their families with income-based subsidies to enable them to purchase an affordable health plan. These strategies differ from that in MASSACHUSETTS by choosing to first experiment with demonstration programs that are more limited in scope and have smaller budgetary requirements.

Sources of financing for new health insurance programs vary widely among the states. WASHINGTON's Basic Health Plan, for example, will subsidize the premiums for up to 30,000 low-income enrollees out of approximately $19 million in general revenue funds over the next two years. (For details, see Notes. June 1987). In WISCONSIN, a $10 million appropriation for five pilot programs was vetoed by the Governor, who indicated that further study is needed in light of the considerable costs of implementing the programs on a statewide basis. Efforts are underway to restore at least some of the funds for the pilot projects, perhaps scaled down somewhat, before the legislature adjourns at the end of the year.

A Children's Health Plan recently enacted in MINNESOTA (HB 243, Section 63, Chapter 403 of 1987 Laws) uses an increase in the cigarette tax to pay for an expanded program of pregnancy-related and child health services for those making less than 185 percent of the poverty level. The state has estimated that when the program is fully implemented in FY 1991, the expected annual cost of the program will be $5.7 million. MINNESOTA has also developed a plan to provide state-subsidized health insurance for the uninsured called "HealthSpan." The plan is described in a report, The Challenge of Providing Financial Access to Health Care in MINNESOTA, Department of Health, February 1987.

In MAINE, lawmakers decided to repeal a catastrophic medical expense program and transfer any remaining funds (after providing financial assistance to eligible residents who applied before June 30, 1987) along with new state appropriations to a Managed Care Insur-

ance Plan Demonstration for uninsured individuals. The program will target low-income, non-Medicaid eligible individuals, both employed and unemployed, who cannot afford to purchase insurance. While the law does not specify the number of participants, it calls for development of further eligibility criteria to keep subsidies within the amount budgeted by the legislature -- approximately $550,000. Administrative expenses of program development are supported by a grant from the Robert Wood Johnson Foundation.

In other states where proposals to cover at least some portion of the uninsured through a subsidized premium are waiting in the wings, the financing issue looms as a tough hurdle. Many of these states are among the largest (e.g., **CALIFORNIA, NEW YORK** and **NEW JERSEY**), which means that the potential cost of covering care for all the uninsured is extremely high. In others (e.g., **FLORIDA**), the budget cannot meet existing obligations, much less any new ones.

Common Themes

Despite the differences in financing, the similarities between the **MASSACHUSETTS** proposal and those under development in other states are important because they indicate the beginning of a consensus by state governments on the basic elements and principles of a federal health plan guaranteeing coverage for all. Common themes include:

1) Concern for "mainstreaming" individuals into existing private insurance arrangements, rather than incorporating them into Medicaid. This departs from the proposal advanced in recent years to allow the working uninsured to "buy-into" Medicaid.

2) Creation of a fund to provide subsidies for low-income individuals to help cover the full premium costs of insurance coverage. Low-income is most often defined as those families earning below 150 percent to 200 percent of the federal poverty line. In all of the plans, enrollees are expected to contribute to the cost of premiums on an ability-to-pay, sliding scale basis and in many cases, cost-sharing is required for certain services.

3) Preference for steering people into managed prepaid health care systems, such as HMOs, PPOs or other health arrangements that provide more efficient delivery of health services and emphasize ambulatory care over inpatient hospital care. The concept of risk assumption is also of importance to states concerned with constraining their own budgets. The choice to favor prepaid plans is not surprising in states like **WASHINGTON, WISCONSIN,** and **MINNESOTA**, which already have significant HMO market penetration.

4) Incorporation of health promotion and preventive services into plan operations. This is especially evident in programs that include a full range of prenatal care services for pregnant women, including psychosocial and nutritional counseling, health education, and related support services.

5) Recognition of the need to prevent employers from dropping existing coverage for their workers. This could be achieved by imposing taxes on employers who cancel their health plans -- an approach that states so far have failed to adopt. Instead, the new plans generally require that new enrollees provide evidence that they have not been covered by any plan in the previous six months. These requirements do not address the need to encourage employers to provide coverage, however.

Voluntary Employer Health Plans

While efforts to mandate employer coverage of workers' health insurance premiums have been stymied by ERISA, several states are supporting private-sector efforts to encourage businesses to provide health insurance on a voluntary basis. One such plan was authorized by the **OREGON** legislature this year. The new law (HB 2594, Chapter 691) establishes an Insurance Pool Governing Board to oversee a voluntary program for employers who 1) have 25 or fewer employees; 2) have not contributed to the cost of health insurance premiums in the previous two years for workers to be enrolled in the new program; and 3) are willing to make a minimum contribution to the premium cost.

The state will contract with a health benefit plan to cover the costs of previously uninsured workers and their families, limited to 10,000 individuals. The program was kept small because of uncertainty about the cost to the state of tax credits to employers for premiums paid during the first five years of their participation in the program. It remains to be seen if the tax credit will provide enough incentive for small employers to participate in the program. A non-profit organization, HealthChoice, in Portland had been operating a similar program (without the benefit of a

tax credit) that was not successful -- largely because small businesses find it difficult to add new fixed costs when they have cash flow uncertainties.

Meanwhile, the **FLORIDA** legislature provided statutory authority this year for the Small Business Health Access Corporation, which will pool groups of individuals employed by small businesses into larger groups to facilitate a program of affordable group insurance. To participate, employers cannot have provided or offered health insurance in the 6 months prior to July 1, 1987. Initially the program will operate in one urban county and in a multi-county rural site. The state is supporting the effort by allowing the corporation to reinsure using funds from the Public Medical Assistance Trust Fund. The program was developed by the state Health and Rehabilitative Services Department with a grant from the Robert Wood Johnson Foundation.

Momentum or "Wait and See"?

Other states will continue to experiment with health insurance plans on a demonstration basis but for now, the spotlight will remain on the Dukakis plan.

It remains to be seen, however, whether the plan is a "forerunner to a national health insurance plan" as Dukakis has asserted. There is a chance that the MASSACHUSETTS plan will remain just that -- another option among the plurality of state approaches to a complex problem.

At the least, it has focused attention on the critical role that states play in financing care for the uninsured. And as the debate over a national health insurance plan proceeds, the states' collective experiences in providing coverage for the uninsured will no doubt be carefully examined. -- Debra J. Lipson

# Washington Newsletter

Published since 1959

by Richard Sorian

## *Panels Vote Medicare/Medicaid Changes*

Medicare payments to primary care and rural physicians would rise sharply while those to all other doctors would be curtailed under legislation approved by a pair of Congressional committees. The legislation, which is part of Congress's annual budget reconciliation process, also would limit Medicare hospital payments and broaden Medicaid coverage of children and pregnant women.

The House Commerce Committee has proposed a 6 percent increase in fees for primary care services. That is nearly double the 3.2 percent increase in fees scheduled for January 1. Doctors serving in rural areas with a shortage of physicians would get another 5 percent bonus. All other doctors would get only a 2 percent fee increase in 1988. In 1989, Commerce would limit the increase in physician fees to the rise in the Medicare Economic Index minus 2 percentage points. The savings from that move would be used to allow rural doctors to bring their prevailing fees up to 55 percent of the national average over a three-year period.

The Commerce Committee plan is in conflict with another measure approved earlier by the House Ways and Means Committee. Rather than providing incentives for primary care doctors, Ways and Means is trying to attract more doctors to Medicare's participating physician program. Participating physicians agree to accept Medicare assignment for all cases in the coming year. Ways and Means proposes a 2 percent fee increase for those doctors and a 1 percent hike for all others.

The two panels also are in conflict over reductions in payments for overpriced surgical procedures. Ways and Means voted a 15 percent chop in payments for nine common surgical procedures including cataracts, heart bypass, and prostate surgery. Commerce voted a 5 percent cut for cataract surgeons and a 10 percent reduction for others.

Other provisions in the reconciliation package would:

- Provide Medicare coverage of flu shots, special shoes for diabetics, and drugs taken by organ transplant patients.
- Allow states to cover pregnant women and young children in families with incomes up to 185 percent of the national poverty line. States would have to cover children in families below a state poverty line.
- Require nursing homes to have 24-hour nursing beginning October 1, 1990. A registered nurse would be on duty eight hours a day in small homes and 16 hours in large homes; and licensed practical nurses would be on duty for longer time periods.
- Set up federal rules for home health agencies to follow and require state inspections of agencies and random homes to check for quality of care. Errant agencies would be fined and could be suspended or expelled from Medicare and Medicaid.
- Increase the penalty on hospitals that dump patients without insurance on the nearest public hospital. Dumpers would be liable for a 30-day suspension from Medicare and fines of as much as $50,000 per patient.
- Require states to establish insurance risk pools for the medically uninsurable. Employers in states with such plans would cover the costs or would be taxed 5 percent of their employee benefits.

## House Approves Catastrophic Insurance Plan

Medicare beneficiaries would be protected from certain catastrophic medical costs under legislation approved in late July by the House of Representatives. The legislation, which passed with strong bipartisan support, has been labeled veto material by the White House. It includes new coverage of prescription drugs and expanded coverage of nursing home, home health, and mental health services.

Under the terms of the House bill, no beneficiary would pay more than $1,800 in 1989 for covered Medicare services. In 1988, the elderly would pay only one hospital deductible, now estimated at $544. In 1989, spending for physician and other Part B services would be held to about $1,100. Also in 1989, retirees with drug bills about $500 would get federal help to pay 80 percent of the cost of all other prescriptions. The elderly would be entitled to 150 days of skilled nursing care (up from 100), 35 consecutive days of home health care (up from 21), and $1,000 worth of outpatient mental health care (up from $250).

To pay for the new and expanded coverage, the elderly would be charged a monthly premium of $2.65 in 1989. The rest of the cost would be borne by taxpaying retirees — an estimated 40 percent of the Medicare population. They would pay an annual "supplemental premium" ranging from $10 per person to $560 in 1988.

While the House legislation is loosely based on a proposal sent to Capitol Hill by President Reagan in February, the changes made to the bill have prompted criticism from the President. In a July 25 radio speech to the nation, Reagan accused the House of turning his "responsible" plan into a "massive program that will impose a new tax on the elderly and soon threaten to bankrupt the Medicare trust fund." Reagan labeled the House's supplemental premium idea a "surtax on beneficiaries' income" that would raise the tax rate on most elderly from 15 percent to 22 percent. The House, Reagan noted, would begin collecting that tax a year before the benefits are completely available.

The Senate is scheduled to take up its own version of the catastrophic insurance bill after recess in September.

The Senate bill is similar in many ways to the House plan but does not yet contain a drug benefit. Five Senators, led by George Mitchell of Maine, will propose a limited drug benefit when the Senate takes up its bill. The plan would only cover chemotherapy drugs, intravenous drugs, and immunosuppressive drugs for organ transplant patients in 1989. Coverage of other drugs would begin in 1990 but would be limited to costs of about $600 a year with a 20 percent coinsurance charge.

## House Backs $85 Billion HHS Budget

Federal funding for AIDS research and education and general biomedical research would rise sharply under a budget approved August 4 by the House of Representatives. AIDS spending would rise to $945 million in fiscal 1988, nearly double the fiscal 1987 total. More than half the total would go to research but money for public education and risk reduction would rise substantially.

The appropriations measure includes $85.4 billion for the Department of Health and Human Services, nearly $6 billion more than was requested earlier this year by President Reagan. The House has ignored Reagan's request for a cut in medical research and health professions training money. Instead, it voted a $7 billion budget for the National Institutes of Health and $209 million for manpower training and assistance. Many public health programs were left unattended in the bill because Congress has not yet approved legislation extending their authority. Funding is expected to be approved at a later date for such programs as family planning, health block grants, and prevention of sexually transmitted diseases.

The House bill would provide $30 million for health care for the homeless, $1.2 billion for Medicare contractors to process claims, $60.5 million for state nursing home inspections, and $30 million to pay for start-up costs for Medicare catastrophic insurance protection.

*Richard Sorian is editor of McGraw-Hill's "Medicine and Health" newsletter, a part of the McGraw-Hill Health newsletter group in Washington, DC.*

Register for the APHA Annual Meeting in New Orleans, October 18 - 22. Forms in this issue.

# The Right Start

## A Proposal to Provide Preventive Health Care for All Minnesota Children

by Luanne Nyberg, Monica Herrera, and Dana Hughes



Children's Defense Fund — Minnesota Project

# The Children's Defense Fund

The Children's Defense Fund was founded in 1969 to provide an effective voice for the children of America who cannot vote, lobby, or speak for themselves. CDF pays special attention to the needs of poor, minority, and handicapped children. Our goal is the healthy growth and development of all children, recognizing that early investment in health and education prevents serious costly illnesses, learning-related problems, and delinquency.

CDF is a unique organization. CDF focuses on programs and policies that affect large numbers of children, rather than helping families on a case-by-case basis. Our staff includes specialists in health, education, child welfare, mental health, and child development. We monitor the development and implementation of federal policies. We provide information, technical assistance, and support to a network of state and local child advocates. We pursue an annual legislative agenda in the United States Congress and litigate selected cases of major importance. CDF also educates thousands of citizens annually about children's needs and responsible policy options for meeting those needs.

CDF is a national organization with roots in communities across America. Although our main office is in Washington, D.C., we reach out to towns and cities across the country to monitor the effects of changes in national and state policies and to help people and organizations who are concerned with what happens to children. CDF maintains state offices in Mississippi and Ohio and state projects in Minnesota, Texas, and Virginia. CDF has developed cooperative projects with groups in many states. Child Watch, a national effort of the Association of Junior Leagues, CDF, and other national organizations to assess the impact of federal and state budget decisions on children, is an example of this collaborative effort.

CDF is a private organization supported by foundations, corporate grants, and individual donations.

The Minnesota Project of the Children's Defense Fund began in January, 1985. Support for CDF's work in Minnesota has come from the Blandin Foundation, Dayton Hudson Foundation, General Mills Foundation, The Minneapolis Foundation, The St. Paul Foundation, Northwest Area Foundation, and generous individuals. General support for CDF publications is provided by the Charles Revson Foundation.

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# The Right Start

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Luanne Nyberg
May 1, 1986

# Executive Summary

Minnesota's traditions — a commitment to the best quality of life for all citizens, and a standard of health care which is heralded nationwide — are being seriously undermined. While we still enjoy the reputation our previous good planning and policy-making have afforded us, we have neglected to meet the needs of all of Minnesota's people. The problems are serious:

- Not all Minnesotans have access to our health care system — many babies are being born to women who have had no prenatal care early in pregnancy.
- Not all of us are in good health — infant mortality rates in 34 Minnesota counties exceed the national average.
- Insurance programs don't cover people who are too poor to afford them — about 340,000 Minnesotans have no health coverage.
- Public health programs are being cut back and those that exist are already falling far short of the need.
- The cost to Minnesotans of caring for those who have not received adequate preventive care is far beyond what it would cost to provide that care.

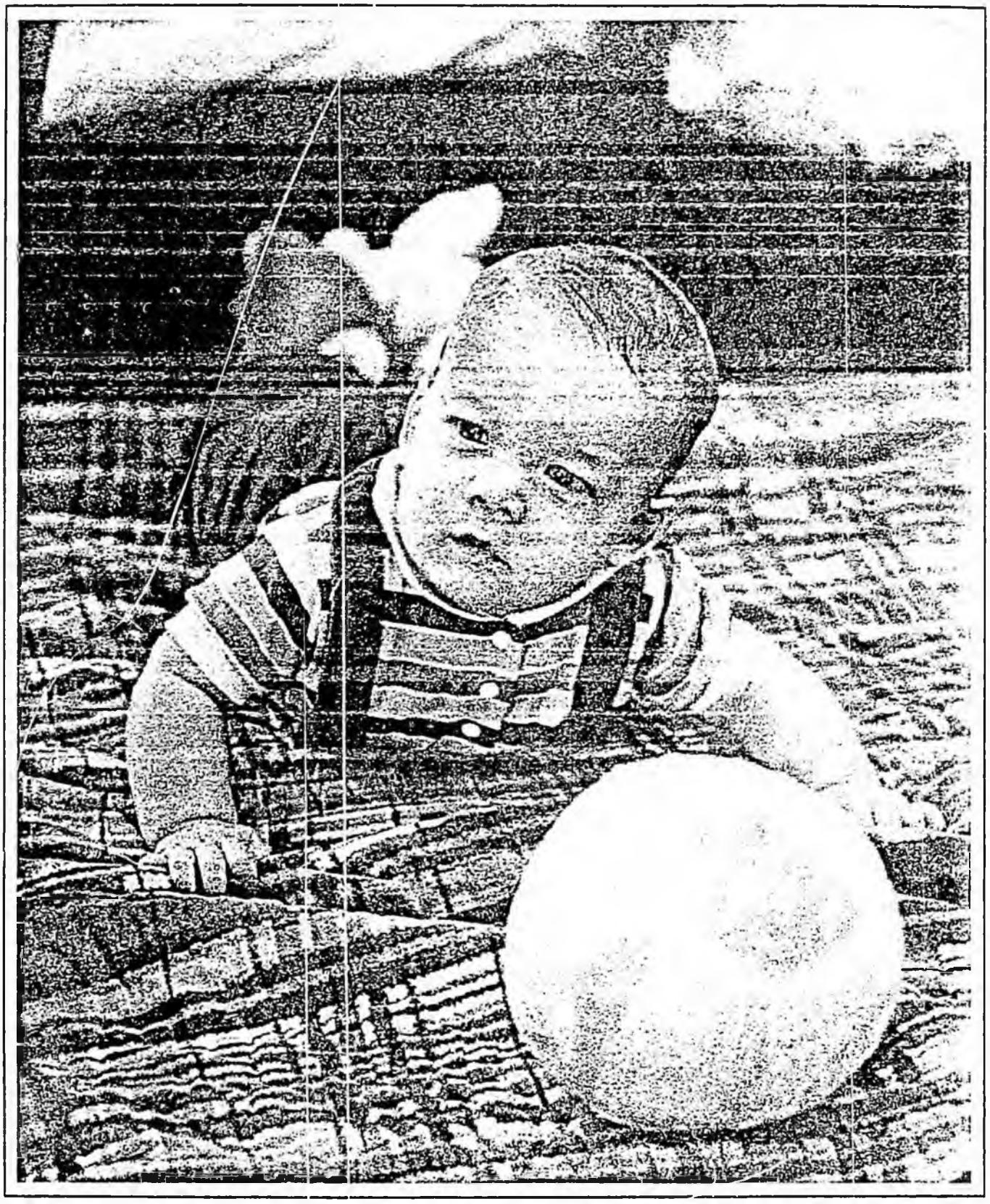
This report addresses the dilemma we find ourselves in today and proposes low-cost, efficient responses. We can no longer ignore the evidence that our health care system is excluding people who are unable to pay for it. Therefore, we all pay:

- by living in a community which can no longer boast that it takes care of those most in need, particularly the children;
- and by paying the costs of emergency care for problems that could have been avoided.

We must face this challenge, welcome public debate, offer appropriate responses and provide the leadership to put Minnesota once again at the forefront, providing the right start for all of our children.

The Right Start Program will provide coverage for prenatal, delivery and postpartum care for pregnant women and health care for children under the age of six who are not eligible for Medicaid and are not otherwise insured.

Minnesota must develop a Right Start Fund, financed through sliding fee premiums paid by Right Start users, expanded and improved use of Medicaid funds, and special dedicated taxes generated from the health care system or general revenue funds.



# Introduction

Minnesotans are healthy people. On average, we live longer than people in every state but one. Our infant mortality rate is among the best in the nation. Our use of disability programs is among the lowest in the U.S. One reason for this enviable record is the state's high quality medical care.

But not all Minnesotans have access to our excellent health care system, and not all of our citizens enjoy good health. In 1983 two in five nonwhite babies were born to a woman who did not receive any prenatal care early in pregnancy. In 1983, infant mortality rates in 34 Minnesota counties exceeded the national average. And our rate of progress in improving key health measures for mothers and infants is slow.

Too many Minnesotans are left out of our health system because they have either no or inadequate health insurance and are too poor to pay out-of-pocket for the health care they need. In Minnesota, which has been a leader in developing prepaid health programs such as health maintenance organizations, quality is high, but so is competition. Health plans don't enroll families who are not insured and cannot afford the monthly fees. About 340,000 Minnesotans, 8 percent of the state's people, do not have health insurance. Nearly one-third of our uninsured residents are children even though children comprise only 25 percent of the state's population.[1] Most of these children live in families whose incomes do not allow them to buy health coverage; most of the uninsured adults work in jobs that provide no insurance.[2]

Moreover, these families have few public health programs to fall back on. Public programs such as Medicaid and the Title V Maternal and Child Health Block grant are inadequate. Thirteen other states have higher Medicaid eligibility standards.[3] And very few of our counties furnish comprehensive prenatal and pediatric services for poor and uninsured families.[4]

Finally, even those poor families who do qualify for Medicaid may face serious barriers to obtaining needed care. Some may live too far from a health provider to have access to services. Others live in areas where high quality providers do not participate in the program. Many face racial and cultural barriers that deter them from securing needed services.

The challenge facing Minnesota is to find a way to provide high quality health care to all our children. We need to develop programs so that young families just starting out in the labor market, people ravaged by economic changes in rural Minnesota and on the Iron Range, and those who work in low wage, part time or seasonal jobs can benefit from our system of health maintenance. We also need to ensure that all Minnesotans, whether their care is publicly or privately financed, have access to the same high quality services.

This report intends to be a step toward ensuring the right start, a healthy start, for all Minnesota's children. The report covers three broad questions:

- Why do so many Minnesota families lack access to necessary health care?
- What are the health and financial consequences for these families and for the state?
- What do we need to do to give all our children the right start?

The Children's Defense Fund is committed to making these facts and needs known to policy makers and the public. We have written this report because of the important role Minnesota plays in shaping the health care financing and delivery system of the future. We have written it now because the progress we have made in infant health has virtually come to a halt both in Minnesota and in the U.S. as a whole. Infant mortality actually rose in Minnesota in 1983.

In the final chapter of the report we will propose several key reforms including a new program called The Right Start. The Right Start program is designed to foster investment in preventive, cost-effective health care for children. Included in the program are prenatal care and delivery services and preventive and primary medical care for infants and preschoolers across the state. We believe that the state cannot afford *not* to make this investment.

CHAPTER 1

# Minnesota Mothers and Children Without Health Insurance

Health care in Minnesota is among the most sophisticated in the country. On average, we have more physicians and hospitals per person than in other regions in the country. The quality of our health care is renowned.

Minnesota is also a national leader in the development and refinement of health maintenance organizations (HMOs). In the Twin Cities, where half of the state's population lives, over 40 percent of the residents are enrolled in HMOs, compared to 10 percent of all Americans.[1]

These advances have paid off for Minnesota. We are extraordinarily healthy people. On average, Minnesotans live longer than people in every other state but one.[2] In 1983, our overall infant mortality rate was among the lowest in the nation, and in only six states were a smaller percentage of low birthweight infants born that year.[3]

However, not all Minnesotans are able to benefit from this excellent health care system. These advances and high quality medical plans are not within the reach of hundreds of thousands of Minnesotans because they do not have health insurance or health plan enrollment, nor can they afford to buy medical care out-of-pocket.

Health care is a very expensive commodity. Very few Minnesota families would be able to afford this care if it had to pay for it on an out-of-pocket basis. This is especially true of families earning at or near the minimum wage. For example, health care for even a healthy baby can easily cost $400 per year and complete maternity care (prenatal plus hospital care) can amount to $4,000. Poor families without health coverage are unable to afford care. Yet, in 1985, more than 342,000 Minnesotans were not covered by health insurance. Of these, over 70 percent — approximately 246,000 — were uninsured for the entire year.[4]

Minnesota's most vulnerable citizens — children and mothers — are among the least likely to be insured.

- Over 100,000 children are uninsured.[5] Children represent about a fourth of the state's population but close to a third of the uninsured.[6]
- One fourth of Minnesota's uninsured children are under six years of age.[7]
- Nearly one in five women between the ages of 18 and 24 — those of prime childbearing age — have no medical or hospital insurance.[8]
- According to the Minnesota Maternal and Child Health Task Force, "Poor women and women without adequate insurance are likely to postpone (prenatal) care."
- The extent of uninsuredness among Minnesota's children and women of childbearing age can be seen in the amount of uncompensated inpatient hospital care that is attributable to obstetric and pediatric care alone. In 1983, 43 percent of charity patients and 33 percent of "self-pay" patients (those with no health insurance) at Twin Cities' hospitals were admitted for services related to pregnancy, childbirth or newborn care.[9]

## Why Are So Many Minnesotans Without Health Coverage?

Many Minnesotans are without jobs and therefore without health insurance. In Minnesota, like other states, health insurance is available primarily through the workplace. Nationally, 88 percent of all private health insurance is provided through employers' group plans.[10] It is no

## SCHOOL CHILDREN IN LOW-INCOME FAMILIES: 1984 COUNTY RANKINGS

| RANK | COUNTY | PERCENT | RANK | COUNTY | PERCENT | RANK | COUNTY | PERCENT |
|---|---|---|---|---|---|---|---|---|
| 1 | Carver | 5.9 | 31 | Murray | 16.4 | 59 | Pope | 23.7 |
| 2 | Dakota | 6.2 | 32 | Stevens | 16.6 | 60 | Koochiching | 23.9 |
| 3 | Washington | 6.4 | 32 | Mower | 16.6 | 61 | Roseau | 24.5 |
| 4 | Scott | 7.3 | | STATE AVERAGE | **16.7** | 61 | Swift | 24.5 |
| 5 | Rice | 8.1 | 34 | Chippewa | 16.8 | 63 | Polk | 25.2 |
| 6 | Anoka | 8.2 | 34 | Isanti | 16.8 | 64 | Mille Lacs | 25.3 |
| 7 | Sherburne | 8.6 | 36 | Cottonwood | 17.4 | 65 | Otter tail | 25.4 |
| 8 | Olmsted | 9.9 | 37 | Stearns | 17.6 | 66 | Itasca | 26.1 |
| 9 | Steele | 10.8 | 38 | Clay | 18.1 | 67 | St. Louis | 26.9 |
| | | | 39 | Benton | 18.2 | 68 | Crow Wing | 27.1 |
| 10 | McLeod | 11.3 | | | | 69 | Traverse | 28.0 |
| 10 | Wright | 11.3 | 40 | Kandiyohi | 18.5 | | | |
| 12 | Faribault | 11.5 | 40 | Wilkin | 18.5 | 70 | Norman | 28.8 |
| 13 | Brown | 12.3 | 42 | Watonwan | 18.6 | 71 | Big Stone | 29.2 |
| 14 | Martin | 12.8 | 43 | Rock | 18.8 | 72 | Pine | 30.0 |
| 15 | Freeborn | 12.9 | 44 | Douglas | 19.1 | 73 | Beltrami | 30.2 |
| 16 | Goodhue | 13.1 | 45 | Nobles | 19.2 | 74 | Becker | 30.7 |
| 17 | LeSueur | 13.2 | 46 | Lyon | 19.7 | 74 | Pennington | 30.7 |
| 17 | Waseca | 13.2 | 47 | Ramsey | 19.9 | 76 | Marshall | 31.1 |
| 19 | Blue Earth | 13.7 | 48 | Meeker | 20.0 | 77 | Aitkin | 32.0 |
| 19 | Nicollet | 13.7 | 49 | Lake | 20.1 | 78 | Lake O'Woods | 32.6 |
| | | | | | | 79 | Wadena | 33.9 |
| 21 | Jackson | 14.4 | 50 | Kanabec | 20.8 | | | |
| 21 | Chisago | 14.4 | 51 | Cook | 20.9 | 80 | Lincoln | 34.2 |
| 23 | Winona | 14.5 | 51 | Grant | 20.9 | 81 | Todd | 36.0 |
| 24 | Houston | 14.9 | 53 | Lac Qui Parle | 21.3 | 82 | Morrison | 37.5 |
| 24 | Wabasha | 14.9 | 54 | Fillmore | 21.8 | 83 | Cass | 37.6 |
| 26 | Dodge | 15.3 | 55 | Pipestone | 22.1 | 83 | Hubbard | 37.6 |
| 27 | Sibley | 15.4 | 56 | Carlton | 22.9 | 85 | Clearwater | 39.0 |
| 28 | Hennepin | 15.5 | 57 | Kittson | 23.5 | 86 | Red Lake | 42.5 |
| 29 | Redwood | 15.6 | 58 | Yellow Medicine | 23.6 | 87 | Mahnomen | 47.7 |
| 29 | Renville | 15.6 | | | | | | |

Rank of 1 is smallest, 87 largest. The same rank for two counties indicates a tie.

Source: Unpublished data, Child Nutrition Division, Minnesota Department of Education. Calculations by Children's Defense Fund using the following formula: K-12 students who applied and were found eligible for free school meals (family income at or below 130 percent of poverty, for example, gross income below $10,686 for a family of three), divided by all students.

surprise, therefore, that a large proportion of Minnesota's uninsured residents — 42 percent — are jobless.[11] The recession of the mid-1980s, the decline of the Iron Range, and the recent farm crisis have left thousands of Minnesotans unemployed. In 1982, 212,000 Minnesotans — or 10.4 percent of the labor force — were without work and therefore without the means to provide for their families. This economic setback, the most powerful in the state since the Depression, reached astonishing proportions in some regions of the state. At the depth of the recent recession, unemployment in the Iron Range rose to 45 percent. By 1984, 41 of the state's 87 counties still had unemployment rates more than 1.5 percent higher than five years earlier. In December of 1985, Minnesota's unemployment rate of 6.9 percent rose to equal the national rate for the first time in 12 years![12]

Among the communities in deepest financial trouble are those dependent on farm income. Net farm income in 1983 fell more than 25 percent

from the year before in 51 of Minnesota's 87 counties.[13] Since then, the rural economy has worsened.

Many working Minnesota families have no health insurance. While the uninsuredness problem among the unemployed is not surprising, especially disturbing is the fact that *so many* of Minnesota's uninsured are in the labor force or are dependents in families who work. Forty-eight percent of all uninsured adults in Minnesota work, and nearly half of these work all year. Farmers are at great risk of being uninsured.[14] Moreover, every worker who is uninsured represents about two dependents who also have no insurance.[15]

- Employers of part-time and minimum wage workers are far less likely to provide health insurance coverage as a fringe benefit. Women are especially affected by this practice. A 1985 study of the working poor found that the occupations in which women tend to be concentrated have much lower rates of job-related insurance than those employing the working poor as a whole.[16] Only 22 percent of persons employed in sales and only 24 percent of persons employed in the service sector were insured, compared to 40 percent of the working poor as a whole.[17]
- Even when a family's primary breadwinner is insured through employment, children and other dependents are not necessarily covered under the policy. A third of uninsured Minnesotans live in families in which someone has health insurance.[18] The worker's employer may not offer family coverage at all, or the cost to the employee of buying additional family coverage may be too high. And there are indicators that, in an effort to lower business costs, many employers in recent years have reduced the size of contribution to their employees' health insurance premiums. As the contribution burden falling onto the employee grows, the percentage of low income employees who can afford to purchase their employers' insurance coverage will decline.

Regardless of employment status, poor Minnesotans are more likely to be uninsured than those of higher socioeconomic status. In 1985, 23 percent of families living below the federal



poverty level were uninsured compared to only 2 percent of families with incomes of four times the federal poverty level.[19]

Children and their mothers are not only likely to be without health insurance, but they are also more likely to be poor. In 1980, prior to the height of the recession, over 50,000 Minnesota families with children under age 18 had incomes below the poverty level. Of these, over 20,000 were headed by women with children over 18 years and no husband present.[20] Thus, while female-headed single-parent families represent only 11 percent of all Minnesota families with children, they account for 42 percent of families in poverty.

Children are among the groups most likely to be poor in Minnesota. More than 10 percent of children in the state in 1979 lived in families with incomes below the federal poverty level.[21] If child poverty in Minnesota increased at the national rate between 1979 and 1983, then 13.4 percent — more than one in eight — of our children were poor in 1983.[22]




## Infants of low-income mothers said to face major hurdles

By PAULINE WALLE
Post-Bulletin Spectrum Editor

"A voice for those who have no voice"—low-income mothers and their children— was offered at a Children's Defense Fund hearing Wednesday night at Rochester Public Library.

Testimony dramatized the danger of infant death or chronic illness when mothers can't afford prenatal care.

***

Some 650 Minnesota babies die each year before their first birthday. Low birth weight is the biggest contributor to their death or disability.

Rescue strategies for too-small babies can cost 10 times as much as caring for those whose mothers were taught good nutrition and the hazards of habits such as smoking and drinking, according to defense fund spokesmen. About a third of Minnesota mothers delay prenatal care until the second and third trimester.

***

Dr. Walt Franz, from Mayo Clinic family medicine, testified "we're not hearing fairy tales" about the plight of low-income and minority women and children.

Eleven infant deaths per 1,000 is "almost an epidemic" when compared, say, to 14,000 documented AIDS sufferers, he said. He said 80 percent of the babies with a low birth weight stand the chance of dying and tiny babies "are a self-fulfilling prophecy." Especially in teens, the condition is likely to happen again.

***

"Many of our barriers are financial," said Phoebe Sevaggio, staff person for the Minnesota Maternal and Child Health Advisory Task Force. She cited the increased cost of insurance for farm families in particular.

A former victim of poverty said that when a mother has to choose between feeding her child and getting maternal health care, she will buy food.

***

Clients of the Rochester Women's Shelter may bear added problems of fetal injury and fear of leaving their homes for the doctor's office, said Nancy Kolaas of the shelter. She added they may not have heard of community resources such as the Women, Infants and Children program.

A couple of presenters pointed out that teen-agers with unplanned pregnancies may deny their pregnancies, delaying care into the second trimester. One counselor said women may seek abortions because they can't afford the maternal care.

*Excerpted from Rochester Post-Bulletin, October 3, 1985*

An indication of how poor Minnesota children are is that in 1984 one of every five elementary or high school-aged children in 40 out of 87 counties qualified for free school lunches because their families had low incomes.[23]

Obviously, poor and near poor families are in no position to buy an individual health insurance policy if no coverage is offered by an employer or if the employer's family coverage plan is too costly. A woman earning the minimum wage, working full time, and supporting two children in 1985 would have had gross earnings of $6,432 for the year — about three-fourths of the federal poverty level for a family of three. An average health insurance family plan purchased privately would have cost her about $1,200, or 19 percent of her gross salary. One year's enrollment in a health maintenance organization would have cost her about $2,000, or 31 percent of her gross salary. Clearly, private insurance coverage would simply be out of the question.

## Insurance Needs Are Rising

While there have always been people in Minnesota who did not have insurance, the problem is now on the rise. One way to measure



the growth in uninsuredness is to measure
[illegible] amount of uncompensated care
Between 1980 and 1983,
vin Cities experienced a 48
n bad debt and charity care.[24]
conomy and sustained elevated
1979 are two reasons for
redness. Even when the
ble to find another job, the new
[illegible]ch less and offers fewer fringe
benefits.

- Nationally, only one in four victims of the recent recession who have been able to get another job have health benefits;[25] two in three of those who are still unemployed have no health insurance.[26]
- Half of those who have gone back to work are earning less than they did before, making it difficult to buy health insurance on their own.

## Federal Reductions Have Contributed to the Problem

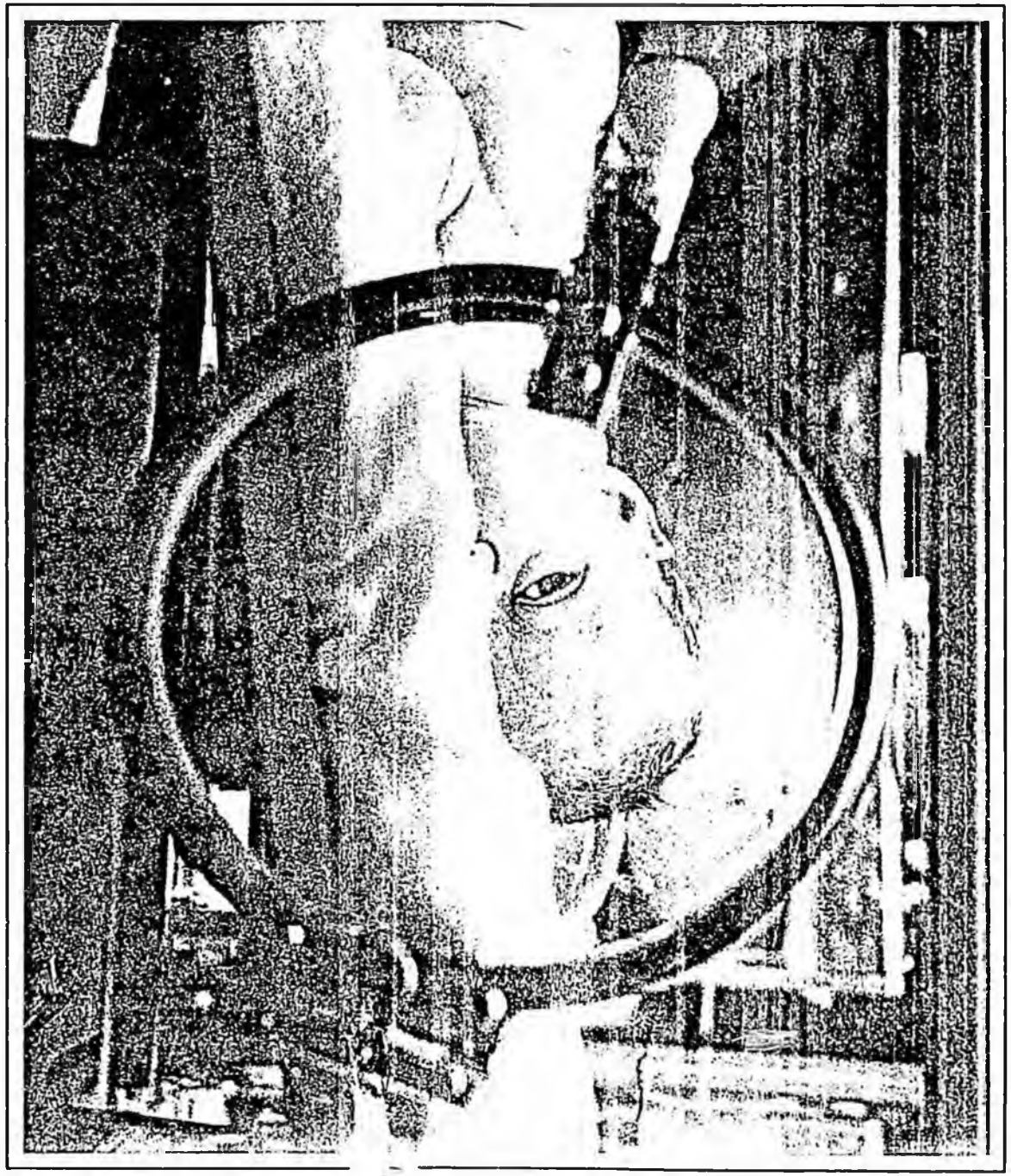
The number of persons in Minnesota who are uninsured has also grown because of federal budget cuts since 1981 that sharply and permanently restricted families' coverage under Medicaid, the nation's largest public health program for pregnant women and children.

Changes in 1981 in eligibility requirements for Aid to Families with Dependent Children (AFDC), eligibility for which generally determines a familiy's eligibility for Medicaid, hurt Minnesota families who relied on Medicaid for health coverage.

These cuts fell with particular severity on the working poor who were otherwise uninsured through the workplace. It is estimated that 13,500 Minnesota households lost Medicaid eligibility between 1982 and 1984.[28] Of those families who were terminated from AFDC, the working poor — the very families that already comprised the majority of Minnesota's uninsured families — were affected the most.[29]

Most families have been unable to replace lost benefits. One year after the 1981 cutbacks, 37 percent of the working adults and 27 percent of their children who lost AFDC and Medicaid had no health insurance. Over 54 percent of these families reported that they delayed visits to a physician because they didn't have enough money to pay the bill.[30]

Even prior to the 1981 AFDC reductions, national statistics indicate that only one in 10 children enrolled in Medicaid and living with a working parent could be expected to have all-year coverage. Because of these new Medicaid restrictions aimed at working poor families, the percent qualifying for all-year (or even part-year) Medicaid coverage since 1981 has dropped further.



CHAPTER 2

# Health Consequences for Minnesota, for Families

Insurance is a major determinant of access of health care. Preschoolers who are uninsured make less than half the outpatient visits of those who are insured[1]. Ready access to medical care is especially important for poor children, since poverty itself has an adverse impact on their health status.[2] Poor children are more likely to die before their first birthday and are more likely to suffer from one or more disabilities.[3] They are twice as likely to be hospitalized and 20 times more likely to attend school irregularly because of ill health.[4] Moreover, because of poverty and deprivation, poor children who are ill tend to be sicker for longer periods than non-poor children.[5]

Therefore, it is especially disturbing that the Minnesotans most likely to be uninsured are the very children and their families who are most in need of medical attention and the least able to otherwise afford health care.

The consequences of poverty among children and its effect on their access to health care can be seen by health measurements:

- Since 1978, there has been virtually no improvement in the proportion of babies in Minnesota born at low birthweight (5.5 pounds or less). While 5.3 percent of all births in 1978 were low birthweight, the number had declined to only 5.1 percent by 1983.[6] This is especially important because low birthweight babies are 40 times more likely to die during their first month of life and are at signficantly greater risk for such permanent disabilities as retardation, cerebral palsy, or epilepsy.[7]
- Minnesota's infant mortality rate *actually rose* 4 percent from 9.4 deaths per 1,000 live births in 1982 to 9.8 in 1983.[8] While a single year increase does not represent a trend, we must be concerned.
- Between 1978 and 1983, Minnesota's postneonatal mortality rate (deaths among infants between the ages of 28 days to one year) failed to improve. In 1978, the postneonatal mortality rate was 3.6 deaths per 1,000 live births; in 1983 it remained the same.[9] Failure to make progress in reducing postneonatal mortality is of concern because its causes, such as lack of access of health care, inadequate housing, nutrition and sanitation, are considered

MINNESOTA COMPARED TO ITS NEIGHBORING STATES BY KEY MATERNAL AND CHILD HEALTH INDICATORS: 1983

| | Low Birth Weight % | Early Prenatal Care % | Late or No Prenatal Care | Infant Mortality Rate |
|---|---|---|---|---|
| MINNESOTA | 5.1 | 79.1 | 3.6 | 9.8 |
| WISCONSIN | 5.4 | 83.8 | 2.5 | 9.6 |
| IOWA | 5.0 | 85.6 | 2.2 | 8.9 |
| SOUTH DAKOTA | 5.1 | 72.1 | 7.4 | 10.8 |
| NORTH DAKOTA | 4.7 | 81.5 | 2.7 | 8.9 |

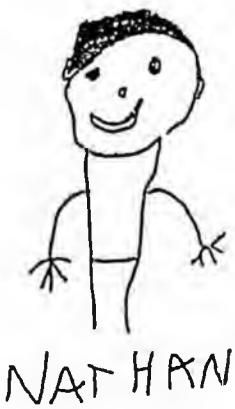
## BABIES BORN TOO SMALL: 1983 COUNTY RANKINGS

| RANK | COUNTY | PERCENT | RANK | COUNTY | PERCENT | RANK | COUNTY | PERCENT |
|---|---|---|---|---|---|---|---|---|
| 1 | Wilkin | 1.9 | 30 | Renville | 4.1 | 58 | Carver | 5.1 |
| 1 | Lincoln | 1.9 | 30 | Mahnomen | 4.1 | 58 | Brown | 5.1 |
| 1 | Lake O' Woods | 1.9 | 30 | Itasca | 4.1 | | | |
| 4 | Fillmore | 2.2 | 33 | Wright | 4.2 | 61 | Carlton | 5.2 |
| 5 | Murray | 2.5 | 33 | Lyon | 4.2 | 62 | Waseca | 5.3 |
| 6 | Martin | 2.6 | 33 | Jackson | 4.2 | 62 | St. Louis | 5.3 |
| 6 | Dodge | 2.6 | 36 | Yellow Medicine | 4.3 | 62 | Polk | 5.3 |
| 8 | Wadena | 2.8 | 36 | Stevens | 4.3 | 62 | McLeod | 5.3 |
| 8 | Norman | 2.8 | 36 | Redwood | 4.3 | 62 | Kandiyohi | 5.3 |
| | | | 36 | Hubbard | 4.3 | 67 | Big Stone | 5.4 |
| 10 | Pine | 2.9 | 36 | Blue Earth | 4.3 | 68 | Anoka | 5.5 |
| 11 | Aitkin | 3.0 | | | | 69 | Roseau | 5.6 |
| 12 | Douglas | 3.2 | 41 | Stearns | 4.4 | | | |
| 13 | Kittson | 3.3 | 41 | Koochiching | 4.4 | 70 | Rice | 5.7 |
| 13 | Faribault | 3.3 | 41 | Becker | 4.4 | 71 | Pennington | 5.8 |
| 15 | Red Lake | 3.4 | 44 | Pope | 4.5 | 71 | Hennepin | 5.8 |
| 15 | Marshall | 3.4 | 45 | Washington | 4.6 | 73 | Olmsted | 5.9 |
| 17 | Traverse | 3.6 | 45 | Steele | 4.6 | 74 | Lake | 6.0 |
| 17 | Houston | 3.6 | 45 | Sibley | 4.6 | 74 | Watonwan | 6.0 |
| 17 | Cook | 3.6 | 45 | Nicollet | 4.6 | 74 | Sherburne | 6.0 |
| | | | 45 | Clay | 4.6 | 74 | Ramsey | 6.0 |
| 20 | Scott | 3.7 | | | | 78 | Meeker | 6.1 |
| 20 | Goodhue | 3.7 | 50 | Nobles | 4.7 | 78 | Todd | 6.1 |
| 20 | Clearwater | 3.7 | 51 | Morrison | 4.8 | | | |
| 23 | Mower | 3.8 | 51 | Dakota | 4.8 | 80 | Grant | 6.6 |
| 23 | Isanti | 3.8 | 53 | Winona | 4.9 | 81 | Wabasha | 6.9 |
| 25 | Freeborn | 3.9 | 53 | Kanabec | 4.9 | 81 | Swift | 6.9 |
| 25 | Crow Wing | 3.9 | 53 | Chippewa | 4.9 | 83 | Mille Lacs | 7.0 |
| 25 | Benton | 3.9 | | STATE AVERAGE | 5.0 | 84 | Pipestone | 7.1 |
| 25 | Beltrami | 3.9 | 56 | Le Sueur | 5.0 | 85 | Rock | 7.5 |
| 29 | Ottertail | 4.0 | 56 | Chisago | 5.0 | 86 | Cass | 7.6 |
| | | | 58 | Cottonwood | 5.1 | 87 | Lac Qui Parle | 9.1 |

Rank of 1 is smallest, 87 largest. The same rank for two counties indicates a tie.

Source: *1983 Minnesota Health Statistics*. Calculations by the Children's Defense Fund using the following formula: number of low birth weight babies (less than 5 1/2 pounds or 2,500 grams) divided by the total number of live births, times 100.






preventable. Indeed, experts believe that over 80 percent of America's postneonatal mortality involves babies born at normal weight.[10]

- The disparity between black and white infant mortality rates is greater in Minnesota than for the nation as a whole. While the national black infant mortality rate is slightly less than twice the white rate, in Minnesota it is more than twice as bad — 22.7 deaths per 1,000 live births among black infants versus 9.8 deaths per 1,000 white babies. Moreover black infant mortality rates in Minnesota are above the national average.[11]
- In Minnesota in 1983, one out of every five white women and two out of every five nonwhite pregnant women did not receive prenatal care early in pregnancy.[12] Minnesota's progress in increasing the percentage of pregnant women receiving prenatal care has been very slow. In 1979, the Surgeon General of the United States established several objectives for the nation in the area of maternal and infant health. One of these objectives specified that by 1990, 90 percent of all pregnant women should receive prenatal care early in pregnancy. But Minnesota's annual rate of progress has been so slow that the state will have to improve its annual performance 1.75 times for whites and 9.5 times for nonwhites if the goal is to be met.[13]
- In 1983, compared to its four neighbors (Wisconsin, North Dakota, South Dakota and Iowa), Minnesota had the second highest percentage of babies born to women who had received late or no prenatal care.[14] Only South Dakota's rate exceeded Minnesota's. Minnesota also had a poor showing among the five states in the percentage of babies born to women in 1983 who had received early prenatal care, as well as the second highest infant mortality rate.[15]

The consequences of reduced access to health care can also be seen among children:

- In northwestern Minnesota, untreated dental problems for some children have gotten so bad that a number of children have actually required hospitalization. One little boy had to wait three months to be admitted to the hospital because the family had no way to pay until the father was laid off in the fall and became eligible for Medicaid.[16]
- Five-year-olds coming in for school entry immunizations in rural Minnesota have not seen a doctor since they were six months old. Very young children from poor families will see a doctor only for emergencies, not for the periodic health assessments, immunizations and measurements of growth and development that they so frequently need during the infancy and preschool period. School nurses see kindergarteners with permanent hearing problems because the family could not afford doctors' visits to treat ear infections.[17]












## INFANT DEATH RATES: 1981-83 COUNTY RANKINGS

| RANK | COUNTY | RATE | RANK | COUNTY | RATE | RANK | COUNTY | PERCENT |
|---|---|---|---|---|---|---|---|---|
| 1 | Kittson | 0 | 31 | Anoka | 8.6 | 60 | Lake O Woods | 11.5 |
| 2 | Norman | 2.7 | 32 | Douglas | 8.7 | 60 | Todd | 11.5 |
| 3 | Lincoln | 2.8 | 32 | St. Louis | 8.7 | 62 | Chisago | 11.6 |
| 4 | Grant | 3.0 | 34 | Swift | 8.8 | 63 | Traverse | 11.7 |
| 5 | Stevens | 3.8 | 34 | Washington | 8.8 | 64 | Blue Earth | 11.9 |
| 6 | Murray | 3.9 | 36 | Mower | 8.9 | 64 | McLeod | 11.9 |
| 7 | Clearwater | 4.7 | 37 | Polk | 9.0 | 64 | Steele | 11.9 |
| 8 | Jackson | 4.8 | 38 | Wright | 9.1 | 67 | Nobles | 12.0 |
| 9 | Pennington | 5.8 | 39 | Faribault | 9.2 | 68 | Goodhue | 12.2 |
| | | | | | | 69 | Isanti | 12.3 |
| 10 | Kanabec | 6.1 | 40 | Scott | 9.4 | | | |
| 10 | Lac Qui Parle | 6.1 | 41 | Hennepin | 9.5 | 70 | Chippewa | 12.4 |
| 10 | Renville | 6.1 | 42 | Benton | 9.6 | 71 | Redwood | 12.5 |
| 10 | Rock | 6.1 | 43 | Stearns | 9.7 | 72 | Kandiyohi | 12.9 |
| 14 | Ottertail | 6.3 | | STATE AVERAGE | 9.8 | 73 | Cass | 13.2 |
| 15 | Cottonwood | 6.7 | 44 | Itasca | 9.8 | 74 | Wilkin | 13.4 |
| 16 | Dodge | 6.8 | 44 | Koochiching | 9.8 | 75 | Hubbard | 13.6 |
| 17 | Pine | 6.9 | 44 | Lyon | 9.8 | 76 | Becker | 13.8 |
| 17 | Sibley | 6.9 | 44 | Mahnomen | 9.8 | 77 | Waseca | 14.2 |
| 19 | Red Lake | 7.1 | 48 | Fillmore | 10.0 | 77 | Yellow Medicine | 14.2 |
| | | | 49 | Meeker | 10.1 | 79 | Mille Lacs | 14.9 |
| 20 | Dakota | 7.2 | | | | 79 | Nicollet | 14.9 |
| 21 | Carlton | 7.7 | 50 | Pope | 10.5 | | | |
| 22 | Lake | 7.8 | 51 | Freeborn | 10.8 | 81 | Houston | 15.1 |
| 23 | Watonwan | 8.0 | 52 | Pipestone | 10.9 | 81 | Beltrami | 15.1 |
| 24 | Olmsted | 8.2 | 53 | Brown | 11.0 | 83 | Wabasha | 16.2 |
| 25 | Big Stone | 8.3 | 54 | Carver | 11.3 | 84 | Clay | 16.3 |
| 26 | Aitkin | 8.4 | 54 | Crow Wing | 11.3 | 85 | Wadena | 17.3 |
| 26 | Martin | 8.4 | 54 | Le Sueur | 11.3 | 86 | Roseau | 18.7 |
| 26 | Sherburne | 8.4 | 54 | Ramsey | 11.3 | 87 | Cook | 28.6 |
| 29 | Marshall | 8.5 | 54 | Winona | 11.3 | | | |
| 29 | Rice | 8.5 | 59 | Morrison | 11.4 | | | |

Rank of 1 is smallest, 87 largest. The same rank for two counties indicates a tie.

Source: *1981, 1982, and 1983 Minnesota Health Statistics.* Calculations by the Children's Defense Fund using the following formula: number of infant deaths 1981-1983 divided by the number of live births 1981-1983, times 1,000.




## NO EARLY PRENATAL CARE: 1983 COUNTY RANKINGS

| RANK | COUNTY | PERCENT | RANK | COUNTY | PERCENT | RANK | COUNTY | PERCENT |
|---|---|---|---|---|---|---|---|---|
| 1 | Stevens | 7.8 | 30 | Anoka | 18.4 | 59 | Swift | 25.7 |
| 2 | McLeod | 11.7 | 32 | Pipestone | 18.6 | 60 | Lyon | 25.8 |
| 3 | Sibley | 12.4 | 33 | Hennepin | 19.0 | 61 | Todd | 26.4 |
| 4 | Rock | 12.4 | 34 | Mahnomen | 19.6 | 61 | Norman | 26.4 |
| 5 | Benton | 12.5 | 35 | Cottonwood | 20.1 | 63 | Traverse | 26.9 |
| 6 | Cook | 13.0 | 36 | Nobles | 20.7 | 64 | Chippewa | 27.0 |
| 7 | Redwood | 13.7 | | STATE AVERAGE | **20.9** | 65 | Rice | 27.2 |
| 8 | Carver | 14.0 | 37 | Waseca | 20.9 | 65 | Hubbard | 27.2 |
| 9 | Renville | 14.8 | 37 | Itasca | 20.9 | 67 | Carlton | 27.4 |
| 10 | Douglas | 15.1 | 39 | Goodhue | 21.1 | 68 | Pennington | 27.5 |
| | | | | | | 69 | Freeborn | 27.6 |
| 11 | Nicollet | 15.5 | 40 | Pope | 21.2 | | | |
| 11 | Mille Lacs | 15.5 | 40 | Clearwater | 21.2 | 70 | Lake | 27.7 |
| 13 | Morrison | 15.7 | 42 | Becker | 21.9 | 71 | Fillmore | 28.3 |
| 14 | Murray | 15.8 | 43 | Big Stone | 22.0 | 72 | Dodge | 28.4 |
| 15 | Sherburne | 16.0 | 44 | Lac Qui Parle | 22.2 | 72 | Crow Wing | 28.4 |
| 16 | Wilkin | 16.3 | 45 | Beltrami | 22.4 | 74 | Yellow Medicine | 29.1 |
| 17 | Brown | 16.4 | 46 | Lake O' Woods | 22.6 | 74 | Aitkin | 29.1 |
| 18 | Winona | 16.5 | 47 | Wabasha | 22.8 | 76 | Kanabec | 29.3 |
| 19 | Ottertail | 16.6 | 48 | Martin | 22.9 | 77 | Kittson | 30.3 |
| | | | 49 | Marshall | 23.0 | 78 | Faribault | 30.5 |
| 20 | Blue Earth | 16.7 | | | | 79 | Lincoln | 31.1 |
| 21 | St. Louis | 16.8 | 50 | Polk | 23.1 | | | |
| 23 | Washington | 17.3 | 51 | Roseau | 23.8 | 80 | Koochiching | 32.0 |
| 23 | Grant | 17.3 | 52 | Olmsted | 23.9 | 81 | Chisago | 32.2 |
| 25 | LeSueur | 17.5 | 53 | Red Lake | 24.1 | 82 | Isanti | 32.7 |
| 26 | Jackson | 17.6 | 54 | Watonwan | 24.2 | 83 | Pine | 33.4 |
| 27 | Stearns | 17.8 | 55 | Ramsey | 24.3 | 84 | Cass | 34.6 |
| 28 | Wright | 18.2 | 56 | Wadena | 24.7 | 85 | Meeker | 36.1 |
| 28 | Scott | 18.2 | 57 | Kandiyohi | 24.8 | 86 | Mower | 37.3 |
| 30 | Houston | 18.4 | 58 | Clay | 25.5 | 87 | Steele | 43.3 |

Rank of 1 is smallest. 87 largest. The same rank for two counties indicates a tie.

Source: Unpublished data. Center for Health Statistics. Minnesota Department of Health. Calculations by the Children's Defense Fund using the following formula: prenatal care begun later than the first trimester, divided by the total number of live births, times 100.


A.F.C.

CHAPTER 3

# Existing Programs Can't Fill the Gap

Minnesota's commitment to meeting the health needs of its citizens is undisputed. But current public health programs do not meet the needs of some poor pregnant women and children, particularly working poor families who are without health insurance, largely because there is no systematic approach in Minnesota to addressing this population's health needs.

Instead, a patchwork of programs has grown up. Taken together, these programs do not fill the large gaps left by an employer-based health insurance system that is available only for middle and upper income employees and private insurance and prepayment plans that are prohibitively expensive. While each of these public health efforts is important, they simply are not enough.

## Medical Assistance (Medicaid)

Medicaid is the most important source of health coverage for poor mothers and children in Minnesota. Jointly funded by the state, county and federal governments, Medicaid is the state's largest public maternal and child health program. In fiscal year 1982, nearly 165,000 children — more than one of every seven children in Minnesota — had some or all of their medical bills covered by Medicaid.[1] Children make up Medicaid's largest population; 51 percent of all the state's Medical Assistance enrollees are under age 21. Moreover, because health services for children tend to be low cost, children account for only 14.8 percent of Minnesota's Medicaid budget.[2]

However, even though Minnesota exercised its federal option to extend Medicaid to all children and pregnant women who meet the state's eligibility definitions as well as pregnant women and children (known as the medically needy) whose medical bills are so high in relation to their income that they qualify for partial coverage, the program is terribly inadequate. To qualify for Medicaid, a family must have monthly income that is well below the federal poverty levels. This is because the standard of need, which is the maximum established by the state for determining Medicaid eligibility was only $528 per month for a family of three in 1985 — less than 75 percent of the federal poverty level.[3]

Furthermore, while Medicaid is available to help a working poor family weather short-term catastrophic expenditures, it does not represent a continuous source of health coverage because of the penalties for working poor families that are now embodied within the program design. Even a small increase in family income or a few more hours of work, neither of which will yield enough additional income to finance needed medical care, can cost a family its entire Medicaid coverage.

For example, eligibility levels are now so low in Minnesota that a single woman cannot work full-time at a minimum wage job and still qualify for Medicaid coverage for prenatal care. She must wait until her medical bills are large (usually after delivering the baby) before she can qualify for partial coverage as a medically needy beneficiary. And since it is very difficult to obtain medical care on credit, this means that she becomes eligible only after an emergency has occurred and the damage has been done.

Furthermore, Medical Assistance requirements state that in order to qualify for Medicaid, a family with children can have no more than about $6,000 in personal assets. This means that self-employed persons like farmers, loggers or truckers are usually



ineligible for Medicaid because they have a small amount of equity in the tools of their trade. In order to get prenatal care or medical care for their children when times are tough, they have to sell off their tools — their very means of being self-supporting, contributing citizens.

One consequence of these requirements is that in 1983, only 39 percent of Minnesota children with family incomes below the federal poverty level had Medical Assistance coverage in Minnesota.

Finally, even families who are fortunate enough to qualify for Medicaid may still be effectively uninsured. Not all medical providers accept medical assistance. Many doctors and dentists have stopped accepting new Medicaid patients because they believe that payment levels are too low.

## Maternal and Infant Care Projects

Maternal and Infant Care (MIC) projects are comprehensive maternity and infant clinics funded under the federal Title V Maternal and Child Health Block grant. MICs are designed to provide high quality prenatal and maternity services to women who are low income and are at high medical risk of delivering an unhealthy infant. In 1984, 770 mothers received prenatal and maternity services through the St. Paul and Minneapolis MIC programs.[4]

Studies show that MIC programs contribute to better health outcomes among their patients.[5] However, existing MIC services are not sufficient to meet the need. Both programs have had to turn some pregnant women away. The Minnesota Department of Health estimates that 18.6 percent of all Minnesota births involve one or more medical high risk factors (such as poor maternal health). But only a small percentage of these babies were born to mothers who benefited from the MIC program. Moreover, the MIC program serves only two counties in the state.

In recent years, federal funding for this program has been severely reduced. Between fiscal years 1982 and 1984 federal Title V funding levels in Minnesota declined by $1.3 million while the need for the services increased because of mounting unemployment and growing numbers of families terminated from the Medicaid program. The state provided no supplementary assistance to replace the lost MIC funds. In all likelihood, federal support for this program will be further reduced, either because of outright cuts in federal appropriation levels through the normal budget process or as part of the Gramm/Rudman/Hollings Deficit Reduction Act. Even if no cuts are made, program funding levels will almost certainly fail to keep pace with inflation.

## Community and Migrant Health Centers

Community and migrant health centers are federally funded, comprehensive health clinics located in medically underserved areas. Studies show that community health centers are a valuable source of health care, contributing not




## Free or Sliding Fee Care for Pregnant Women and Young Children in Minnesota

1. Cook County Community Clinic, Grand Marais
2. Cook Area Health Services, Cook
3. Duluth Community Health Center, Duluth
4. Community clinics and Minneapolis and Hennepin County programs
5. Community clinics and Ramsey County programs
6. The Mayo Clinic

Note: Migrant Health Services provides free or sliding fee prenatal child health care during the summer to migrant and seasonal agricultural laborers.

only to improved health, but also reducing health care costs through prevention and early treatment.[6]

In 1981, however, there were only five such centers, serving only four of Minnesota's 87 counties, and in recent years these health centers have faced substantial cutbacks. In 1982 alone, federal budget cuts ended support of five community health centers in Minnesota affecting 42,000 patients.[7]

## The Hill-Burton Hospital Program

The federal Hill-Burton program has provided millions of dollars to build and expand Minnesota's hospitals. In exchange for these funds, hospitals have agreed to provide a small amount of free or reduced-cost care (this promise is known as the "uncompensated care" obligation). But the program has never worked very well. Even after litigation was brought to promote compliance, among 21 Hill-Burton hospitals monitored between 1981 and 1985, three gave no required notices, nine gave incomplete notices, 13 had not given the level of free care mandated, and four had actually denied benefits to eligible patients.[8] Furthermore, the Hill-Burton uncompensated care obligations is time-limited, and most of this obligation is running out across the state.

## The University of Minnesota Hospitals

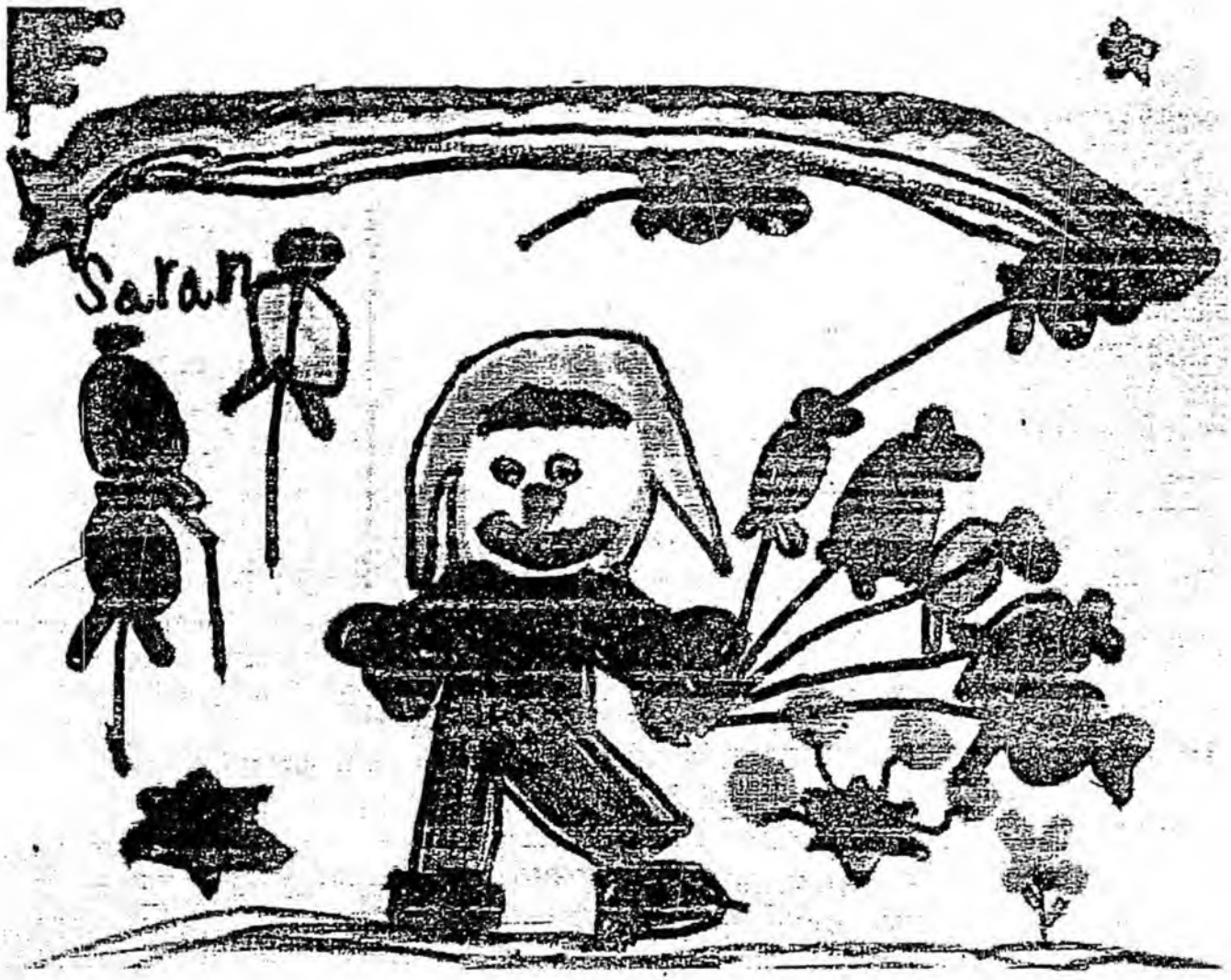
Low-income patients referred to the University of Minnesota by counties are paid for by a direct appropriation from the legislature called "University papers." Most of the care under this program is very complicated, high cost medical services.

## Hennepin and Ramsey County Hospitals

Under state law, these two hospitals must accept anyone whether they can pay or not. Care available through these facilities is primarily costly inpatient treatment.

## Community Clinics

Community health clinics provide medical care on a free or reduced-cost basis. But these clinics exist for the most part only in Minneapolis and St. Paul. Indeed, only five of the states 87 counties have any free or sliding fee facilities that provide prenatal care.[9]




## The Supplemental Food Program for Women, Infants and Children

WIC is a national public health and nutrition program. By providing food, nutrition education and access to health care, WIC improves birth outcome and saves money in medical, special education and long-term care. In 1979, Harvard School of Public Health estimated that for every $1 spent on WIC, $3 are saved in medical costs alone.[10]

In Minnesota, however, WIC administrators have done very little outreach because they fear raising hopes among the 111,000 women and children who are potentially eligible but can't be served because of funding caps. Yet, outreach must be done if we are to reach more WIC eligible hungry pregnant women. Even with little outreach, the WIC waiting list exceeds 7,200 people.[11] An indication of WIC's current inadequacy is that 57 percent of the pregnant women using food shelves in Minnesota are not on the WIC program.[12] Most said they did not know about the program.

## The Private Sector

In a state with as much medical wealth as Minnesota, one would think that there are more than enough private resources to fill these public health gaps. But medical care is a *business*, and this fact is particularly evident in Minnesota.

where competition fostered by cost containment and medical care "corporatization" dominate health care.

For example, health maintenance organizations (HMOs) are viewed by some as the answer to the system's current cost excesses and the need to place appropriate emphasis on prevention rather than treatment. As a national leader in developing and promoting cost-containment measures such as HMOs, Minnesota is regarded by people in other parts of the country as showing the way to the future. Unfortunately, however, HMOs were simply never designed to take care of people who cannot pay their way, because they compete in part by eliminating such medical care and its attendant costs. Like insurance companies, HMOs do not enroll members free of charge. Thus, unlike other kinds of health care providers in Minnesota, including private hospitals, HMOs do not care for uninsured patients, or offer services on a sliding fee.

Moreover, HMOs may hold down costs in part because many of the people who use them are young, relatively well off, and healthy. HMOs were designed to care for large groups of employed individuals. These groups were selected in part because they are considered low risk and, therefore, low users of health services. Though many other Minnesotans could benefit from the comprehensive care offered through HMOs, they are sometimes selected out, either because the kinds of jobs they have do not offer HMO enrollment or they are self-employed or, worse, HMOs just do not want them as patients. An Indian clinic that was turned down from HMO membership even after all the financial arrangements had been worked out testified at a CDF hearing that they could only conclude it was because the HMO did not want Indians as patients.[13]

HMOs' zeal to save money can backfire with low-income, high-need families. In one instance, a HMO refused to admit a diarrheal child to the hospital. When the doctor forced the issue on the fourth try and the public health nurse went to the home to provide transportation, it was discovered that the family did not know how to sterilize the baby bottles properly. By delaying prompt attention to the child, the HMO prolonged the amount of time it took to uncover the true cause of the infant's illness.[14]

## The Human Costs

As a result of this fragile patchwork of programs, 82 of Minnesota's 87 counties have no recognized system of maternity or pediatric care for those who can't afford to pay the full cost and who aren't fully insured. In these counties, families make do with whatever "charity" medical care they can get from hospitals and doctors. And most of this care is "donated" only when it becomes clear that a family cannot pay its bills:

- Sue, a public health nurse in Beltrami County, reported at child health hearings sponsored by CDF about a family in which the wife, Martha, was seven months pregnant, had never seen a doctor, and planned to have the baby at home because the family had no money to pay for a doctor or hospital care.
- A public health nurse in Washington County reported that she could not get any doctor in the county to see a child with a 104° temperature whose mother had no cash to pay for the office visit. The closest access point was 40 miles away in inner-city St. Paul.

These gaps carry enormous human and financial consequences:

- The doctor pointed out to newly pregnant Ann that her diet was seriously deficient of foods from the fruits and vegetables groups, and asked why. After a long pause, Ann looked up, tears rolling down her face, and said that she and her husband had two other children to feed and almost no money. The doctor, shaken, said she understood and told her "you do what you have to do."
- A pregnant woman in the Rochester women's shelter who discovered she was ineligible for Medicaid went back to her abusing husband to ensure medical care for her unborn child and her other children. The unborn baby was subsequently injured *in utero* by continued battering.
- A mother in northern Minnesota finally found a dentist for her child 100 miles from her home, only to be told when she brought her child in for the appointment, "There must have been some mistake on the phone — we don't take Medicaid."



CHAPTER 4

# Preventive Health Care Saves Money

About 3,400 babies weighing less than five and a half pounds are born in Minnesota each year.[1] These low birthweight babies are at great risk of illness, permanent handicaps, and even death. Low birthweight babies are 40 times more likely to die in the first weeks of life than other babies.

Most of the babies born too soon or too small require neonatal intensive services. This costs upwards of $1,250 per day in Minnesota.[2] In 1982, there were 3,083 admissions to neonatal care, and a total of 46,495 patient days.[3] Using $1,250 a day, Minnesota spends more than $58.1 million on neonatal care each year.

Keeping the baby where it belongs — in the mother's womb — through comprehensive prenatal care including preterm birth prevention programs, has been shown to save as much as *$100 an hour* for each hour between the 6th and 7½ months that a premature birth is delayed.[4]

Minnesota also spends preventable dollars on:

- **Rehospitalization.** Too-small babies who have been in intensive care are much more likely to be readmitted to the hospital than other babies.[5]
- **Special Education Costs.** Low birthweight is associated with physical and mental handicaps and developmental delays that require ongoing special education efforts. In 1985, Minnesota spent about $238 million in local, state, and federal taxes on special education.[6] This figure includes both regular and summer school, but does not include funds to teach immigrants English.
- **Long-term Care Costs.** Though more and more too-small babies are being saved with high technology medical advances, for each baby that dies, three more will be left permanently handicapped. Moreover, in fiscal 1986, Minnesota will spend $234.5 million to care for 6,900 mentally retarded institutionalized citizens. The average cost per person is $34,000.[7] It has been found that for every 100 too-small babies born at least two will need lifetime care.[8] That means that right now Minnesota is adding at least 68 children and $2.3 million to our institutional load each year. Much of this suffering, and expense, could be avoided if all mothers had access to preventive health care.
- **Income Support and Social Service.** Some of the babies who are born too small will need income support and social services for the rest of their lives. Minnesota is generous with our social services and income support programs for the handicapped, but it would be even kinder to avoid the problem by fostering more healthy babies.
- **Lost Income and Productivity.** Minnesota's people are its best economic asset. Some economists are projecting a labor shortage. Each too-small baby that is disabled for life means hundreds of thousands of dollars of lost earning power and economic activity to the state.

## How Much Can Be Saved?

Cost/benefit analyses from around the country confirm the impressive savings that can result from the provision of comprehensive maternity care.

Numerous local studies, from places as diverse as rural New Mexico[11] and New York City show that prenatal care produces substantial short and long-term savings.

The State of California found that every Medicaid dollar invested in prenatal care and delivery services for high risk, low income women



| Spent | Saved | |
|---|---|---|
| $1.00 | $ 3.38 | The Institute of Medicine, part of the National Academy of Sciences, in its landmark study **Preventing Low Birthweight,** found that every dollar spent to provide comprehensive maternity care saves $3.38 in the first year of the baby's life alone. |
| $1.00 | $ 6.17 | Michigan reports that by providing prenatal care to all women in need, it will save $6.17 in neonatal care costs for each dollar invested in prenatal care.[9] |
| $1.00 | $11.00 | Colorado found it can save $11.00 in medical, and long-term educational, and institutional care for each $1 spent on prenatal care.[10] |

who could not otherwise afford such care returned $4 in avoided medical costs.[12]

Providing continuous, preventive health care to children is also a cost saving strategy. Neglecting the health of infants and preschoolers, as Minnesota, and for that matter the nation as a whole, is now doing has both short and long-term negative cost implications.

- It costs about $20 for a doctor's office visit to treat a child with strep throat. It costs about $3,500 to hospitalize a child whose untreated strep develops into rheumatic fever.[13]
- A recent federal study demonstrated that hospital costs were reduced 25 percent for low income people with access to comprehensive primary and preventive health services.[14]
- Children with the least care have been found to cost the most — an average of $638 per year. Those with the most care cost the least — $378 a year, according to the American Academy of Pediatrics.[15]

It is clear that providing comprehensive health coverage for pregnant women, infants and preschoolers is not only the right thing to do, it's the most cost-effective strategy as well.

# Preventive care saves money — and lives

By Dave Durenberger

Washington

The Children's Defense Fund has been holding public hearings around Minnesota concerning health care for poor women and their children. A large part of the discussion has centered on preventive or "wellness" care.

Preventive health care is an old idea. We have long known that a healthy life style and regular medical care pay off in the long run. But preventive care is gaining visibility as a necessary part of national health policy, and it's a development with vast implications.

It's no coincidence that this new emphasis on prevention comes at a time of spiraling health-care costs. Our country is seeking ways to cut costs while assuring all Americans access to adequate care.

• • •

Better child and maternal health care is a key element. Few Americans realize that poverty is the biggest single killer of children in our nation. And while we spend roughly $3 billion per year to hospitalize sick infants, the federal health program that is specially targeted to mothers and children receives less than $500 million in annual funding. Our infant-mortality rate has reached a plateau higher than the comparable rate in 12 other industrialized nations.

• • •

The motivation for the preventive-care push isn't solely financial. America is in the midst of a fitness revolution. Exercise and nutrition are common concerns. People are realizing that "wellness care" and health habits — like not smoking — improve the quality of life. They enable us to live longer and more enjoyable lives. And they save lives.

But the gravy is that when we are healthier, the nation can spend less to treat our illnesses. The government spends less, recipients of public and private health insurance spend less, taxpayers spend less. So it's no wonder that we are taking a more active interest in investing our health-care efforts and resources more wisely.

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*- Excerpted from Mpls. Star & Tribune, Tuesday, October 22, 1985*











CHAPTER 5

# Ensuring the Right Start for Every Minnesota Child

Since the state's founding, Minnesota has had a commitment to ensuring that our children get the right start in life. In the past this has meant prairie physicians in our earliest years, the founding of Gillette's Children's Hospital in 1897 and the St. Paul Children's Hospital in 1924, the Maternal and Child Health Division of the State Health Department in 1935, Medicaid in the 1960s, and statewide preschool screening of young children in 1978.

The Children's Defense Fund also wants all Minnesota children to get the right start in life. A healthy start will allow them to take advantage of Minnesota's investment in education, and to go on to become productive adults. The challenge in the 1980s is to ensure that all of Minnesota's families have access to and can afford to go to the doctor for prenatal and preschool child health care. To extend the benefits of preventive health and cost containment strategies to all our children, we must create a new program in Minnesota. Therefore, we are proposing a new program, The Right Start Program.

## The Right Start Program

What is it? Simply put, the Right Start Program is prepaid, comprehensive, sliding fee health coverage for pregnant women and preschool children who are currently uninsured or underinsured. Families apply and get care at their provider, and pay what they can. Eligibility ends when families earn more than double the federal poverty guideline, get adequate coverage elsewhere, or children reach age six.

The program has three goals:

- lower infant death and disability;
- increase the overall health and productive capacity of our future labor force;
- contain health, special education, and long-term care costs

The Right Start Plan that we propose is in keeping with the state's long tradition of concern for maternal and child health. It is a humane, simple and cost-effective approach to financing basic health services for our most vulnerable children and pregnant women. It makes maximum use of existing funding resources and medical delivery systems. The purpose of the plan is to provide coverage for prenatal, delivery and postpartum care for pregnant women and health care for children under the age of six who are not eligible for Medicaid and who are not otherwise insured. We propose that the Right Start begin in 1987, and that by 1991 Right Start be extended to cover all children under age 18.

## How Would Right Start Be Funded?

Right Start would be funded two ways. First, we are recommending certain low-cost but exceedingly important reforms in the Medicaid program to make its coverage more accessible and attractive to families. There is strong evidence that many pregnant women and young children who are now eligible for Medicaid are not now receiving it either because they do not understand how to obtain coverage or because they are deterred by the need to apply for assistance at a welfare office. Because families covered by Medicaid have half the cost of their care borne by the federal government, and because Medicaid provides coverage for such a broad array of services (as well as coverage for children over the age of six) we believe it is essential for Right Start to make maximum use of this program.

However, we estimate that there are 3,900 pregnant women and 17,000 children under age six who have family incomes below 200 percent of poverty and who are uninsured. Thus, our proposal also calls for the development of a new



Right Start Fund, similar to the high-risk insurance fund which Minnesota maintains for individuals who cannot secure insurance through their employer or the marketplace. This fund would come from the sliding fee premiums paid by those enrollees who, in accordance with Right Start's eligibility standards, are financially able to contribute toward the cost of coverage. Additional sources of funding might include the following:

- **General Revenues.** Many states, including Maine, Michigan, New York, Massachusetts and Ohio, provide general revenues for programs that furnish maternity and pediatric care for poor and uninsured pregnant women and children. A general revenue approach is appealing because our tax structure is a progressive one, and a wide range of payors would contribute.
- **Sin Taxes.** Some states, including Texas and Minnesota, have levied cigarette, liquor or gambling taxes to fund health care.
- **Special Dedicated Taxes Generated from the Health System Itself.** Some states have begun to experiment with special taxes on health insurers and institutional providers to help support health services for the medically needy. These health fund pools are sensible, since the money can then be returned (either through direct grants or expanded insurance coverage) to the providers themselves, thereby reducing the amount of uncompensated care they must provide. States that currently employ such systems include New York, Florida, South Carolina and West Virginia. In Minnesota we currently use a dedicated insurance tax to fund our high risk insurance pool.

A sufficient tax to cover the cost of the Right Start Fund could be modest in size. It would be attractive to those providers now furnishing uncompensated care, because their uncompensated care would decline as a result of the insurance available through Right Start. Moreover, a modest tax would be a fair way of assessing providers such as HMOs that currently pay no state taxes and do not provide uncompensated care. They could in effect have their tax money returned to them in the form of payment for enrollment by Right Start participants.

## Who Would Be Eligible for Services Under the Right Start Fund?

Families that include women of childbearing age and children under six would be eligible for Right Start if their income is below 200 percent of the federal poverty line for their family size.

## What Benefits Would Be Available Through the Right Start Program?

The Right Start Program would pay for those basic benefits now covered under the Medicaid program that are most important to pregnant women and children. These include:

- services of physicians, certified nurse midwives and clinics (such as public health

clinics, HMOs, private group practices, community health centers and hospital-based maternity and pediatric clinics). Payment would be made not only for diagnosis and treatment but also for services such as check-ups for children, health education and nutrition counseling for pregnant women.

- inpatient hospital services
- prescribed drugs
- laboratory and x-ray services
- family planning services
- preventive health services for children including:
  - periodic health assessment in accordance with the schedule recommended by the American Academy of Pediatrics
  - immunizations
  - vision and hearing care
  - treatment for physical, developmental or other health problems disclosed during assessments
  - mental health services

Though we have not included dental care in the list, it should be strongly considered for part of the pre-school package since dental problems are the single largest untreated health condition among America's children.

## How Would Families Apply for Right Start Coverage?

Applications for Right Start should be available through physicians' offices, health plans, public health clinics and programs (such as Head Start or Community Action Programs) serving low income families. *In addition,* in order to encourage families to enroll, applications for *Right Start/M* (that is, Right Start-Medicaid) would be available *in identical locations.* The Right Start-M application should be as streamlined as possible, and the evidence of enrollment in Right Start-M should be a Right Start card identical to the Right Start Program card except for an "M" to indicate that the family has full Medicaid coverage.

## What Care Do They Need?

Pregnant Women

All pregnant women need early and continuous prenatal care beginning before the end of the first trimester, but ideally, as early as pregnancy is detected. Women who have low risk pregnancies need between 9 and 11 visits throughout the pregnancy. For women who are high risk, visits may need to be more frequent.

Comprehensive prenatal care includes:

- routine medical examinations, including maternal and pregnancy history
- screening for serious genetic diseases
- screening for maternal diabetes, sexually transmitted diseases, Rh factor, anemia and rubella — all of which can adversely affect fetal development.

Subsequent visits should include monitoring of blood pressure, urine and weight gain, as well as detection of problems, such as toxemia or maternal diabetes, which can lead to birthing difficulties and poor infant health if untreated.[1]

According to the Institute of Medicine, comprehensive prenatal care must also include initial risk assessments followed by prenatal education on:

- behavioral risks in pregnancy (such as drinking, drug abuse and cigarette smoking during pregnancy.
- the early signs and symptoms of pregnancy complications
- the role of good nutrition in good pregnancy outcome, and
- the importance of early and continuous prenatal care.

Such education should begin *early* in pregnancy to achieve the best results. In addition, pregnant women should receive counselling on the emotional and physical side effects of pregnancy and how to prepare for labor and delivery.[2]

Young Children

The American Academy of Pediatrics recommends that infants receive no less than eight health care visits in the first 18 months of life.[3] Among the most important services infants need are:

- regular screenings, including health and developmental histories
- physical examinations
- developmental assessments
- immunizations appropriate for age and health history
- assessment of nutritional status
- vision testing
- hearing testing
- laboratory services appropriate to the child's age and population groups.

Appropriate treatment and follow-up after screening, is, of course, essential.[4]

The Right Start eligibility determination process should be constructed so that Right Start applications that indicate a family income below Medicaid eligibility levels are automatically "rolled over" to the Medicaid agency for the crossover determination. Furthermore, if a family loses automatic Medicaid coverage, then the Medicaid agency should notify the Right Start Program so that the sliding fee can be determined and a Right Start card can be issued with no intervening loss of coverage.

## How Much Would Enrollment Cost?

Enrollment in Medicaid is free, of course. For families enrolled through the Right Start Fund, coverage costs would be set every six months based on the family's income at the time of application. The fee structure might begin at 185 percent of poverty, as is done in other states, or it could mirror that currently used in the state's Sliding Fee Child Care program, or it could be based on one of a number of fee structures used by counties or community clinics. If family incomes decline during their enrollment, they could notify the Right Start program for a downward adjustment of their premium fees.

No deductibles would be applied to any services available under the Right Start Fund, and no more than nominal co-payments (in accordance with federal Medicaid standards) could be required for any Right Start Fund item or service. All providers participating in the Right Start Fund would be required to accept an assignment of benefits, so that families would not have to prepay any item or service.






### Maine Funds Prenatal Care

**In 1983, Maine began a program to help poor and unemployed families get good prenatal care. All services except hospitalization are covered by a set price, and care is given by the private provider of the family's choice. Reimbursement mirrors Medicaid rates and eligibility levels are capped at 80 percent of the state median income. To encourage early care, the program covers only mothers who sign up in the first or second trimester of pregnancy.**

**The response was so great that publicity was quickly ended. About 500 babies were covered before the one-time-only federal start-up money ran out. The Maine Legislature, recognizing both the need and the cost effectiveness of ensuring adequate prenatal care, has chosen to continue the program using state funds.**

## What Providers Would Be Eligible to Participate in Right Start?

Any provider furnishing covered services can be a Right Start provider. If a family chooses to enroll with a qualified HMO or other prepaid plan, an annual enrollment fee no greater than the Medicaid capitation would be paid by the Right Start Fund to the plan on the family's behalf. Qualified Right Start plans are those that:

- furnish, or arrange and pay for, all Right Start services
- include specialists in obstetrical and pediatric care in their professional panels
- have affiliations with hospitals furnishing Level I through Level III maternity and newborn intensive care services
- except in the case of health centers funded under Section 330 of the Public Health Service Act, draw no more than 75 percent of their enrollees from publically funded programs
- meet all applicable state licensure requirements

While Right Start encourages enrollment in prepaid plans, we recognize that there are still numerous practicing physicians and clinics who are not yet a part of a formal carefully structured pre-payment system capable of providing and/or

arranging for all necessary care on a capitated basis. Thus, the Right Start Fund could also provide families the option of obtaining regular insurance to cover office-based practitioners on a fee-for-service basis. Providers participating in the insurance portion of Right Start would be also required to accept a direct assignment of benefits and could not bill patients for charges. Payment schedules should be in accordance with the Medicaid program. This may, of course, mean that Medicaid reimbursement schedules for Right Start services may have to be re-evaluated in order to get enough providers to participate.

## Other Things That Need to Be Done

In addition to enactment of Right Start in 1987, we make the following recommendations that should be acted on as soon as possible:

### Strengthen and enforce medical child support orders.

Minnesota law currently orders parents with child support obligations to cover their children if health insurance is available through work. This is not routinely enforced, however. The Minnesota Non-Tax Revenue Commission has created a plan to extend that requirement to all parents with support orders, define minimum insurance standards, and to simplify compliance and make it as automatic as possible. The federal government has recently ordered all states to include medical child support in their regular enforcement efforts, and has agreed to pay 70 percent of the costs. The new medical child support plan was passed by the 1986 Legislature and should be implemented immediately.

### Include community providers in Medical Assistance pre-payment strategies.

Current efforts to move Medical Assistance to a pre-paid basis, and to evaluate the quality of care given by various providers so the state can "buy smart" should be applauded. It is important, however, that community providers be included in any statewide prepayment scheme. These public and smaller community clinics have expertise



with the poor and currently see many of the very people who are Medicaid-eligible or will be served through the Right Start program.

To exclude these providers simply because they are not at this moment members of prepayment plans would be short-sighted. It would also be expensive, since continuity of care, transportation problems, language and cultural differences all affect the use of health care. Denied access to community providers, some people will go without needed care, and would subsequently develop the expensive problems we are seeking to avoid with our preventive strategy.

The Medical Assistance demonstration project now being conducted in Hennepin, Dakota, and Itasca Counties includes community providers, and some HMOs have begun to contract with community providers for certain services. These efforts should serve as models for statewide Medical Assistance prepayment efforts.



## Strengthen the WIC program.

Minnesota cannot afford to have poor pregnant women and little children going hungry. Beside the private sector efforts to support food shelves, which we applaud, the Governor and Legislature must make the WIC program work better. Three things need to be done.

**First, an intensive information campaign to inform the hungry pregnant women about WIC.**

This can be conducted through food shelves, by training people who give obstetrical care about WIC and how to get their patients enrolled, and by supplying WIC information through other systems, such as stuffing flyers in commodity distribution bags and grocery bags in low income communities, and T.V. and radio public service announcements. The State Department of Health, which currently has an unfilled position to do WIC outreach, should use those funds and any other resources available to begin outreach immediately. We cannot afford to wait.

More pregnant women can also be brought into WIC by offering incentives to program administrators. As was done by the MEED program to encourage placement of General Assistance eligibles. WIC should offer a small financial bonus to WIC programs for each new pregnant woman brought into the system.

**Second, we should create a WIC reserve.**

Minnesota has underspent WIC funds by $991,000 over the last two years. This tragedy has occurred because the WIC funds from the federal government are somewhat unpredictable, and program administrators felt they must budget conservatively in order not to overspend. This underspending in the face of such great need is a shame, but luckily it can be easily remedied. A small WIC reserve, perhaps $50,000, should be set aside. The Legislature should direct that WIC money be spent. Because WIC is carefully administered, the reserve would most likely not even be used.

**Third, the state should commit some funds to WIC.**

Right now about 111,000 Minnesota mothers and children who are eligible for WIC are not on it because the program is severely under-funded. This large group of people who cannot be served has discouraged administrators from publicizing the program for fear of raising hopes that cannot be met. But the consequences of not doing publicity are that many of the people who could benefit most from the program are not served because they do not know about it. In order to better serve pregnant women and children in need, and to allow the program to fulfill its purpose of building better babies and containing medical costs, the state of Minnesota should allocate $3.1 million for WIC so that all those currently on the waiting list can get help. Further, the state should direct all WIC administrators to publicize the program.

Our children are precious. They are also vulnerable and growing more so. It is up to us as a state to marshall the expertise and resources to provide comprehensive, dependable preventive health care coverage so that all our children can get the right start in life. This is a cost containment strategy both for the health care industry and for the state. It's also the right thing to do. Our children are our future. We can't afford to wait.

# Appendices

# COUNTY FACTS AFFECTING OUR CHILDREN

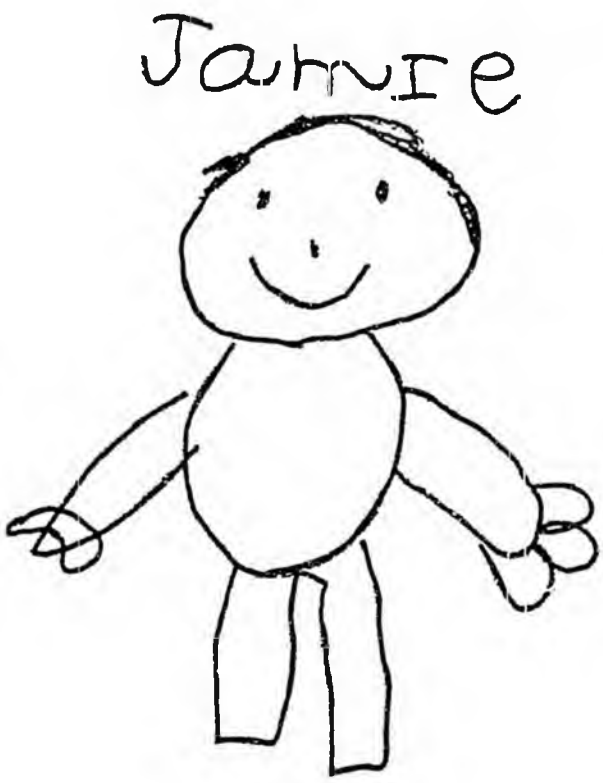



GENERAL

| County | Population[1] | Children[2] 0-4 | Unemployment rate[3] 1984 | 1979 |
|---|---|---|---|---|
| Aitkin | 13,595 | 863 | 16.8 | 10.4 |
| Anoka | 207,355 | 17,022 | 15.0 | 2.9 |
| Becker | 30,972 | 2,328 | 13.4 | 8.2 |
| Beltrami | 32,903 | 2,677 | 8.9 | 6.2 |
| Benton | 26,434 | 2,512 | 8.4 | 5.6 |
| Big Stone | 8,083 | 571 | 7.1 | 4.7 |
| Blue Earth | 52,844 | 4,904 | 5.1 | 3.2 |
| Brown | 28,617 | 2,394 | 6.6 | 4.0 |
| Carlton | 29,342 | 2,377 | 11.2 | 6.6 |
| Carver | 39,573 | 3,107 | 4.6 | 2.8 |
| Cass | 21,344 | 1,593 | 10.8 | 7.0 |
| Chippewa | 14,881 | 1,269 | 7.5 | 4.6 |
| Chisago | 27,559 | 2,315 | 6.4 | 3.9 |
| Clay | 49,203 | 4,262 | 5.5 | 5.0 |
| Clearwater | 9,056 | 706 | 19.5 | 12.0 |
| Cook | 4,286 | 280 | 11.3 | 6.9 |
| Cottonwood | 14,178 | 1,014 | 6.9 | 3.9 |
| Crow Wing | 42,287 | 3,343 | 10.2 | 7.1 |
| Dakota | 208,308 | 18,206 | 4.6 | 3.2 |
| Dodge | 15,744 | 1,502 | 8.4 | 4.6 |
| Douglas | 29,505 | 2,372 | 6.9 | 5.4 |
| Faribault | 19,218 | 1,332 | 6.2 | 3.9 |
| Fillmore | 21,915 | 1,702 | 7.5 | 4.1 |
| Freeborn | 35,398 | 2,727 | 8.0 | 4.8 |
| Goodhue | 39,385 | 3,045 | 6.5 | 3.7 |
| Grant | 7,209 | 525 | 6.7 | 4.2 |
| Hennepin | 945,970 | 74,001 | 4.6 | 3.3 |
| Houston | 18,774 | 1,618 | 6.0 | 5.0 |
| Hubbard | 15,264 | 1,013 | 12.4 | 8.4 |
| Isanti | 25,203 | 2,191 | 5.5 | 5.1 |
| Itasca | 45,047 | 3,473 | 12.6 | 8.6 |
| Jackson | 13,549 | 876 | 5.3 | 3.0 |
| Kanabec | 12,366 | 1,153 | 11.4 | 6.8 |
| Kandiyohi | 39,520 | 2,915 | 6.7 | 4.7 |
| Kittson | 6,774 | 437 | 9.4 | 5.9 |
| Koochiching | 16,759 | 1,430 | 10.3 | 7.2 |
| Lac Qui Parle | 10,395 | 799 | 6.3 | 2.7 |
| Lake | 12,740 | 936 | 16.4 | 4.0 |
| Lake O'Woods | 3,925 | 290 | 9.3 | 5.0 |
| Le Sueur | 23,585 | 1,994 | 9.1 | 5.0 |
| Lincoln | 7,972 | 584 | 6.9 | 4.1 |
| Lyon | 25,770 | 1,954 | 6.0 | 3.9 |
| McLeod | 29,971 | 384 | 6.3 | 3.2 |
| Mahnomen | 5,677 | 1,040 | 11.3 | 9.5 |
| Marshall | 12,804 | 1,908 | 13.8 | 9.3 |
| Martin | 24,669 | 2,049 | 6.3 | 3.4 |
| Meeker | 20,920 | 1,727 | 10.0 | 5.3 |

| ECONOMIC HARDSHIP | | | | | HEALTH | | | |
|---|---|---|---|---|---|---|---|---|
| Single parent families[4] | | K-12 students in low-income homes, 1984[5] | | Percent change in 1982-83 farm income[6] | Number of 1983 births[7] | Percent no prenatal care in first trimester, 1983[8] | Percent of 1983 babies born under 5.5 lbs.[9] | 1981-1983 infant death rate[10] |
| Number | Percent of all families | Number | Percent | | | | | |
| 260 | 6.8 | 477 | 32.0 | +6 | 200 | 29.1 | 3.0 | 8.4 |
| 4,943 | 9.7 | 3,911 | 8.2 | −265 | 3,544 | 18.4 | 5.5 | 8.6 |
| 680 | 8.8 | 1,527 | 30.7 | +104 | 481 | 21.9 | 4.4 | 13.8 |
| 840 | 11.3 | 2,141 | 30.2 | +25 | 583 | 22.4 | 3.9 | 15.4 |
| 502 | 8.1 | 805 | 18.2 | −23 | 590 | 12.5 | 3.9 | 9.6 |
| 106 | 5.2 | 436 | 29.2 | −42 | 111 | 22.0 | 5.4 | 8.3 |
| 1,124 | 9.1 | 1,354 | 13.7 | +24 | 805 | 16.7 | 4.3 | 11.9 |
| 561 | 7.7 | 717 | 12.3 | −40 | 491 | 16.4 | 5.1 | 11.0 |
| 729 | 9.3 | 1,500 | 22.9 | +257 | 135 | 27.4 | 5.2 | 7.7 |
| 748 | 7.8 | 489 | 5.9 | −23 | 645 | 14.0 | 5.1 | 11.3 |
| 487 | 8.4 | 1,465 | 37.5 | +88 | 342 | 34.6 | 7.6 | 13.2 |
| 247 | 6.0 | 433 | 16.8 | −16 | 203 | 27.0 | 4.9 | 12.4 |
| 439 | 6.4 | 794 | 14.4 | −54 | 464 | 32.2 | 5.0 | 11.6 |
| 1,089 | 9.3 | 1,282 | 18.1 | −35 | 694 | 25.5 | 4.6 | 16.3 |
| 201 | 8.6 | 752 | 39.0 | −25 | 134 | 21.2 | 3.7 | 4.7 |
| 90 | 7.9 | 141 | 20.9 | NA | 56 | 13.0 | 3.6 | 28.6 |
| 263 | 6.3 | 479 | 17.4 | −29 | 178 | 20.1 | 5.1 | 6.7 |
| 1,028 | 9.1 | 2,161 | 27.1 | −45 | 644 | 28.4 | 3.9 | 11.3 |
| 5,047 | 10.1 | 2,739 | 6.2 | −38 | 3,460 | 16.8 | 4.8 | 7.2 |
| 244 | 6.1 | 550 | 15.3 | −54 | 273 | 28.4 | 2.6 | 6.8 |
| 455 | 6.1 | 1,041 | 19.1 | −17 | 437 | 15.1 | 3.2 | 8.7 |
| 364 | 6.8 | 548 | 11.5 | −33 | 269 | 30.5 | 3.3 | 9.2 |
| 383 | 6.4 | 772 | 21.8 | −38 | 317 | 28.3 | 2.2 | 10.0 |
| 821 | 8.1 | 762 | 12.9 | −29 | 468 | 27.6 | 3.9 | 10.8 |
| 752 | 7.2 | 900 | 13.1 | −9 | 598 | 21.1 | 3.7 | 12.2 |
| 120 | 5.9 | 298 | 20.9 | +21 | 106 | 17.3 | 6.6 | 3.0 |
| 33,143 | 14.0 | 20,405 | 15.5 | −31 | 14,614 | 19.0 | 5.8 | 9.5 |
| 399 | 8.2 | 468 | 14.9 | −28 | 307 | 18.4 | 3.6 | 15.1 |
| 296 | 7.5 | 1,012 | 37.6 | −11 | 235 | 27.2 | 4.3 | 13.6 |
| 410 | 6.9 | 748 | 16.8 | +55 | 416 | 32.7 | 3.8 | 12.3 |
| 972 | 8.3 | 2,247 | 26.1 | −27 | 633 | 20.9 | 4.1 | 9.8 |
| 226 | 6.0 | 320 | 14.4 | −47 | 190 | 17.3 | 4.2 | 4.8 |
| 261 | 7.9 | 475 | 20.8 | +7 | 226 | 29.3 | 4.9 | 6.1 |
| 714 | 7.5 | 1,197 | 18.5 | −162 | 606 | 24.8 | 5.3 | 12.9 |
| 121 | 6.5 | 269 | 23.5 | −31 | 92 | 30.3 | 3.3 | 0.0 |
| 404 | 8.6 | 843 | 23.9 | −42 | 206 | 32.0 | 4.4 | 9.8 |
| 150 | 5.1 | 366 | 21.3 | −7 | 133 | 22.2 | 9.1 | 6.1 |
| 214 | 6.0 | 558 | 20.1 | NA | 149 | 27.7 | 6.0 | 7.8 |
| 72 | 6.7 | 200 | 32.6 | +28 | 12 | 22.6 | 1.9 | 11.5 |
| 422 | 6.8 | 619 | 13.2 | −29 | 419 | 17.5 | 5.0 | 11.3 |
| 110 | 5.0 | 467 | 34.2 | −48 | 106 | 31.1 | 1.9 | 2.8 |
| 470 | 7.5 | 1,051 | 19.7 | −33 | 403 | 25.8 | 4.2 | 9.8 |
| 534 | 8.8 | 500 | 11.3 | −27 | 494 | 11.7 | 5.3 | 11.9 |
| 121 | 5.3 | 833 | 47.7 | +25 | 97 | 19.6 | 4.1 | 9.8 |
| 187 | 8.1 | 910 | 31.1 | −27 | 179 | 23.0 | 3.4 | 8.5 |
| 524 | 6.7 | 558 | 12.8 | −28 | 391 | 22.9 | 2.6 | 8.4 |
| 357 | 6.4 | 997 | 20.0 | −46 | 345 | 36.1 | 6.1 | 10.1 |

# COUNTY FACTS AFFECTING OUR CHILDREN




GENERAL

| County | Population[1] | Children[2] 0-4 | Unemployment rate[3] 1984 | 1979 |
|---|---|---|---|---|
| Mille Lacs | 18,316 | 1,633 | 9.0 | 5.7 |
| Morrison | 30,046 | 2,517 | 10.7 | 7.3 |
| Mower | 39,816 | 2,858 | 6.7 | 5.1 |
| Murray | 11,441 | 865 | 8.2 | 5.1 |
| Nicollet | 27,976 | 2,380 | 5.0 | 2.8 |
| Nobles | 21,934 | 1,630 | 6.8 | 3.4 |
| Norman | 9,534 | 665 | 7.0 | 4.5 |
| Omsted | 95,791 | 8,475 | 4.6 | 3.7 |
| Ottertail | 54,864 | 3,825 | 9.9 | 6.2 |
| Pennington | 14,036 | 1,282 | 9.1 | 5.4 |
| Pine | 20,576 | 1,676 | 11.2 | 7.5 |
| Pipestone | 11,405 | 799 | 5.1 | 4.9 |
| Polk | 34,562 | 2,667 | 8.6 | 5.6 |
| Pope | 11,854 | 884 | 7.5 | 4.7 |
| Ramsey | 457,123 | 35,778 | 4.8 | 3.8 |
| Red Lake | 5,340 | 413 | 15.2 | 10.3 |
| Redwood | 18,835 | 1,518 | 5.3 | 3.3 |
| Renville | 19,685 | 1,393 | 8.5 | 5.1 |
| Rice | 47,012 | 4,029 | 7.5 | 4.9 |
| Rock | 10,728 | 893 | 4.0 | 2.9 |
| Roseau | 12,845 | 1,099 | 11.0 | 6.2 |
| St. Louis | 213,662 | 3,660 | 12.2 | 5.8 |
| Scott | 48,885 | 3,040 | 5.3 | 2.8 |
| Sherburne | 33,258 | 1,229 | 8.0 | 5.0 |
| Sibley | 15,671 | 16,326 | 7.3 | 4.4 |
| Stearns | 113,815 | 11,334 | 8.0 | 5.9 |
| Steele | 30,498 | 2,711 | 6.6 | 3.7 |
| Stevens | 11,191 | 859 | 5.6 | 3.7 |
| Swift | 12,776 | 988 | 9.5 | 5.0 |
| Todd | 26,034 | 2,048 | 8.2 | 5.4 |
| Traverse | 5,402 | 370 | 6.3 | 4.5 |
| Wabasha | 19,178 | 1,732 | 8.4 | 4.2 |
| Wadena | 14,001 | 1,124 | 9.4 | 5.4 |
| Waseca | 18,711 | 1,838 | 5.9 | 3.3 |
| Washington | 120,502 | 9,334 | 4.4 | 3.0 |
| Watonwan | 12,046 | 1,000 | 6.7 | 3.3 |
| Wilkin | 8,348 | 701 | 6.3 | 4.1 |
| Winona | 46,478 | 4,129 | 7.8 | 5.3 |
| Wright | 62,199 | 6,353 | 6.1 | 3.7 |
| Yellow Medicine | 13,095 | 918 | 6.2 | 3.5 |
| STATE | 4,145,607 | 335,104 | 6.3 | 4.2 |

| ECONOMIC HARDSHIP | | | | | HEALTH | | | |
|---|---|---|---|---|---|---|---|---|
| Single parent families[4] | | K-12 students in low-income homes, 1984[5] | | Percent change in 1982-83 farm income[6] | Number of 1983 births[7] | Percent no prenatal care in first trimester, 1983[8] | Percent of 1983 babies born under 5.5 lbs.[9] | 1981-1983 infant death rate[10] |
| Number | Percent of all families | Number | Percent | | | | | |
| 375 | 7.6 | 1,418 | 25.3 | NA | 314 | 15.5 | 7.0 | 14.9 |
| 560 | 7.5 | 2,515 | 36.2 | −21 | 548 | 15.7 | 4.8 | 11.4 |
| 865 | 7.8 | 1,125 | 16.6 | −42 | 554 | 37.3 | 3.8 | 8.9 |
| 174 | 5.5 | 254 | 16.4 | −28 | 162 | 15.8 | 2.5 | 3.9 |
| 507 | 8.0 | 310 | 13.7 | −37 | 370 | 15.5 | 4.6 | 14.9 |
| 429 | 7.2 | 755 | 19.2 | −36 | 320 | 20.7 | 4.7 | 12.0 |
| 157 | 6.2 | 475 | 28.8 | −19 | 106 | 26.4 | 2.8 | 2.7 |
| 2,200 | 9.5 | 1,765 | 9.9 | −21 | 1,750 | 23.9 | 5.9 | 8.2 |
| 892 | 6.3 | 2,143 | 25.4 | −19 | 771 | 16.6 | 4.0 | 6.3 |
| 389 | 9.7 | 867 | 30.7 | −8 | 226 | 27.5 | 5.8 | 5.8 |
| 431 | 8.3 | 1,239 | 30.0 | +6 | 340 | 33.4 | 2.9 | 6.9 |
| 195 | 6.2 | 564 | 22.1 | −67 | 182 | 18.6 | 7.1 | 10.9 |
| 793 | 9.0 | 1,653 | 25.2 | −30 | 550 | 23.1 | 5.3 | 9.0 |
| 183 | 5.7 | 444 | 23.7 | −30 | 200 | 21.2 | 4.5 | 10.5 |
| 17,001 | 14.8 | 13,262 | 19.9 | −58 | 7,710 | 24.3 | 6.0 | 11.3 |
| 87 | 6.2 | 499 | 42.5 | −18 | 88 | 24.1 | 3.4 | 7.1 |
| 350 | 6.8 | 576 | 15.6 | −28 | 324 | 13.7 | 4.3 | 12.5 |
| 313 | 5.7 | 591 | 15.6 | −42 | 340 | 14.8 | 4.1 | 6.1 |
| 865 | 8.1 | 1,164 | 8.1 | −33 | 700 | 27.2 | 5.7 | 8.5 |
| 156 | 5.4 | 349 | 18.8 | −45 | 160 | 12.4 | 7.5 | 6.1 |
| 209 | 6.2 | 660 | 24.5 | −14 | 198 | 23.8 | 5.6 | 18.7 |
| 6,451 | 7.7 | 9,018 | 26.9 | NA | 2,835 | 16.8 | 5.3 | 8.7 |
| 850 | 6.5 | 737 | 7.3 | −20 | 793 | 18.2 | 3.7 | 9.4 |
| 485 | 5.5 | 599 | 8.6 | −306 | 539 | 16.0 | 6.0 | 8.4 |
| 232 | 11.1 | 408 | 15.4 | −42 | 217 | 12.4 | 4.6 | 6.9 |
| 1,995 | 8.2 | 4,526 | 17.6 | −15 | 1,952 | 17.8 | 4.4 | 9.7 |
| 575 | 7.2 | 678 | 10.9 | −25 | 500 | 43.3 | 4.6 | 11.9 |
| 159 | 5.8 | 311 | 16.6 | −66 | 140 | 7.8 | 4.3 | 3.8 |
| 231 | 6.7 | 670 | 24.5 | −38 | 174 | 25.7 | 6.9 | 8.8 |
| 388 | 5.9 | 1,822 | 36.0 | −28 | 431 | 26.4 | 6.1 | 11.5 |
| 103 | 6.8 | 208 | 28.0 | −76 | 83 | 26.9 | 3.6 | 11.7 |
| 350 | 6.8 | 629 | 14.9 | −8 | 332 | 22.8 | 6.9 | 16.2 |
| 290 | 7.8 | 1,153 | 33.9 | NA | 213 | 24.7 | 2.8 | 17.3 |
| 352 | 7.3 | 514 | 13.2 | −38 | 301 | 20.9 | 5.3 | 14.2 |
| 2,408 | 8.3 | 1,595 | 6.4 | −61 | 1,852 | 17.3 | 4.6 | 8.8 |
| 226 | 6.6 | 401 | 18.6 | −25 | 199 | 24.2 | 6.0 | 8.0 |
| 170 | 7.8 | 311 | 18.5 | +10 | 106 | 16.3 | 1.9 | 13.4 |
| 1,044 | 10.1 | 1,113 | 14.5 | −37 | 702 | 16.5 | 4.9 | 11.3 |
| 986 | 6.6 | 1,502 | 11.3 | −25 | 1,156 | 18.2 | 4.2 | 9.1 |
| 215 | 5.9 | 509 | 23.6 | −18 | 230 | 29.1 | 4.3 | 14.2 |
| 107,271 | 10.3 | 122,943 | 16.7 | −29 | 65,559 | 20.9 | 5.0 | 9.8 |

# CHILDREN'S HEALTH HEARINGS

Minnesotans Who Presented Testimony at Children's Health Hearings In
Northwest, Northeast, Southern and Metro Minnesota
September and October, 1985

**Children's Health Hearing**
**Saturday, September 21, Bemidji**
**Hearing Speakers**

Dr. Mark S. Becker
Cass Lake Physician
La Porte

Robin Buchanan
Cass County Nursing Services
Benedict

Alice Collins
Planned Parenthood
Bemidji

Nancy Jacobs Contrucci
Early Childhood Education
Bemidji State University
Bemidji

Steve Engel
WIC Consultant
Bemidji

Bonnie Engen
Clearwater County Nursing Service
Bagley

Patti Haasch
Leech Lake Head Start
Bemidji

Wayne Kuklinski
Tri-Valley Head Start
Crookston

Ruth Nepper
4 County - Early Periodic Screening/WIC
Warren

Blanche Niemi
White Earth Head Start
Callaway

Cathy Nye
Services for Children with Handicaps
Bemidji

Mary Lou Rindahl
Outreach, Inter-County
Oklee

Kathy Simonson
Inter-County, Head Start
Oklee

Roleen Walgenbach
Leech Lake Reservation Health Division
Bemidji

**Children's Health Hearings**
**Thursday, October 3rd**
**Northeast Minnesota - Grand Rapids**
**Hearing Speakers**

Linda Anderson
Maternal and Child Health Nurse
Aitkin County Public Health Department

Wendy Anderson
Dietician
WIC Project Director
Koochiching, Itasca Action Council

Sue Bounds
Coordinator, Early Childhood Program and
Special Education School District 318
and the Tri-County Cooperative No. 946
Director, Infant and Toddler Center
Grand Rapids High School

Barb Bunte
Public Health Nurse
Big Fork

Sue Erzac
Public Health Nurse
Maternal and Child Health
Itasca County Health Department

Delores Larson
Community Health Representative
Leech Lake Reservation Business Committee
Cass Lake

Jackie Thompson
AFL-CIO Department of Community Services
Duluth

Randy Rehnstrand
Administrator
Community Health Services Board
Aitkin, Koochiching, Itasca Counties

Barb Richards
School Nurse
Big Fork, Effie, and Togo
Itasca County Health Department

Bruce Rowe
Administrator
Community Health Services Board
Carlton, Cook Lake, St. Louis Counties

Dorothy Villock
Director, Teenage Parenting Program
District 318
Grand Rapids

Diana Seeger
parent of handicapped child
Grand Rapids

**Southern Minnesota - Rochester**
**Hearing Speakers**

Judith Aarsvald
Licensed Psychologist
Lutheran Social Services
Rochester

Myra Ahrens, R.N.
Minnesota Migrants Council
Dodge Center

Judy Barton
Community Health Service Administrator
Wabasha County

Beulah Estran
WIC Coordinator
Rice County

Dr. Walter Franz
Family Medicine
Mayo Clinic

Kirsten Hall
Community Health Services
Rice County

Barbara Huus
Assistant Director, Parent Child Health
Olmstead County Health Department

Nancy Kolaas
Women's Shelter
Rochester

Amy Miller
Nurse Practitioner
Planned Parenthood
Mankato

Phoebe Selvaggio
Minnesota Department of Health
Maternal & Child Health Division

Lynn Skinner
Regional Director
Planned Parenthood
Rochester

Valerie Strauss
Counselor
Catholic Social Services
Rochester

Lynn Theurer
Community Health Services Administrator
Winona County

Linda Thielbar
Head Start Administrator
Goodhue, Wabasha, Rice County CAP Program
Zumbrota

Trish Townsdin
Outreach Coordinator
Minnesota Valley Action Council
Mankato

**Metro Minneapolis - St. Paul**
**Hearing Speakers**

Majel Carroll
R.A.P. Washington County
Cottage Grove

Sarah Brown
new mother
St. Paul

Mary Edwards
Office of Senator Durenberger
Minneapolis

Dr. Betty Jerome
Teen Age Medical Service
Minneapolis

Michelle Johnson
new mother
St. Paul

Margaret Jones
M.N.C.H.I.P.
Minneapolis

Kevin Kenney
Associate County Administrator
Hennepin County

Mayor George Latimer
St. Paul

Wanda Miller
Health Services Supervision
St. Paul Public Schools

Noreen Smith
Indian Health Board
Minneapolis

James Robinson
Loft Teen Center
St. Paul

Ann Ricketts
St. Paul Maternal Infant Care Program
St. Paul

Joan Rambeck
Minneapolis Health Department
Minneapolis

Lenora Sherard
Pilot City Health Center
Minneapolis

Susan St. Fauver
Refugee Clinic
St. Paul

St Vang
Community Nutrition Worker
St. Paul Health Department

Veronica Williams
Minneapolis Urban League

Karen Zeleznak
Parent Child Health
Washington County

**Northeast Minnesota - Bemidji**
**Hearing Panelists**

Gladys Drouillard
Leech Lake Reservation Business Committee

Luanne Nyberg
Director, Minnesota Project
Children's Defense Fund

Representative Edgar Olson
Fosston - District 2B

Representative Ted Thorson
Bemidji - District 4A

Judy Weitz
Director, State and Local Affairs
Children's Defense Fund
Washington, D.C.

Senator Gerald Willet
Park Rapids - District 4
Chair Finance Committee

Representative Maurice Zaffke
Backus - District 4B

**Northeast Minnesota - Grand Rapids**
**Hearing Panelists**

Senator Ron Dicklich
Hibbing - District 5
Member, Health & Human Services Committee

Dana Hughes
Prenatal Care Campaign Co-ordinator
Children's Defense Fund

Commissioner Marilyn Krueger
Chair, St. Louis County Board

Luanne Nyberg
Director, Minnesota Project
Children's Defense Fund

Representative Paul Ogren
Aitkin - District 14A

Roy Skramstad
Jobs Service Field Office Director
Hibbing

Representative Loren Solberg
Bovey - District 3B

**Southern Minnesota - Rochester**
**Hearing Panelists**

Senator Wayne Benson
Lanesboro - District 32
Member, Health & Human Services Committee

Dr. Dan Broughton
Consultant - Department of Pediatrics
Mayo Clinic

Dana Hughes
Prenatal Care Campaign Co-ordinator
Children's Defense Fund

Commissioner Lee Luebbe
Winona County

Luanne Nyberg
Director, Minnesota Project
Children's Defense Fund

Representative Peter Rodosovich
Faribault - District 25B
Member, Health & Human Services Committee

Mary Ann Senjem
Representative Tim Penny's Office
First Congressional District

**Metro Minneapolis - St. Paul**
**Hearing Panelists**

Senator Linda Berglin
Minneapolis - District 60
Chair, Health and Human Services Committee

Roy Garza, Director
Community and Government Relations
United Way of St. Paul

Representative David Gruenes
St. Cloud - 17B District
Chair, Health Subcommittee
Health & Human Services Committee

Commissioner Ruby Hunt
Ramsey County Board

Yusef Mgeni
Sabathani Community Center
Minneapolis

Sara Rosenbaum, Director
Child Health Division
Children's Defense Fund
Washington, D.C.

James P. Shannon
Executive Director
General Mills Foundation
Minneapolis

Luanne Nyberg
Director, Minnesota Project
Children's Defense Fund

William Udoka
Health Director
Minneapolis Urban League

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"All children should have quality health care available and accessible."
*Minnesota Maternal and Child Health Plan, 1985*

"All Americans, rich or poor, deserve access to quality health care."
*Senator David Durenberger, 1985*

"Finances are the primary barrier to maternity care in Minnesota."
*American Academy of Pediatrics, Minnesota Chapter, 1984*

"Comprehensive prenatal care is a key to healthier babies and mothers."
*House DFL Committee on Families, 1985*

"The Minnesota Legislature [should] make statutory and regulatory changes to provide comprehensive prenatal care for all pregnant women in Minnesota not covered by third-party payers."
*Minnesota Coalition on Health Care Costs, 1984*

"Consumers should have basic health care benefits and catastrophic coverage. The state government should cover those who are unable to pay."
*Minnesota Medical Association, 1983*

"Prenatal care for uninsured pregnant women with incomes below 200 percent of poverty is a top priority."
*Commission on the Economic Status of Women, 1986 Legislative Agenda*

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
**RESEARCH AGENCY**

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

September 29, 1987

**MEMORANDUM**

TO: Representative Niilo Koponen

ATTN: Lisa McLaren

FROM: Sandi Depue SmQ
Administrative Officer

RE: **Components of Health Care Costs in Alaska**
Research Request 88.051

You asked us to find out what items make up the column "Health Care" in Table 2 on page 2 of the September 1987 issue of Alaska Economic Trends (article entitled "The Cost of Living in Alaska"). You also requested a comparison of those costs between Alaska cities and other cities in the United States.

Mr. Ed Eboch, editor of Alaska Economic Trends, told me they had quoted figures from the American Chamber of Commerce Researchers Association's "Inter-City Cost of Living Index," First Quarter 1987. Attachment A is copies of pages from this document. The first page explains that the following items are encompassed in the heading "Health Care":

- Hospital Room - Average cost per day of semi-private room;
- Office Visit, Doctor - General practitioner, average charge;
- Office Visit, Dentist - Teeth cleaning and inspection: no x-ray or fluoride treatment; and
- Aspirin - 100-tablet bottle, Bayer brand.

The remaining six pages of Attachment A list the cost of various items for 247 cities within the United States. I have highlighted the costs for hospital rooms, doctor visits, dentist visits and aspirin.

I hope this information is useful to you. Please contact me if I can be of further assistance.

Attachments

ATTACHMENT A
American Chamber of Commerce Researchers Association
Inter-City Cost of Living Index
First Quarter 1987

# Price Report Column Headings

The items and specifications in this pricing study are listed below. The descriptions for HOUSING and UTILITIES are briefly highlighted, since pricing is based on explicit procedural instructions and very detailed specifications. Monthly housing payments and utility use charges are not community-wide averages and should not be construed as such. • Pricing is based on sampling averages. The concept of a mid-management executive household is the guideline for selecting establishments and neighborhoods in which to price, and the minimum number of establishments to be surveyed depends upon the size of each community. • To ensure uniformity, national brands are stipulated whenever possible, and "lowest price" is the reported average of the lowest prices found in all stores surveyed. • Housing prices are published in whole dollars. All other items are presented in dollars and cents and published without the decimal point.

## GROCERY ITEMS

| Column Number | | |
|---|---|---|
| | **MEATS** | |
| 1 | T-Bone Steak | Price per pound, USDA Choice |
| 2 | Ground Beef or Hamburger | Price per pound, lowest price |
| 3 | Bacon | Price per pound, rashers, Oscar Mayer Hormel Black Label, Armour or Field's |
| 4 | Frying Chicken | Whole fryer, price per pound |
| 5 | Chunk Light Tuna | 6½ oz. can, Starkist or Chicken of the Sea, packed in oil |
| | **DAIRY PRODUCTS** | |
| 6 | Whole Milk | One-half gallon carton |
| 7 | Eggs | One dozen, grade A, large |
| 8 | Margarine | One pound, Blue Bonnet or Parkay |
| 9 | Parmesan Cheese, Grated | 8 oz. canister, Kraft brand |
| | **PRODUCE** | |
| 10 | Potatoes | 10 pound sack, white or red, lowest price |
| 11 | Bananas | Price per pound |
| 12 | Head Lettuce | Head (approx. 1¼ pound size) |
| | **BAKERY PRODUCTS** | |
| 13 | Bread, White | 24 oz. loaf, lowest price |
| | **TOBACCO** | |
| 14 | Cigarettes | Carton, Winston, king-size (85mm.) |
| | **MISC. GROCERY PRODUCTS** | |
| 15 | Coffee, Vacuum-Packed | One pound, Maxwell House, Hills Brothers or Folgers |
| 16 | Sugar | 5 pounds, cane or beet, lowest price |
| 17 | Corn Flakes | 18 oz. Kellogg's or Post Toasties |
| 18 | Sweet Peas | 17 oz. can, Del Monte or Green Giant |
| 19 | Tomatoes | 14½ oz. can, Hunt's or Del Monte |
| 20 | Peach Halves | 29 oz. can, Hunt's, Del Monte or Libby's |
| 21 | Facial Tissue | 175-count box, Kleenex brand |
| 22 | Washing Powder | 12 oz. or 49 oz., Tide, Bold or Cheer |
| 23 | Shortening | 3 pound can, all-vegetable, Crisco brand |
| 24 | Frozen Orange Juice | 12 oz. can, Minute Maid brand |
| 25 | Frozen Corn | 10 oz. whole kernel, lowest price |
| 26 | Baby Food | 4½ oz. jar, strained vegetables, lowest price |
| 27 | Soft Drink | 2 liter Coca-Cola, excluding any deposit |

## HOUSING

| | | |
|---|---|---|
| 28 | Apartment, Monthly Rent | Two bedroom, unfurnished, excl. all utilities except water. 1 or 1½ baths, approx. 950 sq. ft. |
| | Home Purchase | |
| 29A | Total Purchase Price | 1,800 sq. ft. living area new house, approx. 10,000 sq. ft. lot, urban area with all utilities. |
| 29B | Monthly Payment | Principal and interest, 25-year first mortgage based on 75 percent loan at current conventional fixed-rate of interest or adjustable rate mortgage plan |

## UTILITIES

| Column Number | | |
|---|---|---|
| 30 | Electric Power | Monthly costs calculated at current rates for average monthly consumption during the previous 12 months in the type of home specified in Item 29. All-electric homes are reported in 30A; electricity costs where other energy fuels are used are reported in 30B. |
| 31 | Other Fuel Sources: oil, natural gas, coal, wood, etc. | |
| 30 + 31 | Total Energy Costs | |
| 32 | Telephone | Private residential line; customer owns instruments. Price includes: basic monthly rate; additional local use charges, if any, incurred by a family of four; Touch-Tone fee; other mandatory monthly charges, such as long distance access fee or 911 fee; and all taxes on the foregoing. |

## TRANSPORTATION

| | | |
|---|---|---|
| 33 | Bus Fare | Typical one-way commuting fare, up to 10 miles |
| 34 | Auto Maintenance | Average price to balance one front wheel |
| 35 | Gasoline | One gallon unleaded regular, national brand, including all taxes; cash price at self-service pump if available |

## HEALTH CARE

| | | |
|---|---|---|
| 36 | Hospital Room | Average cost per day of semi-private room |
| 37 | Office Visit, Doctor | General practitioner, average charge |
| 38 | Office Visit, Dentist | Teeth cleaning and inspection; no X-ray or fluoride treatment |
| 39 | Aspirin | 100-tablet bottle, Bayer brand |

## MISC. GOODS & SERVICES

| | | |
|---|---|---|
| 40 | Hamburger Sandwich | ¼ pound patty with cheese, McDonald's Quarter-Pounder with cheese, where available |
| 41 | Pizza | 12" - 13" thin crust cheese pizza, Pizza Hut, Pizza Inn or Shakey's where available |
| 42 | Fried Chicken | Thigh and drumstick, with or without extras, Kentucky Fried Chicken or Church's, where available |
| 43 | Haircut | Man's barbershop haircut, no styling |
| 44 | Beauty Salon | Woman's shampoo, trim and blow dry |
| 45 | Toothpaste | 6 oz - 7 oz. tube, Crest or Colgate |
| 46 | Shampoo | 11 oz. bottle, Johnson's Baby Shampoo |
| 47 | Dry Cleaning | Man's two-piece suit, average price |
| 48 | Man's Dress Shirt | Arrow, Enro, Sear's Best or Van Heusen brand, White, poly/cotton blend, long sleeves, size 15/32 - 16/34 |
| 49 | Boy's Underwear | Package of three briefs, cotton, size range 28/30 - 34/36, lowest price |
| 50 | Man's Denim Jeans | Levi brand, Straight Leg, size range 28/30 - 34/36 |
| 51 | Major Appliance Repair | Home service call, clothes washing machine; minimum labor charge but excluding parts |
| 52 | Newspaper Subscription | Home delivery for daily and Sunday of large-city newspaper, monthly rate |
| 53 | Movie | First-run, indoor, evening price |
| 54 | Bowling | Average price per line (game), evening rate |
| 55 | Tennis Balls | Wilson or Penn brand, can of three extra-duty, yellow |
| 56 | Board Game | Parker Brothers' "Monopoly," No. 9 edition |
| 57 | Liquor | Seagram's 7 Crown, 750 ml. bottle |
| 58 | Beer | Schlitz or Budweiser, 6-pack, 12 oz. containers excluding any deposit |
| 59 | Wine | Paul Masson Chablis, 1.5 liter bottle |

PRICE REPORT

| QUARTER 1, 1987 | 24 | 25 FPZ | 26 BD | 27 | 28 APT | 29A HOME | 29B HOME | 30A ALL- | 30B PART | 31 OTHER | 30+31 TOTAL | 32 TELE | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CITY AND STATE | ORJ | CRN | FD | COK | RENT | PRICE | P+I | ELECT | ELECT | ENRGY | ENRGY | PHON | BUS | DAL | LINE | [illegible] | [illegible] | [illegible] | [illegible] |
| ANNISTON AL | 111 | 55 | 23 | 143 | 305 | 77833 | 490 | | 6929 | 4660 | 11589 | 2257 | | 400 | 839 | [illegible] | [illegible] | [illegible] | [illegible] |
| BIRMINGHAM AL | 108 | 52 | 23 | 129 | 364 | 86400 | 555 | | 6929 | 4660 | 11589 | 2579 | 100 | 540 | 807 | [illegible] | [illegible] | [illegible] | [illegible] |
| DOTHAN AL | 106 | 51 | 22 | 157 | 250 | 88250 | 568 | 11408 | | | 11408 | 1719 | | 540 | 849 | [illegible] | [illegible] | [illegible] | [illegible] |
| FLORENCE AL | 100 | 45 | 22 | 121 | 270 | 70600 | 470 | | 9075 | 2792 | 11867 | 2248 | | 390 | 921 | [illegible] | [illegible] | [illegible] | [illegible] |
| GADSDEN AL | 115 | 63 | 22 | 88 | 263 | 67000 | 434 | | 6929 | 4660 | 11589 | 2163 | | 490 | 869 | [illegible] | [illegible] | [illegible] | [illegible] |
| MOBILE AL | 102 | 50 | 21 | 132 | 317 | 80325 | 531 | | 7257 | 4787 | 12044 | 2392 | 50 | 590 | 851 | [illegible] | [illegible] | [illegible] | [illegible] |
| ANCHORAGE AK | 154 | 69 | 35 | 209 | 629 | 131633 | 841 | | 5334 | 6475 | 11809 | 1156 | 75 | 800 | 856 | [illegible] | [illegible] | [illegible] | [illegible] |
| FAIRBANKS AK | 121 | 69 | 34 | 241 | 594 | 126725 | 814 | | 5538 | 7260 | 12798 | 1524 | 100 | 639 | 991 | [illegible] | [illegible] | [illegible] | [illegible] |
| JUNEAU AK | 146 | 62 | 34 | 186 | 575 | 133500 | 866 | 14691 | | | 14691 | 2660 | 75 | 836 | 1266 | [illegible] | [illegible] | [illegible] | [illegible] |
| LAKE HAVASU AZ | 132 | 62 | 28 | 99 | 400 | 76667 | 505 | 11066 | | | 11066 | 1475 | | 467 | 882 | [illegible] | [illegible] | [illegible] | [illegible] |
| PHOENIX AZ | 119 | 59 | 27 | 121 | 453 | 94583 | 615 | 10707 | | | 10707 | 1630 | 75 | 600 | 761 | [illegible] | [illegible] | [illegible] | [illegible] |
| TUCSON AZ | 126 | 57 | 27 | 109 | 448 | 98750 | 632 | | 5450 | 2471 | 7921 | 1425 | 50 | 550 | 806 | [illegible] | [illegible] | [illegible] | [illegible] |
| FAYETTEVILLE AR | 121 | 55 | 25 | 124 | 320 | 79000 | 529 | | 6509 | 4557 | 11066 | 2685 | | 467 | 844 | [illegible] | [illegible] | [illegible] | [illegible] |
| FORT SMITH AR | 120 | 54 | 25 | 98 | 309 | 81500 | 540 | | 6720 | 2880 | 9600 | 1920 | | 488 | 799 | [illegible] | [illegible] | [illegible] | [illegible] |
| JONESBORO AR | 123 | 53 | 27 | 122 | 256 | 69833 | 496 | | 7062 | 5206 | 12268 | 1877 | | 432 | 842 | [illegible] | [illegible] | [illegible] | [illegible] |
| BAKERSFIELD CA | 118 | 58 | 25 | 145 | 430 | 109600 | 723 | | 9591 | 2283 | 11874 | 1170 | 50 | 630 | 839 | [illegible] | [illegible] | [illegible] | [illegible] |
| BLYTHE CA | 126 | 59 | 26 | 195 | 354 | 75000 | 501 | | 10289 | 2051 | 12340 | 1736 | | 592 | 785 | [illegible] | [illegible] | [illegible] | [illegible] |
| FRESNO CA | 139 | 50 | 27 | 149 | 374 | 104200 | 689 | | 7218 | 2359 | 9577 | 1197 | 50 | 670 | 773 | [illegible] | [illegible] | [illegible] | [illegible] |
| INDIO CA | 135 | 55 | 25 | 191 | 535 | 90000 | 610 | | 8595 | 2107 | 10702 | 1256 | 50 | 675 | 741 | [illegible] | [illegible] | [illegible] | [illegible] |
| LOS ANGELES CA | 126 | 46 | 25 | 169 | 754 | 131947 | 906 | | 5330 | 3188 | 8518 | 1056 | 85 | 583 | 745 | [illegible] | [illegible] | [illegible] | [illegible] |
| ORANGE COUNTY CA | 126 | 46 | 25 | 169 | 709 | 150833 | 1035 | | 5330 | 3188 | 8518 | 1056 | 75 | 667 | 802 | [illegible] | [illegible] | [illegible] | [illegible] |
| PALM SPRINGS CA | 143 | 54 | 26 | 185 | 600 | 136000 | 884 | | 9220 | 1522 | 10742 | 1337 | 50 | 633 | 753 | [illegible] | [illegible] | [illegible] | [illegible] |
| RIVERSIDE CA | 144 | 52 | 26 | 194 | 485 | 121515 | 799 | | 8661 | 3815 | 12476 | 1326 | 60 | 633 | 786 | [illegible] | [illegible] | [illegible] | [illegible] |
| SACRAMENTO CA | 128 | 54 | 26 | 163 | 472 | 93800 | 617 | 9780 | | | 9780 | 1152 | 100 | 660 | 739 | [illegible] | [illegible] | [illegible] | [illegible] |
| SAN DIEGO CA | 129 | 55 | 26 | 198 | 850 | 147500 | 954 | | 6742 | 2467 | 9209 | 1230 | 125 | 695 | 837 | [illegible] | [illegible] | [illegible] | [illegible] |
| SAN JOSE CA | 144 | 56 | 26 | 156 | 715 | 156000 | 1015 | | 3733 | 2580 | 6313 | 1246 | 60 | 725 | 815 | [illegible] | [illegible] | [illegible] | [illegible] |
| TEMECULA CA | 134 | 66 | 26 | 194 | 492 | 113334 | 756 | | 6067 | 3045 | 9112 | 1478 | | 550 | 1112 | [illegible] | [illegible] | [illegible] | [illegible] |
| VISALIA CA | 127 | 52 | 26 | 124 | 327 | 98000 | 632 | | 8654 | 3192 | 11846 | 1245 | | 620 | 753 | [illegible] | [illegible] | [illegible] | [illegible] |
| BOULDER CO | 100 | 54 | 26 | 142 | 475 | 114000 | 731 | | 5547 | 4687 | 10234 | 1440 | 50 | 600 | 853 | [illegible] | [illegible] | [illegible] | [illegible] |
| COLORADO SPRINGS CO | 102 | 54 | 26 | 169 | 309 | 85000 | 550 | | 3586 | 3292 | 6878 | 1223 | 60 | 544 | 931 | [illegible] | [illegible] | [illegible] | [illegible] |
| DENVER CO | 105 | 55 | 27 | 126 | 378 | 109102 | 713 | | 5547 | 4687 | 10234 | 1440 | 88 | 599 | 853 | [illegible] | [illegible] | [illegible] | [illegible] |
| FORT COLLINS CO | 99 | 53 | 26 | 139 | 375 | 80000 | 511 | | 4893 | 4217 | 9110 | 1291 | 55 | 537 | 899 | [illegible] | [illegible] | [illegible] | [illegible] |
| GRAND JUNCTION CO | 126 | 58 | 32 | 168 | 318 | 70790 | 470 | | 5321 | 3493 | 8814 | 1250 | | 533 | 882 | [illegible] | [illegible] | [illegible] | [illegible] |
| LONGMONT CO | 102 | 55 | 27 | 144 | 415 | 82625 | 530 | | 4543 | 4149 | 8692 | 1130 | | 600 | 839 | [illegible] | [illegible] | [illegible] | [illegible] |
| LOVELAND CO | 102 | 55 | 26 | 151 | 346 | 85634 | 551 | | 4474 | 4018 | 8492 | 960 | | 217 | 865 | [illegible] | [illegible] | [illegible] | [illegible] |
| PUEBLO CO | 102 | 54 | 27 | 138 | 278 | 67680 | 443 | | 5448 | 4133 | 9581 | 1414 | 50 | 500 | 842 | [illegible] | [illegible] | [illegible] | [illegible] |
| DOVER DE | 133 | 57 | 29 | 121 | 362 | 80167 | 535 | | 5609 | 4299 | 9908 | 1435 | | 600 | 759 | [illegible] | [illegible] | [illegible] | [illegible] |
| WILMINGTON DE | 137 | 62 | 30 | 116 | 400 | 119133 | 795 | 14468 | | | 14468 | 1410 | 75 | 450 | 794 | [illegible] | [illegible] | [illegible] | [illegible] |
| BRADENTON FL | 106 | 54 | 23 | 133 | 400 | 96000 | 634 | 11340 | | | 11340 | 1654 | | 517 | 845 | [illegible] | [illegible] | [illegible] | [illegible] |
| FORT MYERS FL | 101 | 52 | 23 | 160 | 390 | 80000 | 523 | 12731 | | | 12731 | 1341 | 75 | 495 | 819 | [illegible] | [illegible] | [illegible] | [illegible] |
| LAKELAND FL | 108 | 51 | 22 | 161 | 357 | 84633 | 558 | 10306 | | | 10306 | 1630 | 75 | 460 | 853 | [illegible] | [illegible] | [illegible] | [illegible] |
| AMERICUS GA | 118 | 65 | 26 | 119 | 330 | 78460 | 502 | 12195 | | | 12195 | 1631 | | 600 | 821 | [illegible] | [illegible] | [illegible] | [illegible] |
| ATHENS GA | 106 | 62 | 19 | 147 | 327 | 81000 | 518 | | 8414 | 6032 | 14446 | 1852 | 60 | 468 | 792 | [illegible] | [illegible] | [illegible] | [illegible] |
| ATLANTA GA | 102 | 65 | 25 | 119 | 508 | 119000 | 771 | | 8463 | 6432 | 14895 | 1987 | 60 | 508 | 736 | [illegible] | [illegible] | [illegible] | [illegible] |
| AUGUSTA GA | 101 | 49 | 18 | 139 | 385 | 96860 | 631 | | 9090 | 4100 | 13190 | 1856 | 60 | 520 | 757 | [illegible] | [illegible] | [illegible] | [illegible] |

PRICE REPORT

| QUARTER 1, 1987 | 24 | 25 | 26 | 27 | 28 | 29A | 29B | 30A | 30B | 31 | 30+31 | 32 | 33 | 34 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FRZ | BB | | APT | HOME | HOME | ALL- | PART | OTHER | TOTAL | TELE | | TIRE | GASO |
| CITY AND STATE | ORJ | CRN | FD | COK | RENT | PRICE | P+I | ELECT | ELECT | ENRGY | ENRGY | PHON | BUS | BAL | LINE |
| CALHOUN GA | 124 | 58 | 23 | 112 | 350 | 100000 | 658 | 10715 | | | 10715 | 1696 | | 417 | 859 |
| COLUMBUS GA | 126 | 59 | 25 | 119 | 349 | 90500 | 593 | | 8129 | 3143 | 11272 | 1849 | 65 | 450 | 745 |
| DALTON GA | 112 | 51 | 24 | 89 | 338 | 91850 | 600 | | 6210 | 3599 | 9809 | 1869 | | 540 | 833 |
| MACON GA | 113 | 59 | 25 | 123 | 350 | 80120 | 507 | | 9092 | 5460 | 14552 | 1856 | 50 | 560 | 849 |
| ROME GA | 116 | 61 | 23 | 118 | 320 | 86500 | 569 | 11827 | | | 11827 | 1782 | 50 | 562 | 849 |
| CHAMPAIGN IL | 121 | 55 | 26 | 177 | 370 | 104600 | 713 | | 6807 | 5968 | 12775 | 1473 | 50 | 667 | 899 |
| CHARLESTON IL | 116 | 56 | 25 | 110 | 395 | 79667 | 554 | 11384 | | | 11384 | 2116 | | 500 | 886 |
| DECATUR IL | 110 | 50 | 28 | 114 | 277 | 71937 | 412 | | 6807 | 5968 | 12775 | 1584 | 50 | 550 | 907 |
| QUAD-CITIES IL-IA | 114 | 50 | 24 | 110 | 342 | 82800 | 558 | | 7659 | 4407 | 12066 | 2049 | 62 | 530 | 883 |
| QUINCY IL | 115 | 51 | 24 | 140 | 341 | 79200 | 528 | 12676 | | | 12676 | 1439 | 40 | 550 | 853 |
| ROCKFORD IL | 117 | 58 | 27 | 136 | 375 | 87567 | 584 | | 10155 | 5628 | 15783 | 1536 | 60 | 724 | 864 |
| SPRINGFIELD IL | 131 | 54 | 20 | 125 | 364 | 84560 | 569 | | 4668 | 6713 | 11381 | 1503 | 50 | 610 | 867 |
| ANDERSON IN | 126 | 60 | 22 | 116 | 303 | 80000 | 521 | | 4856 | 6642 | 11498 | 1579 | 50 | 570 | 845 |
| BLOOMINGTON IN | 126 | 56 | 27 | 111 | 361 | 78906 | 535 | 13065 | | | 13065 | 1646 | 50 | 540 | 861 |
| FORT WAYNE IN | 109 | 57 | 27 | 152 | 420 | 76024 | 493 | | 5815 | 5666 | 11481 | 2284 | 50 | 475 | 879 |
| INDIANAPOLIS IN | 109 | 58 | 26 | 115 | 382 | 86963 | 561 | | 5421 | 5594 | 11015 | 1922 | 105 | 600 | 847 |
| MARION IN | 122 | 55 | 27 | 136 | 364 | 80700 | 546 | | 5298 | 5241 | 10539 | 1659 | 50 | 500 | 909 |
| SOUTH BEND IN | 115 | 53 | 22 | 131 | 417 | 74040 | 479 | | 4815 | 5089 | 9904 | 1765 | 50 | 524 | 831 |
| WARSAW IN | 142 | 56 | 23 | 171 | 350 | 95667 | 655 | | 7140 | 5055 | 12195 | 1783 | | 308 | 892 |
| AMES IA | 113 | 53 | 22 | 128 | 399 | 119233 | 795 | | 5979 | 4650 | 10629 | 1867 | 60 | 739 | 855 |
| CEDAR RAPIDS IA | 121 | 56 | 21 | 143 | 373 | 97720 | 640 | | 6108 | 4126 | 10234 | 1915 | 50 | 600 | 867 |
| CLARINDA IA | 140 | 60 | 24 | 134 | 250 | 65000 | 431 | | 8380 | 4832 | 13212 | 741 | | 350 | 844 |
| CLINTON IA | 123 | 52 | 25 | 106 | 325 | 75000 | 517 | | 5941 | 4811 | 10752 | 1867 | 50 | 583 | 862 |
| COUNCIL BLUFFS IA | 123 | 56 | 24 | 163 | 366 | 72667 | 477 | | 6950 | 4977 | 11927 | 1915 | 75 | 648 | 869 |
| FORT DODGE IA | 111 | 53 | 25 | 119 | 325 | 90000 | 637 | | 6376 | 4085 | 10461 | 1140 | 50 | 567 | 869 |
| IOWA CITY IA | 117 | 52 | 20 | 138 | 375 | 105000 | 692 | | 6462 | 3924 | 10386 | 1875 | 50 | 667 | 899 |
| MARSHALLTOWN IA | 122 | 53 | 21 | 136 | 293 | 69000 | 444 | | 6042 | 4395 | 10437 | 1760 | 50 | 492 | 929 |
| MASON CITY IA | 101 | 51 | 22 | 119 | 292 | 84791 | 566 | | 5821 | 4329 | 10150 | 1915 | 50 | 627 | 859 |
| GARDEN CITY KS | 133 | 59 | 23 | 146 | 330 | 71150 | 481 | | 8630 | 2765 | 11395 | 1520 | | 488 | 835 |
| GREAT BEND KS | 136 | 56 | 28 | 153 | 348 | 84500 | 559 | | 6207 | 3242 | 9449 | 1265 | | 542 | 822 |
| LIBERAL KS | 137 | 60 | 27 | 121 | 311 | 87000 | 566 | | 5973 | 3837 | 9810 | 1532 | | 533 | 876 |
| SALINA KS | 123 | 54 | 22 | 102 | 281 | 78600 | 527 | | 7053 | 2973 | 10026 | 1553 | | 490 | 799 |
| WICHITA KS | 111 | 54 | 23 | 159 | 335 | 39000 | 517 | | 10339 | 2980 | 13319 | 1515 | 75 | 450 | 762 |
| LEXINGTON KY | 135 | 58 | 26 | 129 | 443 | 97215 | 642 | 11442 | | | 11442 | 1933 | 60 | 549 | 813 |
| LOUISVILLE KY | 127 | 55 | 23 | 117 | 371 | 81300 | 528 | | 5549 | 5530 | 11079 | 2070 | 60 | 540 | 847 |
| MAYFIELD KY | 119 | 67 | 27 | 119 | 253 | 69700 | 469 | | 6395 | 4664 | 11059 | 1857 | | 500 | 832 |
| OWENSBORO KY | 133 | 61 | 26 | 173 | 312 | 81922 | 550 | | 4619 | 3506 | 8125 | 2506 | | 530 | 833 |
| SOMERSET KY | 146 | 58 | 24 | 132 | 266 | 71200 | 486 | 9891 | | | 9891 | 2185 | | 413 | 891 |
| BATON ROUGE LA | 118 | 47 | 20 | 128 | 296 | 89100 | 568 | | 9731 | 1793 | 11524 | 1840 | 55 | 500 | 759 |
| LAFAYETTE LA | 125 | 51 | 24 | 137 | 331 | 79058 | 516 | 14086 | | | 14086 | 1816 | 45 | 600 | 765 |
| LAKE CHARLES LA | 126 | 60 | 19 | 128 | 339 | 71467 | 467 | 13178 | | | 13178 | 1774 | | 600 | 843 |
| MONROE LA | 129 | 54 | 22 | 114 | 336 | 77600 | 501 | 14639 | | | 14639 | 1720 | | 490 | 849 |
| MORGAN CITY LA | 130 | 66 | 23 | 127 | 340 | 72667 | 505 | | 8280 | 3700 | 11980 | 1667 | | 524 | 912 |
| NEW ORLEANS LA | 118 | 50 | 22 | 137 | 334 | 87600 | 580 | 11978 | | | 11978 | 1940 | 80 | 539 | 745 |
| LEWISTON ME | 111 | 54 | 29 | 179 | 379 | 72380 | 456 | | 6323 | 5415 | 11738 | 1584 | | 456 | 829 |

## PRICE REPORT

QUARTER 1, 1987

| CITY AND STATE | 24 ORJ | 25 FRZ CRN | 26 BB FD | 27 COK | 28 APT RENT | 29A HOME PRICE | 29B HOME P+I | 30A ALL-ELECT | 30B PART ELECT | 31 OTHER ENRGY | 30+31 TOTAL ENRGY | 32 TELE PHON | 33 BUS | 34 TIRE DAL | 35 GASO LINE | [illegible] HOSP ROOM | [illegible] DOC TOR | [illegible] DENTASP TEST RIN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BALTIMORE MD | 124 | 64 | 26 | 105 | 498 | 97460 | 637 | 11145 | | | 11145 | 2084 | 90 | 599 | 803 | 3450 | 140 | 2800 223 |
| BOSTON MA | 134 | 79 | 29 | 129 | 1200 | 225000 | 1504 | | 6495 | 8196 | 14691 | 1957 | 120 | 600 | 823 | 6740 | 380 | 4040 348 |
| FITCHBURG-LEOMINSTER MA | 112 | 48 | 25 | 119 | 500 | 171667 | 1122 | | 9490 | 5580 | 15070 | 1482 | 100 | 515 | 855 | 5990 | 320 | 2540 307 |
| BENTON HARBOR-ST JOSEPH MI | 115 | 56 | 24 | 125 | 326 | 88500 | 600 | | 5957 | 5387 | 11344 | 1548 | 90 | 549 | 921 | 3000 | 2650 | 2980 270 |
| JACKSON MI | 103 | 60 | 25 | 186 | 295 | 78408 | 535 | | 5185 | 6019 | 11204 | 1530 | 60 | 458 | 892 | 2550 | 2267 | 2633 274 |
| LANSING MI | 134 | 59 | 27 | 152 | 450 | 90000 | 622 | | 3500 | 6029 | 9529 | 1603 | 75 | 665 | 869 | 2800 | 2500 | 4375 328 |
| MARQUETTE MI | 122 | 60 | 30 | 153 | 374 | 73933 | 502 | | 5471 | 7525 | 12996 | 1438 | 100 | 500 | 919 | 1950 | 3300 | 4100 368 |
| TRAVERSE CITY MI | 134 | 58 | 28 | 129 | 467 | 93333 | 635 | | 7329 | 7775 | 15104 | 1757 | 100 | 525 | 946 | 2600 | 2100 | 2900 336 |
| ST CLOUD MN | 117 | 57 | 25 | 162 | 386 | 75741 | 493 | | 7062 | 5500 | 12562 | 1960 | 25 | 590 | 849 | 4400 | 2137 | 3325 296 |
| ST PAUL MN | 109 | 54 | 25 | 163 | 485 | 96400 | 626 | | 5244 | 7249 | 12493 | 2056 | 75 | 710 | 843 | 6900 | 2280 | 3440 239 |
| GULFPORT MS | 124 | 88 | 20 | 104 | 376 | 79000 | 515 | | 9533 | 2935 | 12468 | 2489 | 75 | 569 | 829 | 3600 | 2200 | 2567 [illegible] |
| LAUREL MS | 122 | 68 | 21 | 122 | 258 | 75460 | 495 | 9157 | | | 9157 | 2539 | | 510 | 893 | 9800 | 1900 | 2440 [illegible] |
| CLINTON MO | 126 | 57 | 25 | 127 | 289 | 74150 | 494 | | 8824 | 3189 | 12013 | 1069 | | 470 | 779 | 5500 | 1800 | 2200 150 |
| COLUMBIA MO | 121 | 57 | 20 | 145 | 314 | 83250 | 556 | | 6092 | 3244 | 9336 | 1201 | | 620 | 747 | 2500 | 810 | 3480 237 |
| JEFFERSON CITY MO | 114 | 64 | 17 | 106 | 295 | 90000 | 614 | | 5763 | 4295 | 10058 | 813 | 50 | 563 | 847 | 5600 | 85 | 3000 280 |
| JOPLIN MO | 98 | 62 | 26 | 105 | 332 | 75550 | 500 | 10552 | | | 10552 | 1325 | | 460 | 759 | 9863 | 348 | 2500 280 |
| KIRKSVILLE MO | 130 | 58 | 26 | 124 | 338 | 82667 | 552 | | 6150 | 4417 | 10567 | 1530 | | 390 | 729 | 9350 | 680 | 2725 300 |
| POPLAR BLUFF MO | 140 | 59 | 27 | 125 | 310 | 68400 | 466 | 9817 | | | 9817 | 1558 | | 600 | 789 | 6100 | 93 | 2600 328 |
| ST JOSEPH MO | 122 | 52 | 24 | 114 | 314 | 86400 | 568 | | 5691 | 4542 | 10233 | 1489 | 50 | 550 | 739 | 2250 | 1940 | 3000 362 |
| ST LOUIS MO | 117 | 53 | 26 | 151 | 408 | 85510 | 570 | | 6047 | 6439 | 12486 | 1304 | 75 | 508 | 795 | 2010 | 318 | 3160 207 |
| SPRINGFIELD MO | 111 | 59 | 24 | 139 | 277 | 78800 | 533 | | 4751 | 4002 | 8753 | 1660 | 50 | 420 | 735 | 1700 | 2600 | 2440 230 |
| BILLINGS MT | 137 | 48 | 23 | 169 | 379 | 93900 | 601 | | 5618 | 4970 | 10588 | 1707 | 50 | 510 | 829 | 8060 | 2260 | 3620 336 |
| GREAT FALLS MT | 136 | 49 | 23 | 129 | 373 | 75000 | 492 | | 4510 | 4427 | 8937 | 1784 | 50 | 600 | 766 | 4900 | 2467 | 3933 363 |
| MISSOULA MT | 123 | 48 | 26 | 139 | 310 | 63500 | 417 | | 5170 | 3883 | 9053 | 1732 | | 520 | 783 | 2000 | 2060 | 5700 314 |
| HASTINGS NE | 130 | 54 | 25 | 147 | 330 | 70195 | 451 | | 5796 | 5522 | 11318 | 1361 | | 450 | 829 | 8000 | 2200 | 2400 [illegible] |
| KEARNEY NE | 127 | 57 | 28 | 166 | 314 | 72000 | 477 | | 5300 | 3961 | 9261 | 1132 | | 515 | 907 | 7000 | 1770 | 1880 [illegible] |
| LINCOLN NE | 118 | 55 | 21 | 127 | 358 | 87000 | 570 | | 5329 | 5013 | 10342 | 1497 | 65 | 603 | 819 | 8000 | 2100 | 2740 [illegible] |
| OMAHA NE | 111 | 50 | 24 | 113 | 399 | 80900 | 551 | | 4926 | 4635 | 9561 | 2140 | 75 | 540 | 845 | 8500 | 2190 | 3340 [illegible] |
| WAYNE NE | 124 | 57 | 32 | 139 | 340 | 82500 | 550 | | 6069 | 5054 | 11123 | 1963 | | 493 | 889 | 3700 | 1400 | 3700 162 |
| RENO-SPARKS NV | 99 | 52 | 28 | 125 | 481 | 103760 | 675 | | 7885 | 3094 | 10979 | 1435 | 100 | 600 | 819 | 7853 | 3180 | 3425 [illegible] |
| NEWARK-ELIZABETH NJ | 128 | 56 | 30 | 124 | 709 | 132200 | 860 | | 8662 | 8528 | 17190 | 1297 | 120 | 554 | 799 | 5256 | 3575 | 4925 288 |
| ALAMOGORDO NM | 129 | 56 | 27 | 150 | 351 | 93833 | 625 | | 6647 | 3407 | 10054 | 2227 | | 544 | 827 | 8000 | 2987 | 2945 [illegible] |
| ALBUQUERQUE NM | 118 | 60 | 26 | 169 | 410 | 103923 | 681 | | 6711 | 2916 | 9627 | 1684 | 60 | 633 | 747 | 3250 | 2476 | 3625 [illegible] |
| CLOVIS NM | 126 | 54 | 26 | 138 | 350 | 85590 | 564 | 11000 | | | 11000 | 2410 | | 510 | 863 | 1500 | 2562 | 2820 346 |
| FARMINGTON NM | 135 | 59 | 29 | 165 | 359 | 95667 | 615 | | 5271 | 3614 | 8885 | 2252 | | 628 | 849 | 1800 | 2122 | 3612 277 |
| LOS ALAMOS NM | 126 | 63 | 26 | 172 | 438 | 135000 | 883 | | 3666 | 3214 | 6880 | 2156 | | 583 | 876 | 3000 | 2455 | 4700 303 |
| ROSWELL NM | 123 | 58 | 25 | 145 | 299 | 84020 | 558 | | 4203 | 2963 | 7166 | 2325 | | 480 | 823 | 1850 | 2190 | 2560 325 |
| ALBANY-COLONIE NY | 125 | 52 | 25 | 134 | 456 | 113750 | 766 | | 7605 | 5763 | 13368 | 2034 | 60 | 694 | 763 | 3413 | 3241 | 3120 321 |
| BINGHAMTON NY | 106 | 51 | 28 | 124 | 381 | 89267 | 587 | | 8520 | 6208 | 14728 | 2268 | 50 | 500 | 855 | 8600 | 2700 | 3133 282 |
| BUFFALO NY | 129 | 48 | 30 | 149 | 306 | 68072 | 435 | | 5235 | 6679 | 11914 | 2657 | 100 | 587 | 839 | 1200 | 2583 | 2662 199 |
| CHENANGO COUNTY NY | 120 | 60 | 29 | 132 | 294 | 92074 | 609 | | 7660 | 7592 | 15252 | 1749 | | 499 | 857 | 8200 | 1820 | 3388 [illegible] |
| ELMIRA NY | 130 | 52 | 29 | 127 | 369 | 79140 | 528 | | 7673 | 8115 | 16308 | 2105 | 75 | 388 | 899 | [illegible] | [illegible] | [illegible] |

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| QUARTER 1, 1987 | 24 | 25 | 26 | 27 | 28 | 29A | 29B | 30A | 30B | 31 | 30+31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CITY AND STATE | ORJ | FRZ CRN | BB FD | COK | APT RENT | HOME PRICE | HOME P+I | ALL-ELECT | PART ELECT | OTHER ENRGY | TOTAL ENRGY | TELE PHON | BUS | TIRE BAL | GASO LINE | HOUR MECH | HOUC LABR | BEN JIST | SP MN |
| GLENS FALLS NY | 119 | 54 | 32 | 151 | 405 | 76660 | 503 | | 5125 | 8450 | 13575 | 2058 | 50 | 579 | 824 | 2240 | 2240 | 2300 | 139 |
| NEW YORK NY | 139 | 55 | 31 | 109 | 991 | 135000 | 927 | | 10865 | 10697 | 21562 | 2436 | 100 | 670 | 817 | 3200 | 4800 | 3900 | 295 |
| SARATOGA SPRINGS NY | 114 | 54 | 31 | 142 | 483 | 114800 | 757 | | 9800 | 4534 | 14334 | 3170 | | 402 | 816 | 2600 | 1100 | 2067 | 184 |
| SCHENECTADY NY | 131 | 55 | 32 | 161 | 439 | 109800 | 745 | | 4744 | 10430 | 15174 | 2736 | 90 | 570 | 803 | 3800 | 2900 | 3580 | 145 |
| SUFFOLK COUNTY NY | 141 | 55 | 29 | 123 | 786 | 189500 | 1216 | | 16344 | 6542 | 22886 | 3698 | 75 | 760 | 799 | 5257 | 3700 | 4667 | 159 |
| SYRACUSE NY | 88 | 59 | 28 | 125 | 344 | 70960 | 462 | | 5391 | 8351 | 13742 | 2659 | 60 | 489 | 809 | 2025 | 2540 | 2380 | 176 |
| CHAPEL HILL NC | 112 | 48 | 22 | 159 | 444 | 120667 | 798 | 12132 | | | 12132 | 1562 | 50 | 600 | 820 | 1900 | 2613 | 2967 | 127 |
| CHARLOTTE NC | 109 | 46 | 20 | 124 | 395 | 93000 | 597 | 12132 | | | 12132 | 1829 | 70 | 490 | 849 | 1533 | 2900 | 3225 | 206 |
| ELIZABETH CITY NC | 103 | 53 | 22 | 106 | 380 | 80000 | 529 | 12587 | | | 12587 | 1803 | | 504 | 928 | 1600 | 2500 | 2880 | 54 |
| GREENSBORO NC | 116 | 42 | 20 | 116 | 344 | 95075 | 607 | 12125 | | | 12125 | 1752 | 50 | 500 | 856 | 1400 | 2 | 3560 | 198 |
| GREENVILLE NC | 115 | 50 | 21 | 95 | 324 | 94400 | 619 | 10002 | | | 10002 | 1581 | 50 | 525 | 872 | 1600 | 2 | 2900 | 48 |
| HICKORY NC | 118 | 47 | 19 | 92 | 330 | 82967 | 537 | 12132 | | | 12132 | 1665 | | 723 | 866 | 1450 | 2 | 2867 | 147 |
| HIGH POINT NC | 115 | 44 | 19 | 123 | 360 | 102500 | 667 | 12171 | | | 12171 | 756 | 75 | 480 | 845 | 1500 | 2 | 2340 | 111 |
| RALEIGH NC | 109 | 49 | 19 | 131 | 452 | 104340 | 671 | 11290 | | | 11290 | 1817 | 60 | 530 | 851 | 1567 | 1 | 2940 | 135 |
| ROANOKE RAPIDS NC | 121 | 52 | 21 | 137 | 265 | 82398 | 556 | 13948 | | | 13948 | 1602 | | 530 | 859 | 1200 | 1 | 3680 | 205 |
| ROCKY MOUNT NC | 122 | 54 | 21 | 104 | 362 | 89820 | 579 | 10975 | | | 10975 | 1933 | 50 | 475 | 846 | 1550 | 2 | 3000 | 91 |
| WILMINGTON NC | 111 | 51 | 21 | 122 | 345 | 94978 | 622 | 10971 | | | 10971 | 1687 | 50 | 470 | 852 | 1400 | 2 | 2820 | 21 |
| WINSTON-SALEM NC | 109 | 49 | 21 | 131 | 355 | 106750 | 701 | 12132 | | | 12132 | 1650 | 50 | 495 | 856 | 1693 | 1 | 3150 | 226 |
| AKRON OH | 100 | 50 | 19 | 104 | 399 | 80850 | 537 | | 7311 | 6204 | 13515 | 1925 | 65 | 649 | 819 | 1060 | 2 | 3125 | 293 |
| ASHLAND OH | 134 | 59 | 22 | 158 | 290 | 84000 | 564 | | 7352 | 5862 | 13214 | 1702 | | 500 | 852 | 1080 | 3017 | 2567 | 205 |
| BUCYRUS OH | 113 | 63 | 21 | 129 | 266 | 76000 | 534 | | 6362 | 6484 | 12846 | 1863 | | 475 | 846 | 1990 | 2650 | 2500 | 216 |
| CANTON OH | 107 | 51 | 20 | 110 | 360 | 77167 | 513 | | 6484 | 4852 | 11256 | 1983 | 40 | 460 | 835 | 1705 | 2900 | 2400 | 89 |
| COLUMBUS OH | 136 | 59 | 27 | 145 | 355 | 82750 | 543 | | 6440 | 6175 | 12615 | 2503 | 60 | 645 | 859 | 2100 | 2180 | 2860 | 282 |
| DAYTON OH | 126 | 66 | 23 | 109 | 446 | 93333 | 601 | | 6771 | 4938 | 11709 | 1982 | 60 | 575 | 853 | 1900 | 2140 | 2400 | 90 |
| FINDLAY OH | 122 | 56 | 26 | 106 | 342 | 95487 | 647 | | 5423 | 5360 | 10783 | 1964 | | 550 | 841 | 1650 | 2150 | 2680 | 155 |
| LIMA OH | 128 | 61 | 24 | 119 | 330 | 85400 | 569 | | 6047 | 6169 | 12216 | 2127 | 60 | 550 | 809 | 1810 | 2400 | 2550 | 306 |
| LORAIN OH | 122 | 54 | 24 | 142 | 322 | 90133 | 609 | | 6245 | 6131 | 12376 | 1620 | | 650 | 821 | 2170 | 2167 | 3033 | 282 |
| YOUNGSTOWN OH | 116 | 51 | 20 | 134 | 295 | 84500 | 576 | | 7628 | 4380 | 12008 | 1983 | 60 | 367 | 832 | 2113 | 2233 | 1633 | 206 |
| OKLAHOMA CITY OK | 123 | 60 | 27 | 177 | 321 | 73300 | 492 | | 9309 | 3310 | 12619 | 1739 | 75 | 450 | 769 | 1656 | 2300 | 3000 | 326 |
| TULSA OK | 126 | 59 | 25 | 131 | 336 | 81434 | 536 | | 8284 | 3774 | 12058 | 1702 | 60 | 556 | 783 | 1820 | 2628 | 3012 | 316 |
| EUGENE OR | 127 | 56 | 25 | 157 | 383 | 95525 | 616 | 6452 | | | 6452 | 2072 | 60 | 600 | 782 | 1600 | 3000 | 3120 | 309 |
| SALEM OR | 120 | 51 | 24 | 134 | 313 | 78000 | 513 | 8651 | | | 8651 | 1976 | 50 | 570 | 789 | 1090 | 2870 | 4460 | 358 |
| ERIE PA | 119 | 53 | 22 | 145 | 385 | 85500 | 577 | | 5670 | 6241 | 11911 | 1912 | 75 | 490 | 829 | 2375 | 2240 | 3600 | 197 |
| HARRISBURG PA | 134 | 52 | 27 | 123 | 432 | 87940 | 561 | 14635 | | | 14635 | 1445 | 120 | 539 | 827 | 1650 | 2140 | 3660 | 339 |
| HAZLETON PA | 134 | 51 | 27 | 113 | 395 | 69500 | 493 | 17296 | | | 17296 | 1315 | 75 | 360 | 893 | 1545 | 1980 | 2625 | 369 |
| LANCASTER PA | 132 | 63 | 28 | 129 | 375 | 84250 | 557 | 13809 | | | 13809 | 1437 | 130 | 574 | 772 | 1767 | 1975 | 2550 | 324 |
| LEBANON PA | 134 | 53 | 28 | 115 | 400 | 85000 | 562 | 11965 | | | 11965 | 1192 | | 570 | 843 | 2025 | 1860 | 2960 | 351 |
| MONTGOMERY COUNTY PA | 116 | 52 | 29 | 133 | 499 | 119000 | 774 | 19185 | | | 19185 | 1305 | 125 | 539 | 797 | 2758 | 2600 | 4300 | 329 |
| PHILADELPHIA PA | 128 | 56 | 30 | 124 | 571 | 102280 | 660 | 19185 | | | 19185 | 1345 | 130 | 474 | 804 | 3852 | 3100 | 3980 | 290 |
| WAYNESBORO PA | 136 | 45 | 27 | 149 | 362 | 98333 | 691 | 11689 | | | 11689 | 1394 | | 367 | 902 | 1700 | 2176 | 2650 | 315 |
| WILKES-BARRE PA | 128 | 57 | 28 | 108 | 410 | 78640 | 529 | 15066 | | | 15066 | 1240 | 90 | 395 | 785 | 2150 | 1940 | 2640 | 295 |
| YORK PA | 129 | 50 | 27 | 139 | 402 | 87150 | 581 | | 6523 | 5405 | 11928 | 1941 | 65 | 500 | 811 | 1750 | 2300 | 2500 | 237 |
| COLUMBIA SC | 105 | 52 | 21 | 147 | 369 | 80140 | 573 | 14683 | | | 14683 | 1710 | | 565 | 861 | 1700 | 2420 | 3100 | 806 |
| FLORENCE SC | 112 | 54 | 22 | 112 | 375 | 90167 | 509 | 10814 | | | 10814 | 2523 | | 450 | 836 | 1550 | 2100 | 2767 | 312 |
| GREENVILLE SC | 90 | 60 | 15 | 100 | 315 | 86400 | 560 | 11539 | | | 11539 | 2371 | 75 | 525 | 817 | 1600 | 2200 | 2240 | 173 |
| MYRTLE BEACH SC | 112 | 56 | 20 | 121 | 412 | 103525 | 670 | 10212 | | | 10212 | 1736 | 50 | 470 | 844 | 1995 | 2238 | 2700 | 614 |
| SPARTANBURG SC | 92 | 57 | 16 | 111 | 385 | 82200 | 531 | 11539 | | | 11539 | 2052 | | 480 | 841 | 2000 | 2 | 2 | 0 |

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| QUARTER 1, 1987 | 24 | 25 | 26 | 27 | 28 | 29A | 29B | 30A | 30B | 31 | 30+31 | 32 | 33 | 34 | 35 | 38 | 39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FRZ | DB | | APT | HOME | HOME | ALL- | PART | OTHER | TOTAL | TELE | | TIRE | GASO | DOC | DEN |
| CITY AND STATE | ORJ | CRN | FD | COK | RENT | PRICE | P+I | ELECT | ELECT | ENRGY | ENRGY | PHON | BUS | BAL | LINE | TUR | TIST |
| ABERDEEN SD | 123 | 53 | 20 | 150 | 320 | 78125 | 531 | | 8529 | 6304 | 14833 | 1736 | | 475 | 789 | 1600 | 3033 |
| RAPID CITY SD | 127 | 58 | 29 | 176 | 406 | 67433 | 444 | | 5159 | 5789 | 10948 | 2071 | 85 | 450 | 859 | 2400 | 3900 |
| VERMILLION SD | 146 | 59 | 25 | 134 | 270 | 68500 | 456 | | 4404 | 5230 | 9634 | 1642 | | 467 | 859 | 1900 | 3600 |
| BRISTOL TN-VA | 112 | 46 | 16 | 117 | 358 | 83667 | 541 | 10436 | | | 10436 | 1984 | | 490 | 897 | 2225 | 2700 |
| CLEVELAND TN | 116 | 55 | 25 | 116 | 284 | 83750 | 550 | 13877 | | | 13877 | 1723 | | 583 | 832 | 2420 | 2560 |
| JACKSON TN | 136 | 61 | 27 | 125 | 318 | 73800 | 474 | 12533 | | | 12533 | 1612 | | 600 | 919 | 2013 | 2783 |
| KINGSPORT TN | 112 | 44 | 15 | 136 | 330 | 80000 | 551 | 10325 | | | 10325 | 1881 | | 625 | 869 | 2350 | 2200 |
| KNOXVILLE TN | 110 | 51 | 19 | 130 | 393 | 78622 | 519 | 12021 | | | 12021 | 1799 | 85 | 500 | 809 | 2260 | 2400 |
| MORRISTOWN TN | 142 | 59 | 25 | 112 | 279 | 78667 | 526 | 9703 | | | 9703 | 2155 | | 425 | 839 | 2067 | 2267 |
| MEMPHIS TN | 116 | 58 | 29 | 122 | 364 | 87000 | 570 | | 7332 | 2717 | 10049 | 1665 | 85 | 579 | 745 | 2200 | 2160 |
| MORRISTOWN TN | 110 | 48 | 18 | 144 | 262 | 71967 | 481 | 12448 | | | 12448 | 1596 | | 520 | 882 | 2040 | 2200 |
| NASHVILLE-DAVIDSON TN | 129 | 59 | 27 | 132 | 435 | 99850 | 678 | | 7532 | 4536 | 12068 | 1811 | 85 | 500 | 879 | 2400 | 2540 |
| PARIS TN | 129 | 65 | 27 | 112 | 342 | 70000 | 463 | 10733 | | | 10733 | 1592 | | 400 | 842 | 2000 | 2800 |
| ABILENE TX | 113 | 54 | 27 | 131 | 287 | 84000 | 551 | | 8370 | 2608 | 10978 | 1269 | 60 | 580 | 831 | 1900 | 2780 |
| AMARILLO TX | 122 | 56 | 26 | 139 | 348 | 84400 | 549 | | 7098 | 2925 | 10023 | 1319 | 45 | 500 | 847 | 2380 | 2720 |
| AUSTIN TX | 112 | 56 | 24 | 139 | 468 | 99500 | 635 | | 5765 | 5589 | 11354 | 1349 | 50 | 649 | 799 | 1820 | 3580 |
| BEAUMONT TX | 117 | 57 | 22 | 135 | 375 | 75000 | 489 | | 6900 | 3317 | 10217 | 1300 | 50 | 502 | 791 | 1540 | 2820 |
| BROWNSVILLE TX | 124 | 58 | 28 | 143 | 305 | 74100 | 506 | 14543 | | | 14543 | 1242 | 50 | 570 | 912 | 1500 | 2420 |
| BRYAN-COLLEGE STATION TX | 129 | 57 | 29 | 176 | 357 | 96680 | 626 | 12708 | | | 12708 | 1561 | | 569 | 829 | 1620 | 4340 |
| DALLAS TX | 129 | 61 | 27 | 156 | 447 | 94391 | 605 | | 9992 | 2612 | 12604 | 1462 | 100 | 594 | 779 | 2260 | 3760 |
| EDINBURG TX | 124 | 58 | 30 | 132 | 326 | 73640 | 454 | 12800 | | | 12800 | 1235 | | 594 | 932 | 1100 | 2120 |
| EL PASO TX | 112 | 51 | 26 | 141 | 321 | 91000 | 587 | | 6789 | 2783 | 9572 | 1323 | 75 | 590 | 905 | 2800 | 2730 |
| FORT WORTH TX | 128 | 52 | 30 | 148 | 345 | 78800 | 492 | | 8323 | 4524 | 12847 | 1368 | 75 | 430 | 795 | 2560 | 2720 |
| HARLINGEN TX | 120 | 59 | 30 | 129 | 333 | 79867 | 529 | 11089 | | | 11089 | 1373 | 95 | 606 | 914 | 2479 | 2767 |
| HOUSTON TX | 123 | 61 | 25 | 136 | 308 | 72902 | 469 | | 9646 | 2393 | 12039 | 1546 | 88 | 669 | 726 | 2780 | 3350 |
| HUNTSVILLE TX | 127 | 62 | 25 | 139 | 389 | 73947 | 486 | 12356 | | | 12356 | 1257 | | 635 | 856 | 2750 | 3040 |
| KERRVILLE TX | 132 | 57 | 31 | 146 | 405 | 84600 | 552 | | 7760 | 1272 | 9032 | 906 | | 550 | 819 | 2600 | 3100 |
| KILLEEN TX | 133 | 64 | 27 | 138 | 408 | 88440 | 565 | 10953 | | | 10953 | 1505 | | 520 | 879 | 2120 | 2550 |
| LUBBOCK TX | 113 | 53 | 26 | 141 | 325 | 76480 | 487 | | 7248 | 3443 | 10691 | 1194 | 75 | 539 | 839 | 2200 | 2680 |
| LUFKIN TX | 125 | 60 | 23 | 133 | 380 | 75000 | 477 | | 9202 | 3608 | 12810 | 1125 | | 400 | 904 | 2000 | 2440 |
| MCALLEN TX | 122 | 56 | 20 | 139 | 321 | 78200 | 502 | 12185 | | | 12185 | 1235 | | 480 | 899 | 2060 | 2580 |
| NACOGDOCHES TX | 126 | 59 | 29 | 140 | 398 | 82167 | 534 | | 9202 | 3608 | 12810 | 1113 | | 510 | 833 | 2180 | 2360 |
| ODESSA TX | 135 | 54 | 29 | 131 | 318 | 77180 | 501 | 11073 | | | 11073 | 1301 | | 625 | 899 | 2325 | 3600 |
| SAN ANTONIO TX | 123 | 51 | 27 | 139 | 302 | 92500 | 604 | | 9779 | 2768 | 12547 | 1310 | 58 | 620 | 757 | 2700 | 2480 |
| SHERMAN TX | 125 | 63 | 26 | 162 | 320 | 85800 | 551 | | 8917 | 4193 | 13110 | 1733 | | 448 | 834 | 1500 | 2475 |
| TEMPLE TX | 137 | 58 | 25 | 149 | 304 | 75967 | 494 | 11385 | | | 11385 | 1291 | | 500 | 839 | 2000 | 2600 |
| TEXARKANA TX-AR | 130 | 60 | 27 | 136 | 349 | 76000 | 503 | | 7070 | 2809 | 9879 | 1584 | | 533 | 829 | 2200 | 2625 |
| TYLER TX | 121 | 57 | 28 | 152 | 300 | 72500 | 473 | | 7122 | 3861 | 10983 | 1498 | | 570 | 896 | 2620 | 2975 |
| VICTORIA TX | 127 | 57 | 24 | 162 | 330 | 89500 | 587 | 10990 | | | 10990 | 1243 | | 723 | 869 | 2583 | 3067 |
| WACO TX | 120 | 54 | 24 | 151 | 360 | 76900 | 496 | 12518 | | | 12518 | 1235 | 75 | 500 | 875 | 2785 | 2650 |
| WICHITA FALLS TX | 126 | 59 | 28 | 156 | 308 | 88540 | 586 | 14412 | | | 14412 | 1235 | 75 | 679 | 914 | 2320 | 2920 |
| SALT LAKE CITY UT | 114 | 50 | 26 | 120 | 336 | 80969 | 533 | | 5106 | 4712 | 9818 | 2269 | 50 | 610 | 799 | 2260 | 3525 |
| MONTPELIER-BARRE VT | 135 | 51 | 25 | 139 | 438 | 94000 | 603 | | 14984 | 2500 | 17484 | 1711 | 90 | 383 | 819 | 2006 | 2267 |
| HAMPTON ROADS/SE VIRGINIA | 125 | 54 | 22 | 100 | 361 | 95030 | 615 | 10878 | | | 10878 | 2152 | 130 | 530 | 839 | 2570 | 2690 |
| PRINCE WILLIAM VA | 118 | 61 | 26 | 124 | 495 | 122630 | 783 | 10876 | | | 10876 | 2107 | | 600 | 845 | 2620 | 3500 |
| ROANOKE VA | 118 | 52 | 20 | 109 | 366 | 99100 | 634 | 9109 | | | 9109 | 1748 | | 574 | 857 | 1820 | 2960 |
| OLYMPIA WA | 120 | 52 | 28 | 138 | 323 | 84600 | 553 | | 3301 | 4069 | 7370 | 1572 | | 429 | 779 | | |

PRICE REPORT

| QUARTER 1, 1987 | 24 | 25 | 26 | 27 | 28 | 29A | 29B | 30A | 30B | 31 | 30+31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CITY AND STATE | ORJ | FRZ CRN | OB FD | COK | APT RENT | HOME PRICE | HOME VAL | ALL-ELECT | PART ELECT | OTHER ENRGY | TOTAL ENRGY | TELE PHCN | BUS | TIRE BAL | GASO LINE | ASP 2000 | DOC TOR | DEN IST | ASP KEN |
| RENTON WA | 125 | 53 | 28 | 124 | 416 | 90000 | 597 | | 5803 | 4464 | 10267 | 1835 | 85 | 624 | 784 | 14500 | 2900 | 8650 | 330 |
| RICHLAND-KENNEWICK WA | 120 | 51 | 22 | 118 | 277 | 72950 | 484 | 8621 | | | 8621 | 1635 | | 538 | 844 | 17967 | 3067 | 5017 | 334 |
| SEATTLE WA | 125 | 63 | 30 | 152 | 429 | 92341 | 597 | 5915 | | | 5915 | 1796 | 100 | 667 | 764 | 5515 | 3840 | 6260 | 439 |
| SPOKANE WA | 119 | 48 | 24 | 106 | 322 | 84072 | 555 | | 4976 | 3419 | 8395 | 1638 | 60 | 518 | 831 | 17100 | 2720 | 2100 | 269 |
| TACOMA WA | 129 | 59 | 29 | 136 | 396 | 92160 | 592 | 7037 | | | 7037 | 1848 | 60 | 489 | 781 | 18867 | 3240 | 5220 | 317 |
| WALLA WALLA WA | 126 | 53 | 26 | 144 | 315 | 85689 | 563 | 10097 | | | 10097 | 1609 | | 567 | 897 | 28125 | 2237 | 4567 | 344 |
| WENATCHEE-EAST WENATCHEE WA | 112 | 55 | 24 | 149 | 380 | 78625 | 517 | 6547 | | | 6547 | 1459 | | 612 | 869 | 24000 | 2547 | 4667 | 357 |
| CHARLESTON WV | 142 | 59 | 28 | 169 | 383 | 73967 | 483 | 9416 | | | 9416 | 2797 | 60 | 529 | 859 | 20642 | 3100 | 2526 | 314 |
| HUNTINGTON WV | 122 | 53 | 24 | 141 | 383 | 75000 | 486 | 9416 | | | 9416 | 3060 | | 475 | 831 | 18867 | 3220 | 2800 | 316 |
| APPLETON WI | 104 | 52 | 26 | 103 | 305 | 90000 | 597 | | 4698 | 5733 | 10431 | 1939 | 50 | 462 | 899 | 13500 | 2540 | 7200 | 56 |
| EAU CLAIRE WI | 106 | 66 | 24 | 106 | 390 | 70640 | 469 | | 6230 | 5132 | 11362 | 2009 | | 460 | 879 | 15250 | 2028 | 2360 | 47 |
| FOND DU LAC WI | 110 | 56 | 29 | 107 | 371 | 98133 | 668 | | 4375 | 5522 | 9897 | 1850 | 50 | 593 | 907 | 14000 | 2100 | 2275 | 58 |
| GREEN BAY WI | 114 | 55 | 26 | 107 | 280 | 87250 | 578 | | 4727 | 6777 | 11504 | 2052 | 50 | 667 | 919 | 25133 | 2700 | 8960 | 442 |
| JANESVILLE WI | 107 | 54 | 27 | 128 | 345 | 75362 | 497 | | 4375 | 5522 | 9897 | 2009 | 50 | 320 | 855 | 13500 | 2775 | 2660 | 78 |
| LA CROSSE WI | 112 | 52 | 26 | 106 | 342 | 78975 | 517 | | 5183 | 4317 | 9500 | 1452 | 50 | 600 | 883 | 18450 | 2895 | 3300 | 341 |
| MANITOWOC-TWO RIVERS WI | 108 | 58 | 27 | 106 | 293 | 88125 | 578 | | 4727 | 6777 | 11504 | 1998 | | 470 | 919 | 13500 | 2100 | 2053 | 356 |
| MARINETTE WI | 117 | 50 | 28 | 96 | 292 | 80250 | 526 | | 4727 | 6777 | 11504 | 1835 | | 592 | 859 | 14200 | 1800 | 2800 | 289 |
| NEW LONDON WI | 112 | 57 | 28 | 109 | 312 | 87900 | 562 | | 4401 | 7149 | 11550 | 1854 | | 450 | 886 | 13400 | 1962 | 8300 | 362 |
| WAUSAU WI | 111 | 59 | 27 | 112 | 346 | 80000 | 533 | | 4727 | 6777 | 11504 | 2159 | 50 | 490 | 869 | 15500 | 1896 | 3175 | 325 |
| CASPER WY | 106 | 58 | 24 | 164 | 326 | 69500 | 484 | | 3833 | 7360 | 11193 | 1487 | | 533 | 717 | 20700 | 3050 | 2725 | 288 |
| GILLETTE WY | 137 | 49 | 26 | 157 | 320 | 73700 | 487 | | 5029 | 5990 | 11019 | 1510 | | 608 | 769 | 10900 | 2760 | 2660 | 136 |
| NUMBER OF CITIES | 247 | 247 | 47 | 247 | 247 | 247 | 247 | 83 | 164 | 164 | 247 | 247 | 149 | 247 | 247 | 247 | 224 | 247 | 4 |
| MINIMUM | 88 | 42 | 15 | 88 | 250 | 63500 | 417 | 5915 | 3301 | 1272 | 5915 | 741 | 25 | 217 | 717 | 9800 | 3400 | 1880 | 4 |
| MAXIMUM | 154 | 88 | 35 | 241 | 1200 | 225000 | 1504 | 19185 | 16344 | 10697 | 22886 | 3698 | 130 | 836 | 1266 | 38520 | 4800 | 11020 | 31 |
| MEDIAN | 122 | 55 | 26 | 133 | 357 | 84500 | 556 | 11442 | 6323 | 4557 | 11381 | 1690 | 60 | 540 | 843 | 19000 | 2340 | 2830 | 300 |
| MEAN | 121 | 56 | 25 | 135 | 379 | 89163 | 587 | 11715 | 6686 | 4738 | 11522 | 1722 | 68 | 542 | 840 | 20123 | 2455 | 3143 | 310 |
| STANDARD DEVIATION | 12 | 5 | 3 | 24 | 111 | 2725 | 132 | 2302 | 1949 | 1686 | 2300 | 434 | 21 | 87 | 59 | 4 | 4 | 4 | 4 |

DRAFT

# A COMPARISON OF
# STATE INDIGENT CARE

Division of Planning

Department of Health and Social Services

April 1986

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPT. OF HEALTH AND SOCIAL SERVICES

DIVISION OF PLANNING

P.O. Box H-01A
JUNEAU, ALASKA 99811
PHONE: 465-3030

May 2, 1986

Ms. Lisa McLaren
Representative Koponen's Office
P.O. Box V
Juneau, Alaska 99811

Dear Ms. McLaren:

Enclosed is a copy of the draft report, A Comparison of State Indigent Care. This report describes research the Division of Planning conducted to ascertain how Alaska's General Relief Medical (GR-M) Program compares to other state indigent care programs.

The Division of Planning is currently working on an addendum to the enclosed report, An Analysis of Benefit Options for FY 87 GR-M, that will compare possible outcomes for the FY 87 GR-M Program to programs in other states. You will be provided a copy of the addendum when it is available.

Sincerely,

Patricia R. Alexander
Director

Enclosure

06-F76LH

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# EXECUTIVE SUMMARY

Most state governments administer statewide indigent health care programs. The State of Alaska for instance, administers the General Relief Medical (GR-M) Program. To ascertain how the current GR-M Program compares to other state indigent care programs, the Department of Health and Social Services analyzed three components of each state indigent care program.

The review of the benefit coverage component indicates GR-M ranks Alaska in the upper one-fourth of all states in regards to the quantity of services provided. The type of benefit coverage provided by GR-M places the program in the upper one-third of all programs.

The review of the eligibility standards component reveals that only one program allows substantially more income and assets than Alaska's GR-M. Fourteen other programs have income and asset criteria similar to those of GR-M, while 21 programs have more restrictive criteria.

The review of the source-of-funding component shows 26 programs, including Alaska's GR-M, are solely funded by state government, and 26 are jointly funded by state and local government. Six depend on local funding only.

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# A COMPARISON OF STATE INDIGENT CARE

The State of Alaska currently administers a state indigent care program, the General Relief Medical (GR-M) Program. For indigents who qualify, GR-M provides benefits similar to those of the state's Medicaid Program. The similarity between the benefits of these two programs is explained by reviewing their history.

When GR-M began in 1953, it offered major medical care to two groups of people: those not covered by private health insurance and those covered under other federal programs, such as the Indian Health Service. In 1972 Alaska entered the federal Medicaid program, and GR-M changed in two ways: first, all GR-M recipients were moved to Medicaid; next GR-M was redefined to cover only low income adults and children who did not qualify for Medicaid and who had no other coverage. After 1972, GR-M recipients were provided similar medical services to those available to Medicaid recipients. The last major change to GR-M was made in 1982: two groups, low income children and pregnant women who did not qualify for Aid to Families with Dependent Children, were moved from GR-M to Medicaid. However, another major change now seems inevitable.

The Governor's FY 87 budget calls for a 45 percent reduction from FY 86 spending for GR-M. Anticipating this budget reduction, the Division of Medical Assistance requested research to ascertain how Alaska's GR-M Program compares with other state indigent care programs. This report describes the methodology used for the comparison and highlights the results.

## Methodology

A format for the comparison was adopted first. Since many states have a residual statewide program like GR-M based on their respective Medicaid programs, the chart of "Medicaid Services State by State" was selected for the format. This chart, a copy of which is located in Appendix A, lists the eight mandatory basic services and the 32 optional services provided by Medicaid.

The Medicaid format was used to tally each progam's benefits. The Intergovernmental Health Policy Project's document, State Programs of Assistance for the Medically Indigent[1] was used as a source. This report is an up-to-date compendium of statewide programs that are designed to assist the medically indigent and are administered or funded wholly or in part by the state government. The document profiles each state's program(s). A program profile includes a description of eligibility standards, administrative responsibilities, benefit coverage, source of funding, recipient counts and total expenditures. The benefit coverage component of a profile was used to tabulate each program's benefits. Appendix B contains the tabulation, Figure 1: State Indigent Care Services.

Several benefits listed in the source document did not match with benefit categories in the Medicaid format. Two methods were used to include these services in the tally. First, to accommodate benefits beyond Medicaid, three additional categories--transportation, medical equipment and supplies, and kidney dialysis--were added to the format. A second method was used for services similar to Medicaid benefit categories; here, two types of assumptions were made. The first type assumes that a given benefit from the source document can be equated with a Medicaid benefit category. The second assumes that a given benefit constitutes only part of a Medicaid benefit category; this report designates the latter as a partial service. Appendix B lists both types of tabulation assumptions.

For instance, when a state's profile is listed as "Home Health" in the benefit coverage, the service was tabulated as a partial "Skilled Nursing Facility and Home Health Services" (a Medicaid category). Figure 1's Key (in Appendix B) explains the symbols used to distinguish between partial and complete services.

To determine how Alaska compares to other states, the chart of State Indigent Care Services (Figure 1) was summarized. The 43 benefit categories were condensed into three groups: "Basic" and "Optional" (both based on Medicaid services) and "Other" (the additional categories added to the Medicaid format). There are eight basic and 32 optional services under Medicaid, and three other services beyond Medicaid. The total number of services in each group is shown in Columns 5b, 5c and 5d of Table 1, Appendix B.

A ranking of states by program benefits was selected as the method for comparing services. The total of all services--the "Basic", "Optional", and "Other" service categories--was used to assign position. That is, the state with the most services in a single program was listed first in Table 1, the state with the next highest follows, etc. The ranking explanation in Appendix B explains how ties were resolved.

Two other state profile components were compared in Table 1. To show how other states' eligibility criteria compare to GR-M's, a "Scope of Eligibles" was included. Asset and income requirements in the eligibility standards component of the state profiles (in the source document) were reviewed to derive the comparison shown in Column 3. Categories for comparison include:

- "More" (those states with less restrictive eligibility requirements, such as allowing more assets and higher income than GR-M's criteria),
- "Equal" (those states with criteria the same or similar to Alaska), and
- "Less" (those states with more restrictive criteria).

The "Scope of Eligibles" analysis does not influence the ranking in Table 1.

To show how other states pay for state indigent care programs, Column 4, "Financing," was included in Table 1. The source-of-funding component of the state profiles (in the source document) was reviewed to determine whether state and/or local governments provide financial support for the care.

The state profiles in the source document also describe other state programs or policies that assist the medically indigent. These include limited state indigent care programs, indigent care provisions in rate-setting states, alternatives to impose private health insurance coverage, and certificate-of-need provisions affecting indigent care. The Director of the Division of Medical Assistance expressed interest in the limited state indigent care programs. These are summarized in Table 2, Appendix C.

## Results

The analysis indicates that benefits provided by state indigent care programs vary in both quantity and type. The number of services provided range from New Jersey with 35 to Florida, Mississippi and Nevada each with three. Alaska ranks ninth with 25 services, placing it in the upper one-fifth of all states. Column 6 in Table 1, Appendix B contains the complete ranking. Note that the

method used to categorize and rank benefits was based on several assumptions as well as information from a document with a few incomplete entries. Further, the ranking assumes equal weight for all service categories.

Reviewing Column 5a of Table 1 in conjunction with a state's ranking will reveal a program's focus. For example, compare Michigan's General Assistance-Medical (GA-M) Program with Missouri's GR-M Program. According to Table 1, both programs offer five "Basic" services. However, Michigan's GA-M Program has three times as many "Optional" services as Missouri's GR-M Program, and thus ranks higher than Missouri. Column 5a indicates that Michigan's program provides "Ambulatory" services whereas Missouri's provides "Basic Coverage."

The type of benefits provided by state indigent care programs range from those that are the same as a state's Medicaid program to those that provide ambulatory services only. Table 3 lists all benefit types in ascending order of services as well as their distribution among the states. Alaska's GR-M Program, which is similar to Medicaid, is situated in the upper one-third of all state indigent care programs.

Table 3: The Distribution of State Indigent Care Programs by Benefit Type

| Benefit Type[2] | Number of Programs |
|---|---|
| Varies by County | 10 |
| Ambulatory | 5 |
| Inpatient Hospital | 5 |
| Hospital (Inpatient and Outpatient) | 8 |
| Hospital and Physician | 1 |
| Hospital and Ambulatory | 1 |
| Basic Coverage | 6 |
| Similar to Medicaid | 11 |
| Same as Medicaid | 9 |
| TOTAL[3] | 56 |

The "Scope of Eligibles" category in Table 1 reveals that only one program, California's County Medical Services Program, allows substantially more income and assets than Alaska's GR-M. To qualify for California's County Medical Services Program, an adult must earn less than $484 a month and have liquid assets under $1,500, excluding the home and automobile. To qualify for Alaska's GR-M Program, income must be less than $300 a month and liquid assets less than $500, excluding the home and vehicle. Fourteen other programs have income and asset criteria similar to those of the GR-M Program, while 21 progams have more restrictive criteria.

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Table 4: The Distribution of "Scope of Eligibles Compared to Alaska" by Category

| Category | Number of Programs |
|---|---|
| More | 1 |
| Equal | 14 |
| Less | 21 |
| Unknown | 22 |
| TOTAL | 58 |

The "Scope of Eligibles" analysis does not consider variation in state-by-state cost-of-living or median incomes. The above comparison also ignores expenditures and numbers served for each program.

Table 5 summarizes the results from Column 4 of Table 1, "Financing," which shows that the majority of programs have some state funding. Twenty-six programs, including Alaska's GR-M Program, are funded solely by state government, and 26 programs are jointly funded by state and local governments. Only six programs depend completely on local funding.

Table 5: The Distribution of "Financing" by Category

| Category | Number of Programs |
|---|---|
| Local | 6 |
| State | 26 |
| Both | 26 |
| TOTAL | 58 |

According to the source document, 20 states have limited indigent care programs. Described in Table 2, Appendix C, these frequently target select populations, such as Missouri's High Risk Maternity and Child Care Program, or supplement existing ones. The State of Alaska does not currently administer any limited state indigent care programs.

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NOTES:

[1]Desonia, R.A. and K.M. King. State Programs of Assistance for the Medically Indigent, Washington, D.C.: Intergovernmental Health Policy Project, 1985.

[2]Table 1's Key (in Appendix B) explains the services provided by each benefit type.

[3]Two programs, Maine's GA-M Program (medically necessary) and South Dakota's Catastrophic County Poor Relief Fund, were excluded as the source document's definition of these benefits types are dissimilar to those in Table 3. The total exceeds 50 because six states have more than one indigent care program: Virginia has four; California, Illinois, Michigan, New Jersey and Washington have two.

## APPENDICES

Appendix A: Medicaid Services State by State

Appendix B: Tabulation Assumptions

Figure 1: State Indigent Care Services Ranking Explanation

Table 1: Ranking of States by State Indigent Care Program Benefits

Appendix C: Table 3: Limited State Indigent Programs

# MEDICAID SERVICES STATE BY STATE

## Basic Required Medicaid Services

October 1, 1983

Medicaid recipients receiving federally supported financial assistance must receive at least these services
- Inpatient hospital services
- Outpatient hospital services
- Rural health clinic services
- Other laboratory and X-ray services
- Skilled nursing facility services and home health services for individuals 21 and older
- Early and periodic screening, diagnosis and treatment for individuals under 21
- Family planning
- Physician services

Federal financial participation is also available to States electing to expand their Medicaid Programs by covering additional services and/or by including people eligible for medical but not for financial assistance For the latter group States may offer the services required for financial assistance recipients or may substitute a combination of seven services

Definitions and limitations on eligibility and services vary from State to State Details are available from local welfare offices and State Medicaid agencies

Services provided only under the Medicare buy-in or the screening and treatment program for individuals under 21 are not shown on this chart

### Optional Services in States' Medicaid Programs

| FMAP* | BASIC REQUIRED MEDICAID SERVICES SEE ABOVE | | Podiatrists Services | Optometrists Services | Chiropractors Services | Other Practitioners Services | Private Duty Nursing | Clinic Services | Dental Services | Physical Therapy | Occupational Therapy | Speech, Hearing and Language Disorder | Prescribed Drugs | Dentures | Prosthetic Devices | Eyeglasses | Diagnostic Services | Screening Services | Preventive Services | Rehabilitative Services | Services for Age 65 or Older in IB Institutions: A Inpatient Hospital Services | B SNF Services | C ICF Services | Services for Age 65 or Older in Mental Inst: A Inpatient Hospital Services | B SNF Services | C ICF Services | Intermediate Care Facility Services | ICF for Mentally Retarded | Inpatient Psychiatric Services for Under Age 22 | Christian Science Nurses | Christian Science Sanitoria | SNF for Under Age 21 | Emergency Hospital Services | Personal Care Services | Total Additional Services | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 | • | Alabama | | • | | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | 12 | AL |
| 50 | • | Alaska | | • | | | | • | | | | • | • | | • | • | | | | | | | | • | | | | | | | | | | | | 10 | AK |
| 61 | | Arizona* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | AZ |
| 74 | • | Arkansas | • | • | | • | | • | • | • | | • | • | | • | • | | | | | • | | | • | • | | • | | | | | • | | | 21 | AR |
| 50 | • | California | • | • | | • | | • | • | • | • | • | • | | • | • | | | | | • | | | • | • | | • | | | • | | • | | | 20 | CA |
| 50 | • | Colorado | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | • | | • | | | | | • | | | 14 | CO |
| 50 | • | Connecticut | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 24 | CT |
| 50 | • | Delaware | • | | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 17 | DE |
| 50 | • | D.C. | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | • | 19 | DC |
| 56 | • | Florida | | • | | | | | • | | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 14 | FL |
| 67 | • | Georgia | • | | | • | | • | | | | • | • | | • | • | | | | | • | | • | • | • | | • | | | | | • | | | 13 | GA |
| 50 | | Guam | • | • | | | | | | | | | • | | • | • | | | | | | | | | | | | | | | | | | | 6 | GU |
| 50 | • | Hawaii | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | | | | | | | | | | | | 20 | HI |
| 67 | • | Idaho | • | • | • | • | | • | | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 12 | ID |
| 50 | • | Illinois | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | • | | | • | • | | • | • | | | | • | | | 29 | IL |
| 60 | • | Indiana | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | • | | • | | • | | | 24 | IN |
| 55 | • | Iowa | • | • | • | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 19 | IA |
| 51 | • | Kansas | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | | • | | • | | | | | • | | | 23 | KS |
| 71 | • | Kentucky | • | • | | • | | • | • | • | | • | • | | • | • | | • | • | • | • | | | • | • | | • | | | | | • | | | 22 | KY |
| 64 | • | Louisiana | • | • | | • | | • | • | • | | • | • | | • | • | | | | | • | | | • | • | | • | • | | | | • | | | 17 | LA |
| 71 | • | Maine | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | • | | | • | • | | • | | | • | | • | | | 25 | ME |
| 50 | • | Maryland | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 18 | MD |
| 50 | • | Massachusetts | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | • | | • | | | 28 | MA |
| 50 | • | Michigan | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 24 | MI |
| 53 | • | Minnesota | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 31 | MN |
| 78 | • | Mississippi | • | • | | | | • | • | • | | • | • | | • | • | | • | | | • | | | • | | | • | | | | | • | | | 1 | MS |
| 61 | • | Missouri | • | • | • | | | • | • | • | • | • | • | | • | • | | | | | • | | | • | | | • | | | | | | | | 16 | MO |
| 64 | • | Montana | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | | MT |
| 57 | • | Nebraska | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 2 | NB |
| 50 | • | Nevada | • | • | • | • | • | • | • | • | • | • | • | | • | • | | | | | | | | • | • | | • | | | | | • | | | 2 | NV |
| 59 | • | New Hampshire | • | • | • | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | • | | • | | | 26 | NH |
| 50 | • | New Jersey | • | • | • | • | | • | • | • | | • | • | | • | • | | | | | | | | • | • | | • | | | | | • | | | 26 | NJ |
| 69 | • | New Mexico | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 15 | NM |
| 50 | | New York | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | • | | | • | | | • | | | | | • | | | 28 | NY |
| 68 | | North Carolina | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 19 | NC |
| 51 | | North Dakota | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | • | | | 23 | ND |
| 50 | | Northern Islands | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | NMI |
| 55 | • | Ohio | • | • | • | • | • | • | • | • | • | • | • | | • | • | | | | | | | | • | • | | • | • | | | | • | | | 24 | OH |
| 58 | | Oklahoma | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 11 | OK |
| 57 | • | Oregon | • | • | • | • | • | • | • | • | • | • | • | | • | • | | • | | | | | | • | | | • | | | • | | • | | | 25 | OR |
| 66 | | Pennsylvania | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 17 | PA |
| 50 | | Puerto Rico | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 12 | PR |
| 58 | • | Rhode Island | • | | | | | | | | | | • | | • | • | | | | | | | | • | | | • | | | | | | | | 11 | RI |
| 71 | • | South Carolina | • | | • | | | • | | | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 12 | SC |
| 69 | • | South Dakota | | | • | | | • | | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 14 | SD |
| 71 | | Tennessee | | | | | | • | | | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 17 | TN |
| 54 | • | Texas | • | • | • | • | | • | | | | • | • | | • | • | | | | | • | | | • | | | • | | | | | | | | 14 | TX |
| 68 | | Utah | • | • | | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 20 | UT |
| 65 | | Vermont | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 14 | VT |
| 50 | | Virgin Islands | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 | VI |
| 52 | | Virginia | • | • | | • | | • | • | • | | • | • | | • | • | | | | | • | | | • | • | | • | | | | | • | | | 27 | VA |
| 50 | | Washington | • | • | • | • | • | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 28 | WA |
| 71 | | West Virginia | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 16 | WV |
| 57 | | Wisconsin | • | • | | • | | • | • | • | | • | • | | • | • | | | | | | | | • | | | • | | | | | | | | 24 | WI |
| 50 | • | Wyoming | | • | | | | | | • | | | • | | • | | | | | | | | | | | | | | | | | | | | 2 | WY |
| • | 20 | • | 16 | 12 | 14 | 12 | 4 | 17 | 16 | 12 | 7 | 11 | 15 | 12 | 19 | 18 | 6 | 3 | 4 | 10 | 8 | 1 | 1 | 15 | 9 | 13 | 24 | 23 | 13 | 1 | 8 | 20 | 18 | 5 | | |
| • | 34 | • | 24 | 29 | 15 | 21 | 14 | 22 | 24 | 24 | 20 | 22 | 23 | 24 | 29 | 24 | 17 | 14 | 16 | 19 | 13 | 7 | 7 | 24 | 18 | 12 | 26 | 26 | 20 | 5 | 10 | 26 | 24 | 14 | | |
| | 54 | | 40 | 46 | 29 | 33 | 18 | 39 | 42 | 36 | 27 | 33 | 38 | 36 | 48 | 42 | 23 | 17 | 20 | 29 | 21 | 8 | 8 | 39 | 27 | 25 | 50 | 49 | 33 | 6 | 18 | 46 | 42 | 19 | | |

*Federal Medicaid Assistance Percentage (FMAP) Rate of Federal financial participation in a State's Medical Assistance Program under Title XIX of the Social Security Act Percentages are rounded and effective as of October 1, 1983
†Categorically Needy People receiving federally supported financial assistance
‡Medically Needy People who are eligible for medical but not for financial assistance
**Indicates operation of a medically needy program under a Section 1115 Demonstration project

Reference: The data shown were reported by individual states and compiled by the Office of Intergovernmental Affairs.

Department of Health & Human Services
Health Care Financing Administration
Office of Intergovernmental Affairs

HCFA Pub. No. 03155-84

A-1

APPENDIX A

APPENDIX B

## Tabulation Assumptions

The source document contains many services that do not match service categories in the modified Medicaid format. To adopt these to the Medicaid format, several assumptions were made; these are listed below. Services from the source document are in double quotations; Medicaid categories and the three additional categories are in single quotations.

"Home Health" designated as a partial 'Skilled Nursing Facility and Home Health Services.'

"Emergency Oral Surgery," "Emergency Dental Services," or "Inpatient Hospital Dental Care" designated as a partial 'Dental Services.'

"Outpatient Heroin Detoxification" or "Substance Abuse" designated as a partial 'Rehabilitative Services.'

"Outpatient Mental Health Services" designated as a partial 'Clinic Services.'

"Nonemergency Transportation" or "Emergency Transportation" designated as a partial 'Transportation.'

A single "Other Practitioner Services" equivalent to a partial 'Other Practitioners Services.'

"Physician Office Visits" designated as a partial 'Physician Services.'

"Outpatient Surgery" designated as a partial 'Clinic Services' and a partial 'Outpatient Hospital Services.'

"Hospital Services" or "Inpatient and Outpatient Hospital Services" equivalent to 'Inpatient Hospital Services,' 'Outpatient Hospital Services,' 'Emergency Hospital Services' and a partial 'Physician Services.'

"Medical Supplies and Appliances Essential to Health and Personal Functioning" include 'Dentures,' 'Eyeglasses,' 'Prosthetic Devices' and 'Medical Equipment and Supplies.'

"Outpatient Clinic," "Community Services," or "Health Center Services" equivalent to 'Clinic Services' and 'Rural Health Clinic Services.'

"Blood Products," "Insulin Supplies," "Orthopedic Appliances," and "Hearing Aids" included as 'Medical Equipment and Supplies.' When one item listed, designated as a partial.

Figure 1: STATE

| Key and Notes<br>X: Complete Service<br>O: Partial Service<br>*: States with unspecified services<br>†: States without programs | Basic Services | | | | | | | | | Podiatrists' Services | Optometrists' Services | Chiropractors' Services | Other Practitioners' Services | Private Duty Nursing | Clinic Services | Dental Services | Physical Therapy | Occupational Therapy | Speech, Hearing, and Language Disorder | Prescribed Drugs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Inpatient Hospital Services | Outpatient Hospital Services | Rural Health Clinic Services | Other Lab and X-Ray Services | Skilled Nursing Facilities and Home Health Services | EPSDT (21 and under) | Family Planning | Physician Services | Total Basic Services | | | | | | | | | | | |
| Alabama | X | X | | | | | | O | 3(1) | | | | | | | | | | | |
| Alaska | X | X | X | X | X | | X | X | 7 | | X | | | | X | O | X | X | X | X |
| Arizona* | | | | | | | | | | | | | | | | | | | | |
| Arkansas | X | X | X | X | | | | X | 5 | | | | | | X | | | | | |
| California | X/X | X/ | X/ | X/ | O/ | | /X | X/X | 6(1)/X | | /X | | | | X/X | O/X | | /X | /X | /O X/X |
| Colorado | X | X | | X | O | | | X | 5(1) | | | | | | | | | | | X |
| Connecticut | X | X | X | X | | | | X | 5 | | X | | O | | X | O | | | | X |
| Delaware† | | | | | | | | | | | | | | | | | | | | |
| Florida | X | | | | | | | O | 2(1) | | | | | | | | | | | |
| Georgia† | | | | | | | | | | | | | | | | | | | | |
| Hawaii | X | X | X | X | X | X | X | X | 8 | X | X | | X | | X | X | X | X | X | X |
| Idaho† | | | | | | | | | | | | | | | | | | | | |
| Illinois | X/X | O/O | | X/X | | | | X/X | 4(1)/4(1) | | | | | | | O/O | | | | O/ |
| Indiana | O | O | | | | | | O | 3(3) | | | | | | | | | | | |
| Iowa* | | | | | | | | | | | | | | | | | | | | |
| Kansas | X | X | X | X | X | | X | X | 7 | X | | X | | | X | O | | | | X |
| Kentucky† | | | | | | | | | | | | | | | | | | | | |
| Louisiana | X | X | | | | | | O | 3(1) | | | | | | | | | | | |
| Maine* | | | | | | | | | | | | | | | | | | | | |
| Maryland | X | X | X | X | X | X | X | X | 8 | X | X | | | | X | X | X | | X | X |
| Massachusetts | | | X | X | | | X | O | 4(1) | X | X | | O | X | X | X | X | X | X | X |
| Michigan | X/ | /X | | /X | /O | | /X | O/O | 2(1)/5(2) | /X | /X | /X | /O | | /X | O/X | | /X | | /X /X |
| Minnesota | X | X | | X | | | | X | 4 | | | | | | | | X | | | X |
| Mississippi | X | | | | | | | O | 2(1) | | | | | | | | | | | |
| Missouri | O | X | | X | O | | | X | 5(2) | | | | | | O | | | | | X |
| Montana | X | X | X | X | X | X | X | X | 8 | X | X | | X | X | X | X | X | X | X | X |
| Nebraska† | | | | | | | | | | | | | | | | | | | | |
| Nevada | X | | | | | | | O | 2(1) | | | | | | | | | | | |
| New Hampshire† | | | | | | | | | | | | | | | | | | | | |
| New Jersey | X/X | X/X | X/X | X/X | X/X | X/X | X/X | X/X | 8/8 | X/X | X/X | X/X | X/X | | X/X | X/X | X/X | X/X | X/X | X/X |
| New Mexico | X | | | | | | | O | 2(1) | | | | | | | | | | | |
| New York | X | X | X | X | X | X | X | X | 8 | X | X | | X | X | X | X | X | X | X | X |
| North Carolina† | | | | | | | | | | | | | | | | | | | | |
| North Dakota† | | | | | | | | | | | | | | | | | | | | |
| Ohio | X | X | | | | | | X | 4 | | | | | | | | | | | X |
| Oklahoma | X | X | | | | | | O | 3(1) | | | | | | | | | | | |
| Oregon | O | X | X | X | X | X | X | X | 8(1) | X | X | X | X | X | X | X | X | X | X | X |
| Pennsylvania | X | X | X | X | X | X | X | X | 8 | X | X | X | X | | X | O | | | | O |
| Rhode Island | X | X | X | X | X | X | X | X | 8 | X | X | | | | | X | | | | X |
| South Carolina | X | X | | | | | | O | 3(1) | | | | | | | | | | | |
| South Dakota* | | | | | | | | | | | | | | | | | | | | |
| Tennessee† | | | | | | | | | | | | | | | | | | | | |
| Texas | X | X | X | X | X | | X | X | 7 | X | X | X | X | | | | | | | X |
| Utah | X | O | | | | | | X | 3(1) | | | | | | | | | | | X |
| Vermont | | | | | | | | O | 1(1) | | O | | | | | O | | | | O |
| Virginia | O/ / /O | O/ / /O | | /X/X/ | / /O/ | | | /O/O/ | 2(2)/2(1)/1(2)/2(2) | | | | /X/X/ | | O/ / / | /X/X/ | | | | /O/O/ |
| Washington | X/X | X/X | X/ | X/X | X/O | | X/ | X/X | 7/5(1) | X/ | X/ | X/ | X/ | X/ | X/ | | X/ | | X | O/O |
| West Virginia† | | | | | | | | | | | | | | | | | | | | |
| Wisconsin | X | X | X | X | X | X | X | X | 8 | | | X | | X | X | | X | X | X | |
| Wyoming | X | X | X | X | X | X | X | X | 8 | | X | | | | X | | X | | | X |

Reference: State Programs of Assistance for the Medically Indigent

# INDIGENT CARE SERVICES

| Optional Services | | | | | | | | | | | | | | | | | | | | | Other Services | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Srvcs for Age 65 or Older in TB Inst. | | | Srvcs for Age 65 or Older in Mental Inst. | | | | | | | | | | | | | | |
| Dentures | Prosthetic Devices | Eyeglasses | Diagnostic Services | Screening Services | Preventive Services | Rehabilitative Services | A. Inpatient Hosp. Srvcs. | B. SNF Services | C. ICF Services | A. Inpatient Hosp. Srvcs. | B. SNF Services | C. ICF Services | Intermediate Care Facility Services | ICF for Mentally Retards | Inpatient Psychiatric Service for Under Age 22 | Christian Science Nurses | Christian Science Sanitoria | SNF for Under Age 21 | Emergency Hospital Services | Personal Care Services | Total Additional Services | Transportation | Medical Equipment and Supplies | Kidney Dialysis | Total Other Services |
| | | | | | | | | | | | | | | | | | | | X | | 1 | | | | 0 |
| | X | X | | | | | | | | | | | X | X | | | | | X | | 12 | X | X | | 2 |
| | | | | | | | | | | | | | | | | | | | X | | ? | | | | 0 |
| | X/X | /X | | | | 0/X | | | | | | | | | | | | | /X | | 5(2)/11(1) | X/X | X/X | X/X | 3/3 |
| | | | | | | | | | | | | | | | | | | | X | | ? | | | | 0 |
| X | X | X | | | | 0 | | | | | | | | | | | | | X | | 10(3) | 0 | X | | 2(1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 0 | | 1(1) | | | | 0 |
| X | X | X | X | X | X | X | | | | | | | X | X | | | | X | X | X | 21 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0/0 | | | | | | | | | | | | | | | | | | X/X | | 4(3)/4(3) | X/X | 0/0 | | 2(1)/2( |
| | | | | | | | | | | | | | | | | | | | X | | 1 | 0 | | | 1(1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | X | | | | | | | | | | | | | X | | 7(1) | 0 | | | 1(1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | X | | 1 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | X | X | | | | | X | | | X | | | X | X | | | | X | X | X | 17 | | | | 0 |
| | | X | | | | X | | | | | | | | | | | | | | | 12(1) | 0 | X | | 2(1) |
| /0 | | /X | | | | | | | | | | | | | | | | | /0 | | 1(1)/12(3) | | /X | | 0/1 |
| | X | | | | | | | | | | | | | | | | | | X | | 4 | X | 0 | | 2(1) |
| | | | | | | | | | | | | | | | | | | | 0 | | 1(1) | | | | 0 |
| | X | | | | | | | | | | | | | | | | | | X | | 4(1) | 0 | X | | 2(1) |
| X | X | X | X | X | X | X | | | | X | X | X | X | X | X | | | X | X | X | 26 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 0 | | 1(1) | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| X/X | X/X | X/X | X/X | X/X | X/X | X/X | | | | X/X | X/X | X/X | X/X | X/X | X/X | | X/X | X/X | X/X | X/X | 27/27 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | 0 | | 1(1) | X | | | 1 |
| X | X | X | X | X | X | X | | | | X | | | X | X | X | | | X | X | X | 24 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | X | | ? | | | | 0 |
| | | | | | | | | | | | | | | | | | | | X | | 1 | | | | 0 |
| X | X | X | | | X | X | | | | X | | | X | X | X | | X | X | X | X | 24 | | | | 0 |
| X | X | | | | | | | | | X | X | X | X | X | X | | | X | X | | 17(?) | | | | 0 |
| X | X | X | | | | | | | | X | | | X | X | | | | X | | | 11 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | X | | 1 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | X | X | | | | X | X | | | | | | X | X | | | X | X | X | X | 15 | | | | 0 |
| | | | | | | | | | | | | | | | | | | | X | | ? | 0 | | | 1(1) |
| | | | | | | | | | | | | | | | | | | | | | 3(3) | X | 0 | | 2(1) |
| /X/X/ | /X/X/ | /X/X/ | | | | | | | | | | | | | | | | | 0/ / /0 | | 2(2)/6(1)/6(1)/11(1) | /X/X/ | /X/X/ | | 0/2/2 |
| X/ | X/ | X/ | X/ | | X/ | X/ | X/ | X/ | X/ | X/ | X/ | X/ | X/ | X/ | X/ | | | X/ | X/ | | 26(1)/1(1) | /X | | | 0/1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | X | | X | X | X | X | X | X | X | | X | X | X | X | X | | | X | X | X | 22 | | | | 0 |
| | X | | | | | X | | | | | | | X | | | | | X | | | 8 | | | | 0 |

## Ranking Explanation

Ranking is based on the most services in a single program. That is, for states with more than one program, the program with the most benefits was used for ranking and the other was disregarded except in the case of a tie. States with several programs do not advance in ranking because an indigent generally cannot qualify for two programs.

No distinction was made between optional and mandatory programs as states usually provide some sort of assistance--administrative, financial or both--that induces cities, counties or municipalities to participate. States without state indigent care programs (none) and states who have programs that the source document does not list benefits for, are not ranked. These are listed at the end of Table 1.

When a tie occurred, two methods were used as tie breakers. If one state had two programs and the other had one, the state with the additional program received the higher ranking. For states with one program only, the program with partial benefits or the most partial benefits was assigned the lower ranking. (Partial services are included in the total services and shown in parentheses as well.) If a tie could not be resolved with these methods, the states were assigned the same ranking.

Table 1: Ranking of States by State Indigent Care Program Benefits

| COLUMN: 1 | 2 | 3 | | | 4 | | | 5a | 5b | 5c | 5d | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SCOPE OF ELIGIBLES COMPARED TO ALASKA | | | FINANCING | | | BENEFITS | | | | |
| | | | | | | | | | Medicaid Services | | | |
| STATE | PROGRAM | MORE | EQUAL | LESS | LOCAL | STATE | BOTH | Type | Number of Basics | Number of Optionals | Number of Other Services | Total Services | RANKING |
| New Jersey | AFDC Non-Federal Medical | | | X | | X | | Same as Medicaid | 8 | 27 | 0 | 35 | |
| | General Assistance State Match Medical* | | | X | | | X | Similar to Medicaid | 8 | 27 | 0 | 35 | 1 |
| Montana | General Relief* | | X | | | | X | Same as Medicaid | 8 | 26 | 0 | 34 | 2 |
| Washington | General Assistance Unemployable | unavailable | | | | X | | Same as Medicaid | 7 | 26(1) | 0 | 33(1) | |
| | Limited Casualty-Medically Indigent | | | X | | X | | Basic coverage | 5(1) | 1(1) | 1 | 7(2) | 3 |
| New York | State-Only Medicaid | | X | | | | X | Same as Medicaid' | 8 | 24 | 0 | 32 | 4 |
| Oregon | General Assistance -Medical | | X | | | X | | Same as Medicaid | 8(1) | 24 | 0 | 32(1) | 5 |
| Wisconsin | General Relief-Medical | unavailable | | | | | X | Similar to Medicaid (varies by county) | 8 | 22 | 0 | 30 | 6 |
| Hawaii | State-Only Medicaid | | X | | | X | | Same as Medicaid | 8 | 21 | 0 | 29 | 7 |
| Maryland | State-Only Medicaid | | X | | | X | | Same as Medicaid | 8 | 17 | 0 | 25 | 8 |
| Pennsylvania | General Assistance -Medical | | X | | | X | | Same as Medicaid | 8 | 17(2) | 0 | 25(2) | 9 |
| Texas | Indigent Health Care Treatment | | | X | | X | | Similar to Medicaid | 7 | 15 | 0 | 22 | 10 |

TABLE READS: In New Jersey the AFDC Non-Federal Medicaid Program has less eligibles than Alaska's GR-M program. The program is financed with state funds. The benefits are the same as those of New Jersey's Medicaid program and include eight basic services and 27 optional services. There are no other services. New Jersey ranks first with 35 total services (none of these are partial).

See the KEY at the end of the table for notes and an explanation of column contents.

COLUMN: 1 2 3 4 5a 5b 5c 5d 6

| STATE | PROGRAM | SCOPE OF ELIGIBLES COMPARED TO ALASKA | | | FINANCING | | | BENEFITS | | | | | RANKING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MORE | EQUAL | LESS | LOCAL | STATE | BOTH | Type | Medicaid Services: Number of Basics | Medicaid Services: Number of Optionals | Number of Other Services | Total Services | |
| Alaska | General Relief-Medical | | X | | | X | | Similar to Medicaid | 7 | 12 | 2 | 21 | 11 |
| Rhode Island | General Assistance-Medical | | X | | | X | | Same as Medicaid | 8 | 11 | 0 | 19 | 12 |
| Massachusetts | General Relief | | X | | | X | | Ambulatory | 4(1) | 12(1) | 2(1) | 18(3) | 13 |
| Michigan | General Assistance-Medical | | X | | | X | | Ambulatory | 5(2) | 12(3) | 1 | 18(5) | |
| | Residential County Hospitalization* | unavailable | | | | | X | Inpatient hospital | 2(1) | 1(1) | 0 | 2(2) | 14 |
| California | Medically Indigent Services | unavailable | | | | | X | Similar to Medicaid | 3 | 11(1) | 3 | 17(1) | |
| | County Medical Services | X | | | | X | | Similar to Medicaid | 6(1) | 5(2) | 3 | 14(3) | 15 |
| Connecticut | General Assistance Medical Aid | | | X | | | X | Similar to Medicaid | 5 | 10(3) | 2(1) | 17(4) | 16 |
| Wyoming | Minimum Medical | | | X | | X | | Similar to Medicaid (varies by county ) | 8 | 8 | 0 | 16 | 17 |
| Kansas | MEDIKAN | | X | | | X | | Similar to Medicaid | 7 | 7(1) | 1(1) | 15(2) | 18 |
| Virginia | General Relief-Emergency Medical Assistance* | unavailable | | | | | X | Ambulatory (varies by county) | 3(2) | 6(1) | 2 | 11(3) | |
| | General Relief-On going Medical Assistance* | | X | | | | X | Ambulatory (varies by county) | 2(1) | 6(1) | 2 | 10(2) | |
| | State and Local Hospitalization* | | | X | | | X | Hospital (varies by county) | 2(2) | 2(2) | 0 | 4(4) | |
| | State Teaching Hospitals | | | X | | X | | Hospital | 2(2) | 1(1) | 0 | 3(3) | 19 |

COLUMN: 1 2 3 4 5a 5b 5c 5d 6

| STATE | PROGRAM | SCOPE OF ELIGIBLES COMPARED TO ALASKA | | | FINANCING | | | BENEFITS | | | | | RANKING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Medicaid Services | | | | |
| | | MORE | EQUAL | LESS | LOCAL | STATE | BOTH | Type | Number of Basics | Number of Optionals | Number of Other Services | Total Services | |
| Missouri | General Relief-Medical | | | X | | X | | Similar to Medicaid | 5(2) | 4(1) | 2(1) | 11(4) | 20 |
| Minnesota | General Assistance -Medical Care | | | X | | | X | Basic coverage | 4 | 4 | 2(1) | 10(1) | 21 |
| Illinois | General Assistance -Medical | | | X | | | X | Basic coverage | 4(1) | 4(3) | 2(1) | 10(5) | |
| | Aid to the Medically Indigent | | | X | | X | | Basic coverage | 4(1) | 4(3) | 2(1) | 10(5) | 22 |
| Arkansas | Indigent Health Care | unavailable | | | | X | | Hospital & ambulatory | 5 | 2 | 0 | 7 | 23 |
| Colorado | Statewide Medically Indigent | | | X | | X | | Basic coverage | 5(1) | 2 | 0 | 7(1) | 24 |
| Utah | Indigent Medical Assistance* | | | X | | | X | Basic coverage | 3(1) | 2 | 1(1) | 6(2) | 25 |
| Vermont | General Assistance -Medical | | | X | | X | | Ambulatory (limited) | 1(1) | 3(3) | 2(1) | 6(5) | 26 |
| Ohio | General Relief-Medical | | | X | | | X | Hospital & physician | 3 | 2 | 0 | 5 | 27 |
| Indiana | Health Care For the Indigent† | | | X | X | | | Hospital (emergency only) | 3(3) | 1 | 1(1) | 5(4) | 28 |
| Louisiana | State Charity Hospital System | | | X | | X | | Hospital (at 9 Charity Hospitals) | 3(1) | 1 | 0 | 4(1) | |
| Oklahoma | Indigent Health Care* | | | X | | | X | Hospital | 3(1) | 1 | 0 | 4(1) | |
| Alabama | Health Care Responsibility Act† | | | X | X | | | Hospital | 3(1) | 1 | 0 | 4(1) | 29 |
| S. Carolina | Medically Indigent Assistance Fund | unavailable | | | X | | | Hospital | 3(1) | 1 | 0 | 4(1) | |
| New Mexico | Indigent Hospital Claims Act† | | X | | X | | | Inpatient hospital | 2(1) | 1(1) | 1 | 4(2) | 33 |

COLUMN: 1 2 3 4 5a 5b 5c 5d 6

| STATE | PROGRAM | SCOPE OF ELIGIBLES COMPARED TO ALASKA | | | FINANCING | | | BENEFITS | | | | | RANKING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Medicaid Services | | | | |
| | | MORE | EQUAL | LESS | LOCAL | STATE | BOTH | Type | Number of Basics | Number of Optionals | Number Of Other Services | Total Services | |
| Florida | Health Care Responsibility Act† | unavailable | | | X | | | Inpatient hospital | 2(1) | 1(1) | 0 | 3(2) | |
| Mississippi | State Hospital Commission | unavailable | | | | X | | Inpatient hospital | 2(1) | 1(1) | 0 | 3(2) | |
| Nevada | Supplemental Fund For Medical Assistance to the Indigent† | unavailable | | | X | | | Inpatient hospital | 2(1) | 1(1) | 0 | 3(2) | 34 |
| xxxx

| COLUMN: 1 | 2 | 3 | | | 4 | | | 5a | 5b | | 5c | 5d | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SCOPE OF ELIGIBLES COMPARED TO ALASKA | | | FINANCING | | | BENEFITS | | | | | |
| | | | | | | | | | Medicaid Services | | | | |
| STATE | PROGRAM | MORE | EQUAL | LESS | LOCAL | STATE | BOTH | Type | Number of Basics | Number of Optionals | Number of Other Services | Total Services | RANKING |
| Arizona | Arizona Health Care Cost Containment | | | X | | | X | Similar to Medicaid | unavailable | | | | |
| Iowa | State Papers | unavailable | | | | X | | Hospital services from the University of Iowa Hospital and clinics | | | | | |
| Maine | General Assistance -Medical | | X | | | | X | Medically necessary as determined by physician | | | | | |
| South Dakota | Catastrophic County Poor Relief Fund | unavailable | | | X | | | County catastrophic medical expenses (in excess of $20,000) | | | | | |



## TABLE KEY AND NOTES

### EXPLANATION

Column 1, STATE.

Column 2, PROGRAM, designates the state indigent care program.

* The symbol * in Column 2 indicates that the program is optional; that is, the local entity responsible for providing care to resident indigents has the option of participating. The inducement for cities, counties or municipalites to participate is usually some form of state assistance--administrative, financial or both.

† The symbol † in Column 2 indicates that the program or statute summarized deliniates county responsibilities for care.

Column 3, SCOPE OF ELIGIBLES COMPARED TO ALASKA, indicates the eligibility criteria of other state programs relative to Alaska's GR-M Program. More indicates those states with less restrictive eligibility requirements, such as allowing more assets and higher income, than GR-M's criteria. Equal indicates those states with eligibility criteria the same as or similar to GR-M's criteria. Less indicates those states with more restrictive eligibility requirements, such as allowing fewer assets and lower income, than GR-M's criteria.

Column 4, FINANCING, indicates which governmental entity funds the program: Local (county or town), State or Both (local and state). South Carolina's program is funded by assessments on counties and hospital revenues.

Columns 5a thru 5d, BENEFITS, summarize the type and quantity of services covered under the state indigent care program.

Column 5a, Type, provides a categorical description of benefits. The categories are listed here in ascending order; that is, the benefit coverage increases with each category, as explained below.

Varies by County indicates each county sets the benefit coverage; therefore, coverage varies within the state.

Physician indicates the program provides primary care physician services only.

Ambulatory indicates the program covers physician and other noninstitutional settings for primary care.

Inpatient hospital indicates the program provides inpatient hospital services only.

Hospital indicates the program covers inpatient and outpatient services, including emergency services, provided at the hospital.

Basic Coverage indicates the program covers most of the mandatory services under Medicaid. These services include: inpatient and outpatient hospital, physician, labs and x-rays, skilled nursing facility and home health, rural health clinic, family planning and EPSDT.

Similar to Medicaid indicates the state indigent care program covers virtually the same services as the state's Medicaid program. (See Appendix A for state benefits under Medicaid.) The difference is the indigent care program usually has more restrictive limitations, does not cover nursing home services or covers slightly fewer services.

Same as Medicaid indicates the state indigent care program benefits are identical to the state's Medicaid program. However, since each state's program is different, the benefits covered under this designation vary with the state.

Column 5b Medicaid Services shows the number of services provided by the state indigent care program. Under Medicaid, there are eight mandatory services (inpatient hospital, outpatient hospital, physician, labs and x-rays, skilled nursing facility and home health, rural health clinic, family planning and EPSDT). Number of Basics indicates the number of mandatory Medicaid services that the state indigent care program provides. Some states elect to expand their Medicaid program by covering additional services. These optional services consist of 32 categories. (See Appendix A for a listing of optional services in state Medicaid programs.) Number of Optionals indicates the number of elective services that the state indigent care program provides. (See Figure 1 in Appendix B for the program's profile of basic and optional services.) Partial services are included in the number of services and shown in parentheses as well.

Column 5c, Number of Other Services, indicates the number of services beyond Medicaid that the indigent care program provides. These other services consist of three categories: transportation, medical equipment and supplies, and kidney dialysis. (See Figure 1 in Appendix B for the program's profile of other services.) Partial services are included in the number of services and shown in parentheses as well.

Column 5d, Total Services, shows the number of basic, optional and other services provided by the state indigent care program. Partial services are counted in the total services and shown in parentheses as well.

Column 6, Ranking, lists the states by the number of benefits in the state indigent care program. The value in Column 5d was used to assign ranking. The state with the most benefits was listed first, the state with the next highest total follows, etc. (See Appendix B for a more detailed explanation of ranking.)

Table 2: Limited State Indigent Care Programs By State*

| STATE | PROGRAM | S P E C I F I C S |
|---|---|---|
| Alabama | Cancer Screening & Treatment for Indigents | Screening program (pap smears and breast exams) for indigent women in 53 of the state's 67 counties. Services to 15,000 - 20,000 annually. $375,000 funded for FY '85. |
| Arkansas | High-Risk Maternity Patients | Agreement with Regional Medical Center to reimburse maternity services to certain high-risk residents of a nine-county area in eastern Arkansas. Specific income standards. |
| Connecticut | Soldiers, Sailors, and Marines Fund | Provides short-term cash assistance and health care services to needy veterans. Interest from a $32 million fund provides operating expenses. Cash payments made to indigent veterans for 16 weeks, except in cases of illness or disability when benefits given from 26 to 28 weeks. Funding for clothing, shelter, health care and burial expenses. $3,100,000 funded for FY '84 of which $1 million provided health care for 100 to 200. |
| Florida | Primary Care Networks | Authorizes use of $10 million from the Public Assistance Medical Trust Fund to establish primary care programs for indigents through county public health units. RFPs issued to solicit contractors. Intended to provide services for indigents not receiving care. Free care provided to those under federal poverty level; those with incomes ranging from 100 to 200 percent of poverty level receive graduated discounts. Some programs operational by 1985. |
| | Regional Perinatal Intensive Care | Eligible participants must meet a low-income standard. Medicaid-eligible persons covered after Medicaid Funds exhausted. For those ineligible due to income, a "spend-down" of $250 for medical expenditures permitted. Services provided by contracted hospitals and physicians include prenatal care for women, inpatient hospital services for babies and annual screening for children. $25.9 million projected for FY '84. |

*This table lists only those programs that state health policymakers identified as alternatives or supplements to other indigent care programs. Thus, the list is illustrative rather than exhaustive.

| STATE | PROGRAM | S P E C I F I C S |
|---|---|---|
| Illinois | Pharmaceutical Assistance for Aged and Disabled | Tied to state's tax "circuit breaker" program that provides for low-income people who pay property taxes. Participants must be eligible under the "circuit breaker" program and meet age, income, need and property tax requirements. Eligibles pay an annual fee; no copayment required. Implemented summer 1985. |
| Kentucky | Quality Charity Care Trust | State, University of Louisville (UL), Jefferson County, City of Louisville and Humana reached a four-year agreement in 1983 whereby Humana leased the UL Hospital in return for providing charity care. Agreement creates the "Quality Charity Care Trust" to reimburse Humana for care; state provides 75 percent of funding, county 15 percent and the city 10 percent. Annual appropriations to trust increases by recent CPI or rate of increase in tax revenues. Humana must provide care for all indigents of Jefferson County and admit all emergency patients (definition of indigent excludes Medicare or Medicaid recipients). Hospital paid-for-care based on normal charges minus five percent. Agreement automatically renewable for nine subsequent four-year periods unless Humana opts out. |
| Maine | Medical Eye Care | Residents who meet income and medical criteria (significant eye disorder that may progress to blindness if left untreated and a visual acuity of 20/70 after correction in better eye) eligible. Coverage provides eye exams, medication, hospitalization, surgery, transport, laser therapy and eyeglasses. Provider reimbursement based on Medicaid fee schedules. Served 4,000 (75 percent over age 50) in FY '83 for $274,000. |
| | Pharmaceutical Assistance for Aged Persons | Copayment program to provide drugs used to treat heart conditions, high blood pressure and diabetes. Applicant must meet residency, age and income requirements. $2 copayment levied for each prescription filled. Served 23,000 in FY '81, FY '83; FY '83 expenditures $1,405,000. |

| STATE | PROGRAM | S P E C I F I C S |
|---|---|---|
| Maryland | Pharmacy Assistance | Copayment program to provide assistance in paying for prescriptions. Eligibles for Medicaid are not allowed to participate; other criteria include income and assets (by household size). $1 copayment levied for each prescription filled. FY '84 enrollment 11,000; expenditures $3,500,000. |
| Minnesota | University Hospital Papers | Intended to provide care for those ineligible for other programs. University of Minnesota Hospital (UMH) receives appropriation from legislature to provide care for indigents referred by county welfare departments. UMH authorized to spend $2 million annually. Eligibility criteria set by counties. Counties pay 40 percent of costs under $11,000 for eligibles and UMH picks up 60 percent. UMH pays all of charges in excess of $11,000. Some counties have strict eligibility criteria while others are more lenient. |
| Missouri | Blind Pension | Provides medical services to residents who meet age, vision, need for support and asset criteria. Services same as those provided categorically eligible Medicaid recipients; reimbursement follows Medicaid also. Served 1,300 in FY '84. FY '83 expenditures $504,000. |
| | High-Risk Maternity and Child Care | Income eligibility based on sliding scale adjusted for family size and cost of conditions treated. Services include: transportation for women and infants, care for high-risk pregnant women, care to infants for respiratory distress syndrome, and ultrasound screenings. Services covered by Medicaid not covered, but services not covered by Medicaid provided. A $40,000 reimbursal limit placed on services provided for premature infants. $3 million appropriated for FY '85; expect to serve 1,350. |
| | Sickle Cell Anemia | Provides screening for 18,000 and treatment for 30. $90,000 appropriated for FY '85. |

| STATE | PROGRAM | S P E C I F I C S |
|---|---|---|
| Missouri (Continued) | Cystic Fibrosis | Expects to serve 200 in FY '85 for $90,000. |
| | Tuberculosis | Expects to provide 50 inpatient days and 34,000 weeks of outpatient TB services for $245,000 in FY '85. |
| | State Chest Hospital | FY '85 funding $2,700,000. |
| | Ellis Fishel Cancer Hospital | FY '85 funding $3,390,000. |
| | Public Hospital Subsidy | Available to public hospitals; provides a subsidy (not specifically targeted for indigent care) of up to 10 percent of the difference between costs and revenue. FY '85 funding $250,000. |
| Nebraska | State Disability -Medical | Provides aid to needy persons who have a disability expected to last at least six months but less than the 12 required to qualify for Supplemental Security Income (SSI). Eligibility criteria same as SSI program and services provided same as those under the categorically needy component of Medicaid. Served 1,000 in FY '83 for $1 million. |
| New Jersey | Pharmaceutical Assistance for Aged and Disabled | Copayment program. Participants must meet income eligibility criteria. $2 copayment levied for each prescription filled. 271,000 served in FY '84 for $70 million. |
| New Mexico | Special Medical Need Program for The Seriously Ill | For individuals over age 65, blind or disabled and ineligible for Medicaid. Applicant must meet seriously ill and income criteria. Services provide same as those under Medicaid with exception of nursing facilities or intermediate care facilities which are not provided. Inpatient hospital coverage limited to five days per admission. Served 113 in FY '84 for $340,000. |

| STATE | PROGRAM | S P E C I F I C S |
|---|---|---|
| North Dakota | Remedial Blind | Provides services for persons suffering from eye conditions that may cause blindness but do not meet Medicaid definition of blindness. Serves six people a year; FY '85 budget $10,000. |
| Ohio | Adult Emergency Assistance | For persons meeting eligibility criteria and who have an emergent need. Service provided if delay in treatment results in a threat to or loss of life. In FY '82, $11.6 million spent before eligibility standards tightened. FY '83 expenditure was $1.2 million; FY '84 funding negligible. |
| Pennsylvania | Pharmaceutical Assistance for the Aged | Copayment program funded from state lottery proceeds. Residents must meet eligibility criteria for age and income and be ineligible for public assistance. Legend drugs, and insulin and supplies provided. $4 copayment levied for each prescription filled. Implemented July 1984. 310,000 participants served to date; $115,600,000 appropriated for FY '85. |
| South Carolina | Midlands Hospital Indigent Care Partnership | "A short-term solution so that hospitals can remain financially viable until a long-term solution is found." Partnership formed (in 1984) by four general acute-care hospitals in the Greater Columbia area in response to insufficient government funds for indigents. Partnership coordinates one fund and creates another. The first fund (a county-financed medically indigent fund) provides the hospitals payments at 80 percent charges to cover inpatient services delivered. A second fund, the Midlands Hospitals Indigent Care Partnership Fund, was created to cover additional indigent care costs. Hospitals agreed on an amount to be deposited, and each hospital's contribution was derived by multiplying its ratio of inpatient costs to total inpatient costs for the four hospitals with the partnership fund total. Before drawing from partnership fund, hospital must attain its "threshold" of charity care; total "threshold" amount equal to anticipated funding shortfall. |

| STATE | PROGRAM | S P E C I F I C S |
|---|---|---|
| South Carolina (Continued) | Sickle Cell Anemia | Adults with disease are eligible to participate if income does not exceed 200 percent of federal poverty level. Reimburses for clinic services and occasionally hospital services. $180,000 appropriated for FY '85. Served 186 as of June 1984. |
| South Dakota | Kidney Disease | Copayment program for persons with chronic kidney disease who require dialysis or transplant. Recipients must be eligible for Medicare's End-Stage Renal Dialysis program and meet eligibility criteria. Income eligibility criteria structured in disregards (i.e. two-person family may disregard $12,000 in computing program deductibles). Copayments must equal 20 percent of income above the disregard. Maximum expended on an individual is $5,000. Transplants excluded from program. $374,000 appropriate in FY '85; expected to serve 119 people. |
| Tennessee | Speech and Hearing | Provides hearing tests and aids to children under the age of 21. 4,252 served in 1983. |
| | Hemophilia | Provides blood supplies and treatment to hemophiliacs unable to afford care. Services include blood, blood products, hospitalization, and dental services. Limitations include $10,000 per year for antihemophiliac factor and seven days per year for inpatient hospitalization. 317 served for $447,000 in FY '84. |
| | Chronic Renal Disease | Assist persons suffering from chronic renal disease who are unable to pay for lifesaving care or treatment. Reimbursement provided to hospitals, dialysis clinics, physicians, laboratories and pharmacies. Eligibility criteria include annual income and assets. 1,100 served for $704,000 in FY '84. |
| Wisconsin | Chronic Renal Disease | Deductibles and copayments program for residents suffering from chronic renal disease and in need of dialysis or a transplant; covers pharmacy, physician, hospital and home dialysis supply costs. Reimbursement for Medicare and Medicaid covered services are at those program's respective rates. |

| STATE | PROGRAM | S P E C I F I C S |
|---|---|---|
| Wisconsin (Continued) | Hemophilia | Covers home blood products and supplies for hemophiliacs. Recipients must meet income and residency criteria and are liable for 0 to 15 percent of care. 101 served in FY '84 for $140,000. |
| | Needy Indians | Provides cash assistance and medical care for needy Native Americans who meet residency and income criteria. Program administration contracted to ten Indian tribes. FY '83 expenditures for medical care $1.8 million. |



# THE ANALYST'S CORNER

## Primary Care Case Management for Medicaid Clients: Michigan's Response

*Vernon K. Smith and Sally Hetrick*

In "The Analyst's Corner" in Volume VI, Issue 4, Bruce Spitz of the Health Policy Center at Brandeis University presented an overview of Michigan's Physician Primary Sponsor Plan (PPSP). In the PPSP program, Medicaid clients who select PPSP from among several options select a primary care physician. This physician is obligated to provide case management (the review, control, and coordination of the client's health care needs, including the approval of all referrals), guarantee a twenty-four hour a day point of access for medical care for the client, adhere to a number of client's rights (including second opinions), and operate within cost and utilization limits set by the state.

### A DIFFERENT PERSPECTIVE

Spitz described a study that compared the changes in cost and utilization of a control group and a matched population of "case-managed" PPSP enrollees from 1983 to 1984. Spitz stated that the study found substantial savings among recipients who had been classified as high users prior to their PPSP enrollment. He also said the study found that costs and utilization increased for previous nonusers and that only modest savings were experienced for those defined as medium users.

Spitz looked at the savings generated by the high users and concluded that states might want to consider a high-user-only program, thus capitalizing on the large amount of savings generated by a small percentage of the total Medicaid population. This approach would have the additional advantage of allowing states to set up a high-user program without going through the time-consuming waiver process.

In this article, we present a different perspective on the data from the same PPSP study. We first present an analysis of the data that show that PPSP has substantial benefits beyond the high-user population. Second, we describe what constitutes case management to counter Spitz's conclusion that Michigan does not clearly understand the case management process.

### THE EXTENT OF PPSP BENEFITS

As mentioned above, Spitz's article concluded that states should consider a program targeted at high users only since the study showed annual savings of $757 per capita compared with small savings for medium users. But a closer look at the data leads to the conclusion that PPSP has benefits for a wide spectrum of the PPSP population. First, for the entire AFDC population, costs and utilization showed significant reductions for the case-managed PPSP group. Net annual savings for the PPSP group relative to the control group were $108, yielding a "PPSP effect" of 13 percent.

Within the AFDC population, there are substantial differences among age groupings. For AFDC adults age 22 and over, the net savings were $463 per person per year. This represents a reduction in costs of 29 percent relative to the control group. This age group also had a higher proportion of high users. Over 21 percent of the adult AFDC eligibles were considered high users of physicians' services.

For AFDC recipients age 15-21, the net annual savings were $241 per person. This represents a reduction in costs of 27 percent relative to the control group. Of special note is that this age group did not have a substantial number of high users. The savings, which are substantial, were from those defined as medium users.

Equally interesting is the impact upon children age 14 and under. When they were enrolled with a physician sponsor, their cost and utilization rose. The net increase in costs (before adding in the case management fees and administrative costs) was $63 per child per year. This represents an increase in costs of 18 percent relative to the control group.

Finally, the analysis shows very little PPSP impact on the high-use disabled SSI population. For this group, there was a small increase in expenditures attributable to PPSP, which was primarily the result of case management fees and administrative costs. Evidently, a case management program has little effect upon cost and utilization of a population that is known to be disabled and in need of more medical care than one that is not disabled.

In contrast to a conclusion that PPSP is only worthwhile for high users, we conclude that PPSP increases the likelihood of children receiving medical care, decreases utilization and costs for AFDC adults, and has little or no impact upon the disabled population. The decrease in

costs in the AFDC adult population is a positive result of PPSP as is the increase in services provided to children. Presumably, case management results in more preventive care and early treatment for children. Increasing appropriate medical care was a goal of PPSP, in addition to reducing overuse by some adults. While PPSP had little cost effect for the disabled population, the disabled may still have benefited from case-managed services.

## DEFINING CASE MANAGEMENT

Another of Spitz's significant conclusions was that case management, the cornerstone of PPSP, cannot be operationally defined, and therefore its benefits cannot be fully understood or duplicated. Critics of the case management approach also contend that programs like PPSP rely on restricting access, not case management, to lower costs. This approach does not explain the variation between children and adults and between AFDC and SSI eligibles. Case management does more than restrict access; in fact, for some, particularly children, it appears to increase access.

Case management can be defined, although it is not a simple subject. The definition of case management is found in the Department of Social Services' contract with physician sponsors, which spells out the department's expectations of the sponsor, for example, twenty-four hour availability for care, authorization of nonemergency primary care, and rendering not less than 50 percent of primary care services. The contract also spells out the sponsor's expectations of the department, for example, enrollment lists, utilization reports for high users, and case management fee payments.

The case management expectations are also found in the bulletins that are issued periodically and that provide elaboration of the contract items. Case management is discussed to some degree in every issue of the *Sponsor News*, a publication created to keep physician sponsors informed about the program—one issue was devoted entirely to case management. The medical societies also contribute to the physician's knowledge of case management expectations through their publications.

To ensure that case management is properly applied, case management standards can be identified and verified by comparing actual with anticipated outcomes. For example, authorization of referrals is part of the program. Sponsors are instructed regarding how to make referrals, including what information referral physicians should provide the sponsor. Comparing the medical record to the claims-paid report can verify case management activity.

Similarly, health care standards can also be established and measured to verify that good case management takes place. Protocols for treatment of diseases such as high blood pressure, diabetes, and asthma lend themselves to the establishment of minimal treatment protocols. The management information system can be used to track ongoing treatment and can be augmented with periodic medical record reviews. Michigan is now doing an equivalency-of-care study using an experimental and a control group. After the results of this study are available, ongoing protocols will be developed.

An effective case management program is much more than a concept developed on paper. It is much more than a program to control utilization of the high users in the population. It must be more than a means to increase doctor fees. To ensure that case management is appropriately applied, contract compliance protocols can and should be used at two levels. First, cost effectiveness of the sponsor doctor can be measured through data from the computer system. Claim-detail experience will yield a cost per patient and can be adjusted for age, sex, and welfare category. This approach assures that in a comparison of peers, the physician's cost results will be adjusted for case mix and the attendant differences in cost expectations. For example, a general practitioner with a preponderance of elderly patients will have a very different cost profile than a general practitioner or pediatrician who deals mostly with children.

The second level of the use of contract compliance protocols requires a review of medical records and an interview with the physician. Case management as defined through the contract can be discerned through an examination of the medical records and a review of the physician's stated procedures through use of contract compliance protocols (using a claim detail to verify services rendered both by the physician sponsor and referral physicians).

It takes time to build these components into a PPSP program. In Michigan, it has taken several years. And case management is still evolving in Michigan. The state is looking at several program changes, intended to be enhancements, as a result of findings from both the PPSP monitoring project and the evaluation. In particular:

- Increased enrollment efforts with a special focus on enrolling high users in the separate recipient monitoring control program.
- Enhanced benefits for recipients as a way of sharing the savings with them. This is planned to be done through the elimination of most copayments for enrollees, an additional health care benefit for enrollees, and the establishment of a Medicaid telephone hotline for all eligibles.
- Establishment and use of precontract and contract renewal screening standards for providers.
- Investigation of a financial incentive factor for participating sponsors. This would provide a mechanism for physicians to be rewarded for cost-effective care for their patients.

The evolving concept of case management means different things depending on the recipient population and the provider of care. Michigan is developing one model for primary care medical case management for Medicaid recipients. Another state could develop a different model for the same population. However, certain components are necessary if the program is to control costs successfully while maintaining access and enhancing the doctor-patient relationship. We have identified and discussed some of the key elements while corroborating our belief that case management is a desirable goal for *all* connected with the Medicaid program—the patient, the provider, the taxpayer, and the state administration. ■

*Vernon K. Smith, Ph.D., and Sally D. Hetrick are with the Medical Services Administration of Michigan's Department of Social Services. Dr. Smith is Director of the Bureau of Program Policy while Ms. Hetrick is Project Director for the Physician Primary Sponsor Plan in the Bureau of Medical Operations.*

Providing Health Care Protection for One Hundred Million Americans

# PRESENTATION BEFORE THE COUNCIL OF STATE GOVERNMENTS WESTERN LEGISLATIVE CONFERENCE ANNUAL MEETING

SEPTEMBER 22, 1987
HONOLULU, HAWAII

**Blue Cross**
and
**Blue Shield**
Association

Office of Government Relations
1709 New York Avenue, N.W.
Washington, D.C. 20006
202/783-6222

I WANT TO THANK THIS COMMITTEE FOR THE OPPORTUNITY TO SPEAK THIS MORNING ON AN ISSUE OF GREAT CONCERN TO MANY.....MANDATED BENEFITS.

HOWEVER, BEFORE I BEGIN TO DISCUSS THE ISSUE OF MANDATES I FEEL THAT IT IS IMPORTANT TO FIRST SPEAK TO YOU BRIEFLY ON THE CHANGING ROLE OF HEALTH INSURANCE IN OUR SOCIETY.

HISTORICALLY, HEALTH INSURANCE HAS BEEN CENTERED ON WHO WAS PROVIDING THE SERVICES AND THE LOCATION OF THAT SERVICE, BASICALLY A "PROVIDER ORIENTED" APPROACH. IT USED TO BE IF YOU WENT TO A HOSPITAL ALL SERVICES WOULD BE PAID AND IF YOU RECEIVED SERVICES OUTSIDE THE HOSPITAL VERY LITTLE WAS PAID.

AS YOU KNOW, THAT SYSTEM OF HEALTH INSURANCE IS CHANGING. WE ARE NOW BECOMING MORE "PATIENT CENTERED". WE ARE TAKING A CUSTOMER AND FOLLOWING THAT INDIVIDUAL THROUGH THE HEALTH CARE SYSTEM. THIS IS TO ASSURE THAT THE CUSTOMER IS RECEIVING SERVICES THEY NEED AND ARE NOT CHARGED FOR SERVICES THEY DON'T NEED. IN SHORT, WE ARE PROTECTING OUR CUSTOMER IN A BEWILDERING SYSTEM - WE ARE HELPING THE CONSUMER.

THE "TRIPLE OPTION" APPROACH IS A PERFECT EXAMPLE OF THIS CHANGING SYSTEM.

IN THE PAST THERE WAS ONLY ONE PRODUCT AN EMPLOYER COULD PURCHASE. THIS WAS CALLED TRADITIONAL FEE FOR SERVICE HEALTH INSURANCE. NOW, AN EMPLOYER CAN OFFER EMPLOYEES 3 PROGRAMS TO CHOOSE FROM - THIS IS THE "TRIPLE OPTION".

AN EMPLOYEE CAN CHOOSE FROM AN: HMO, PPO AND MANAGED CARE.

BRIEFLY, AN HMO IS A CAPITATED SYSTEM WHERE EACH PROVIDER IS PAID A FLAT AMOUNT PER PATIENT ANNUALLY.

PPOS ARE FEE FOR SERVICE BUT THE PATIENT BASE IS DIRECTED TO A SELECT NUMBER OF PROVIDERS. THIS SYSTEM ALLOWS FOR DISCOUNTS IN PRICE AND UTILIZATION CONTROLS.

MANAGED CARE HAS THE TRADITIONAL FEE FOR SERVICE COMPONENT BUT ALSO PROVIDES FOR PROGRAMS SUCH AS: HOSPITAL PRE-ADMISSION CERTIFICATION AND SECOND SURGICAL OPINION. THIS MANAGES THE PATIENT CARE RECEIVED.

PART OF WHAT WE AT BLUE CROSS AND BLUE SHIELD ARE DOING IS MONITORING LEGISLATIVE ACTIVITY THAT WOULD POTENTIALLY IMPEDE THIS INNOVATIVE APPROACH TO PROVIDING HEALTH INSURANCE.

ONE ISSUE OF GREAT CONCERN IS MANDATED BENEFITS.

BRIEFLY STATED, MANDATES REQUIRE INSURERS TO INCLUDE CERTAIN SERVICES AS COVERED BENEFITS IN ALL POLICIES.

LET'S TAKE A TYPICAL STATE'S LIST OF MANDATES:

NURSE MIDWIVES
PSYCHOLOGISTS
DENTISTS
CHIROPRACTORS
ALCOHOLISM
DRUG ABUSE
MENTAL HEALTH
BREAST RECONSTRUCTION
HOME HEALTH
AMBULATORY SURGERY

....AND THERE ARE NINE MORE FOR THAT STATE ALONE.

I THINK YOU GET MY POINT THAT THERE ARE A LOT OF THEM.

THE CHART IN FRONT OF YOU WILL TELL YOU HOW MANY MANDATES ARE IN YOUR STATE. IF YOU DON'T HAVE THEM NOW IT IS LIKELY THAT YOU WILL SEE THEM.

WHEN A MANDATE IS INTRODUCED LEGISLATIVELY, SEVERAL INTEREST GROUPS VOICE CONCERNS.

EMPLOYERS ASK: AREN'T WE THE BUYERS? ISN'T IT THE BUYER'S RIGHT TO SAY WHAT BENEFITS WE ARE WILLING TO PAY FOR?

UNIONS ASK: ISN'T AN EXPANSION OF BENEFITS SOMETHING FOR THE BARGAINING TABLE? WHAT IF OUR MEMBERS WOULD RATHER HAVE AN EQUIVALENT PAY RAISE, OR SOME OTHER HEALTH BENEFIT, LIKE DENTAL?

INSURERS SHOW CONCERN: IS MANDATING NEW BENEFITS FOR EMPLOYERS COUNTER-PRODUCTIVE WHEN THEY ARE ASKING US TO DO WHAT WE CAN TO REDUCE THEIR EXPENSE? AND WHEN EVERYONE IS URGING US TO COMPETE MORE VIGOROUSLY?

STATE INSURANCE SUPERINTENDENTS CONCUR: BENEFIT DESIGN SHOULD BE BETWEEN THE PAYOR AND THE INSURER, WITH OUR OFFICES MAKING SURE THE BENEFIT IS PROPERLY RATED. HOW ELSE CAN REAL COMPETITION TAKE PLACE?

BUT, YOU AS STATE LEGISLATORS ASK: HOW CAN WE TURN OUR BACKS ON THE REAL WORLD OUT THERE.....PROVIDERS WHO ARE CONVINCED THEY CAN PROVIDE COMPARABLE CARE LESS EXPENSIVELY? WE HAVE BOTH THE RESPONSIBILITY AND RIGHT TO RESPOND TO SUCH POLITICAL PRESSURES.

IS THERE AN ANSWER? WILL THIS TUG OF WAR OVER MANDATES EVER END?

THESE QUESTIONS ARE DIFFICULT TO ANSWER FOR ALL CONCERNED. IN ORDER TO BETTER UNDERSTAND THE ISSUE I WILL FIRST GIVE YOU AN OVERVIEW OF THE TYPES OF MANDATES WHICH EXIST, SECOND, THE EVOLUTION OF MANDATES AND THIRD, SEVERAL OF THE ISSUES INVOLVED WITH MANDATES WHICH IMPACT THE HEALTH SYSTEM.

MANDATED COVERAGE LAWS FALL INTO FOUR CATEGORIES WHICH ARE ROUGHLY EQUIVALENT TO THE: WHO, WHAT, WHEN AND WHERE.

#1) MANDATED BENEFITS - "THE WHAT" - THESE MANDATES EXPAND THE KIND OF SERVICES COVERED SUCH AS ALCOHOLISM TREATMENT OR INVITRO FERTILIZATION.

#2) PROVIDER BENEFITS - "THE WHERE" - THESE MANDATES EXPAND THE NUMBERS AND TYPES OF PROVIDERS ELIGIBLE TO PERFORM AND BE REIMBURSED FOR THE COVERED SERVICES. BIRTHING CENTERS AND AMBULATORY SURGERY CENTERS ARE EXAMPLES.

#3) DEPENDANT BENEFITS - "THE WHO" - THESE MANDATES EXPAND THE NUMBER OF PEOPLE TO BE COVERED UNDER A CONTRACT SUCH AS NEWBORNS AND ADOPTED CHILDREN.

#4) CONTINUATION/CONVERSION BENEFITS - "THE WHEN" - THESE MANDATES EXPAND THE LENGTH OF TIME A PERSON IS COVERED. THESE REQUIRE THAT A WORKER MAY CONTINUE PARTICIPATING IN THE GROUP CONTRACT FOR A CERTAIN PERIOD AFTER EMPLOYMENT TERMINATION.

TOGETHER, THESE MANDATES CREATE A BALLOONING EFFECT. IN FRONT OF YOU ARE TWO CHARTS. AS I NOTED EARLIER, THE FIRST CHART LISTS THOSE MANDATES ENACTED BY EACH STATE AND THE YEAR OF PASSAGE. THE SECOND CHART INDICATES THE GROWTH OF MANDATES ENACTED BY 50 STATES EACH YEAR SINCE THE FIRST MANDATE PASSED IN MASSACHUSETTS IN 1956. THE TOTAL NUMBER OF MANDATES HAS CLIMBED FROM TWO PRIOR TO 1956 TO 645 AT THE END OF 1986.

AS YOU CAN SEE, THE CHART IS REMARKABLY SIMILAR TO THE TRADITIONAL PRODUCT LIFE CYCLE AS TAUGHT IN BASIC MARKETING COURSES. FIRST, THEY ARE INTRODUCED, SECOND THEY TAKE OFF INTO A RAPID GROWTH STAGE, THIRD, THEY MATURE AND LEVEL OFF AND FINALLY DECLINE. THIS TYPE OF CYCLE APPLIES TO EVERYTHING FROM HULA HOOPS TO COMPACT DISCS. UNFORTUNATELY, WHEN CUSTOMERS BECOME BORED WITH STATE MANDATES THEY CANNOT TOSS THEM BACK INTO THE CLOSET. AS YOU KNOW, MANDATES ARE LAWS AND IT IS VERY DIFFICULT TO REPEAL ANYTHING. ASK ANY LEGISLATOR WHO HAS TRIED TO ABOLISH EVEN A SMALL STATE BUREAU.

ALTHOUGH THE NUMBER OF MANDATES PASSED HAS SLOWED IT IS A CONTINUING TREND.

SEVERAL ISSUES EMERGE WHEN DISCUSSING THE ISSUE OF WHETHER OR NOT TO MANDATE COVERAGE.

FIRST, IS COST. THE ACTUAL INCREASE IN CLAIMS COST IS OFTEN THE SUBJECT OF DEBATE.

INSURERS AND EMPLOYER GROUPS MAINTAIN THAT THE COST OF MANDATES ~~KEEP~~ IS ESCALATING.

PROVIDERS AND ADVOCATES FOR CERTAIN DISEASE VICTIMS ARGUE THAT THE COSTS ARE NOT HIGH. THEY STATE THAT THE MONEY SPENT ON ONE SERVICE IS OFFSET BY EVENTUAL SAVINGS IN THE COST OF TRADITIONAL SERVICES.

HOWEVER, WHATEVER THE ACTUAL COST IN TERMS OF CLAIMS SUBMITTED THERE CAN BE LITTLE DOUBT THAT IF ONE EXPANDS THE SERVICES COVERED, AND THE NUMBER OF PEOPLE PROVIDING THE SERVICES, AND THE NUMBER OF PEOPLE RECEIVING THE SERVICES, AND THE LENGTH OF TIME IN WHICH THEY ARE ELIGIBLE TO RECEIVE THEM, THE EXPOSURE TO COST INCREASES MUST BE LARGE. AS STATED PREVIOUSLY, A BALLOONING EFFECT.

THE ARGUMENT THEN BECOMES A QUESTION OF WHETHER THE SOCIAL NEED JUSTIFIES THE POTENTIAL COST. AN INCREASING NUMBER OF LEGISLATORS ARE ASKING THAT QUESTION BY PASSING LEGISLATION WHICH ASSESSES THE SOCIAL AND ECONOMIC IMPACT OF MANDATED BENEFITS.

IN 1984, WASHINGTON BECAME THE FIRST STATE TO ORDER A STUDY OF THE COSTS AND BENEFITS OF MANDATED BENEFIT LAWS. OREGON AND ARIZONA FOLLOWED SUIT IN 1985 AND PENNSYLVANIA IN 1986. SO FAR THIS YEAR FIVE MORE STATES FLORIDA, HAWAII, LOUISIANA, MARYLAND, AND MONTANA HAVE UNDERTAKEN SIMILAR LEGISLATION.

THIS IS A GOOD APPROACH WHEN QUESTIONING THE EFFECTIVENESS OF MANDATED BENEFITS BECAUSE IT DOES NOT PREJUDGE THE MERITS OF ANY MANDATED BENEFIT PROPOSAL, BUT MERELY REQUESTS AN ASSESSMENT OF THE PROS AND CONS OF SUCH A PROPOSAL.

A SECOND MAJOR PROBLEM WITH MANDATES IS THAT IF AN EMPLOYER WANTS TO MAKE AN INSURANCE PACKAGE AVAILABLE TO ITS EMPLOYEES

THEY MUST INCLUDE ALL MANDATES AS PART OF THE PACKAGE. IN OTHERWORDS, IF YOU OFFER ANYTHING YOU HAVE TO OFFER IT ALL. THIS MAKES OFFERING INSURANCE UNAFFORDABLE TO MANY SMALL EMPLOYERS.

THIS LEADS TO THE THIRD MAJOR ISSUE WHICH HAS EMERGED IN THE AREA OF MANDATES...SELF FUNDED HEALTH INSURERS. SELF FUNDING IS LIKE RUNNING YOUR OWN INSURANCE COMPANY. THIS HAS OCCURRED BECAUSE UNDER ERISA, THE EMPLOYEE RETIREMENT INCOME SECURITY ACT OF 1974, PREEMPTS ANY STATE REGULATION OF SELF FUNDED PLANS. MANDATES DO NOT APPLY. FOR THIS REASON MANY LARGER EMPLOYERS ARE BECOMING SELF FUNDED. THEY CAN THEN AFFORD HEALTH INSURANCE FOR THEIR EMPLOYEES. SMALLER EMPLOYERS OF SAY 200 EMPLOYEES JUST CAN'T TAKE THE RISK.

AN ADDITIONAL POINT WITH RESPECT TO SELF FUNDING. ONCE AN EMPLOYER SELF FUNDS, THE STATE LOSES CONTROL OF THEM. THIS INCLUDES LOSS OF THEIR PARTICIPATION IN GUARANTY FUNDS, STATE RISK POOLS, CONFIDENTIALITY LAWS, PREMIUM TAXES, RESERVE REQUIREMENTS AND OTHER CONSUMER PROTECTION LAWS.

TODAY, APPROXIMATELY 40-50% OF THE GROUP BENEFIT MARKET IS SELF FUNDED AND IT CONTINUES TO GROW AS THE NUMBER OF MANDATES INCREASE.

MY FINAL POINT IS THAT SPECIAL INTEREST GROUPS COME TO LEGISLATORS TO DO FOR THEM WHAT BUSINESS AND LABOR HAS NOT DECIDED TO PURCHASE OR NEGOTIATE. TODAYS PURCHASERS HAVE

BECOME SOPHISTICATED BUYERS OF HEALTH INSURANCE. THEY ARE THE PEOPLE WHO SHOULD DETERMINE WHAT EMPLOYEE BENEFITS SHOULD LOOK LIKE.

INSURERS WILL DESIGN A BENEFIT PACKAGE TO MEET THE NEEDS OF AN EMPLOYER AND ARE CONTINUALLY ATTEMPTING TO FIND COST EFFECTIVE WAYS TO DELIVER SERVICES TO ITS CUSTOMERS.

THE PRESSURES THAT YOU AS LEGISLATORS FACE BACK HOME ARE TREMENDOUS ESPECIALLY WHEN YOU HEAR TESTIMONY FROM TRAUMATIZED INDIVIDUALS.

HOWEVER, KEEP IN MIND WHEN CONSIDERING A MANDATE THAT IT ONLY AFFECTS THOSE INDIVIDUALS WHO ARE INSURED. ROUGHLY 10% OF THE POPULATION IS COVERED UNDER PUBLIC PROGRAMS SUCH AS MEDICARE AND MEDICAID, 15% ARE UNINSURED AND ~~5%~~ 40% ARE SELF FUNDED. THE REMAINING ~~25%~~ 35% OF THE POPULATION IS INSURED. SO, ONLY THOSE ~~25%~~ 35% ARE ACTUALLY AFFECTED BY MANDATES.

AS A LEGISLATOR YOU ARE RESPONSIBLE FOR PURCHASING HEALTH CARE COVERAGE FOR THE STATE EMPLOYEE PROGRAM. WHEN YOU PUT ON YOUR APPROPRIATIONS HAT ASK YOURSELF IF A REQUIRED BENEFIT WILL SAVE THE STATE BUDGET MONEY OR COST THE STATE MONEY. THIS MAY BE A GOOD TEST WHEN CONSIDERING A MANDATE.

TO CONCLUDE, IF THE PURCHASERS AREN'T WILLING TO BUY THE SPECIAL ARGUMENTS OF SO-CALLED BETTER CARE AND LOWER COSTS, [redacted] SHOULD LEGISLATORS DO THEIR MARKETING FOR THEM BY MANDATING EVERYBODY BUY THEIR PRODUCT? [redacted]

THANK YOU.

Blue Cross
and
Blue Shield
Association

Brenda J. Larsen
State Services Representative

1709 New York Ave., N.W.
Washington, D.C. 20006
202/783-6222

# STATE MANDATED HEALTH CARE COVERAGE LAWS

## (ENACTED THROUGH JUNE, 1987)

PREPARED BY THE OFFICE OF
GOVERNMENT RELATIONS,
STATE SERVICES DEPARTMENT,
BLUE CROSS AND BLUE SHIELD
ASSOCIATION

CONTACT PERSONS:
GREG SCANDLEN
BRENDA LARSEN
AUGUST, 1987

## MANDATED COVERAGES

| | AL | AK | AZ | AR | CA | CO | CT | DE | FL | GA |
|---|---|---|---|---|---|---|---|---|---|---|
| ALL LICENSED HEALTH PROFESSIONALS | | | | 75 | | | | | | |
| NURSES | | | | | | 87 | | | | |
| NURSE MIDWIVES | | 83 | 85 | | | | 84 | | 83 | |
| NURSE PRACTITIONERS | | | 85 | | | | 84 | | | |
| NURSE ANESTHETISTS | | | 85 | | | | 84 | | | |
| PHYSICAL THERAPISTS | | 87 | | | | | 75 | | | |
| OCCUPATIONAL THERAPISTS | | 87 | | | 78 | | 82 | | | |
| SPEECH/HEARING THERAPISTS | | | | 85 | 78 | | | | | |
| PROFESSIONAL COUNSELORS | | | | | 80/81 | | | | | |
| PSYCHOLOGISTS | 82 | | 83/87 | 75 | 80 | 79 | 75 | | | 80 |
| PSYCHIATRIC NURSES | | | | | 82 | | 84 | | | |
| SOCIAL WORKER | | | | | 76 | | 79 | | | |
| DENTISTS | 75 | 83 | 77 | | 76 | | 75 | | | |
| ORAL SURGEONS | | | | | | | | | | |
| OPTOMETRISTS | 67 | 83 | | | 80 | | 75 | X* | 74 | |
| PODIATRISTS | 76 | | | 75 | 76 | | | X* | 74 | |
| CHIROPRACTORS | 75 | 83 | 83/87 | | 76 | | 71 | X* | 76/86 | 80 |
| OSTEOPATHS | | 83 | | | | | | | | |
| NATUROPATHS | | 87 | | | | | 75 | | | |
| ALCOHOLISM | 79 | | 79 | 87 | 78 | 76 | 74/77 | | 79 | |
| DRUG ABUSE | | | 79 | | | | 76 | | 79 | |
| MENTAL HEALTH | | | 79 | 83 | 73 | 76 | 75/82 | | 76/83 | 81/84 |
| BREAST RECONSTRUCTION | | | 81 | 78 | 78 | | | | | |
| MATERNITY | | | | 76 | 76 | 75 | 76 | | | 78 |
| PRESCRIPTION DRUGS | | | | | | | 75 | | | |
| ORTHOTIC AND/OR PROSTHETIC DEVICES | | | | | 85 | | | | | |
| CLEFT PALATE | | | | | | 87 | | | | |
| DIABETIC EDUCATION | | | | | 81 | | | | | |
| DIABETIC OUTPATIENT | | | | | | | | | | |
| SECOND OPINION | | | | | | | | | | |
| HOME HEALTH | | | 82 | | 78 | 84 | 75/76 | | | |
| HOSPICE | | | | | | 84 | 76 | | | |
| LONG TERM CARE | | | | | | | | | | |
| INVITRO FERTILIZATION | | | | 87 | | | | | | |
| AMBULATORY SURGERY | | | 71 | | | | | | 77 | |
| ANTI-ABORTION | | | | | | 85 | 82 | | | |
| PUBLIC INSTITUTIONS | | | | | | | | | | |
| AMBULANCE/TRANSPORT FOR NEWBORNS | | | | | | | | | | |
| PREVENTIVE CARE FOR CHILDREN/INFANTS | | | | | 74 | | | | 86 | |
| OTHER HEALTH CENTERS | | | | | | | | | | |
| DEPENDENT STUDENTS | | | | | | | 82 | | | 79 |
| ADOPTED CHILDREN | | | 85 | | | | | | 85 | |
| NEWBORNS | 75 | 75 | 74 | 75/83 | 71 | 75 | 74 | 74 | 80/84 | 74 |
| MENTALLY/PHYSICALLY HANDICAPPED | | | 77 | 69 | 71 | | 71 | | 70 | 72 |
| NON-CUSTODIAL CHILDREN | | | | | | | 84 | | | |
| CONVERSION PRIVILEGE | | | 85 | 79/85 | 83 | | 75 | | | |
| CONTINUATION FOR DEPENDENTS | | | 85 | 85 | 76 | | 75/76 | | | 80/81 |
| CONTINUATION FOR EMPLOYEES | | | | 85 | 77/84 | 86 | | | 75 | 86 |
| CATASTROPHIC COVERAGE | | | | | | | | | | |
| MANDATE EVALUATION | | | 85 | | | | | | 87 | |

X = Year unknown

* = Commercials only

**Bold Print** = Mandated offerings

08/87

## MANDATED COVERAGES

| | HI | ID | IL | IN | IA | KS | KY | LA | ME | MD |
|---|---|---|---|---|---|---|---|---|---|---|
| ALL LICENSED HEALTH PROFESSIONALS | | | 82 | | | | | | | 83 |
| NURSES | | | | | | | | | | |
| NURSE MIDWIVES | | | | | | | | 84 | | 78 |
| NURSE PRACTITIONERS | | | | | | | | | | 79 |
| NURSE ANESTHETISTS | | | | | | | | | | 84 |
| PHYSICAL THERAPISTS | | | | | | | | | | |
| OCCUPATIONAL THERAPISTS | | | | | | | | | | |
| SPEECH/HEARING THERAPISTS | | | | | | | | | | |
| PROFESSIONAL COUNSELORS | | | | | | | | | | |
| PSYCHOLOGISTS | 84 | | | 85 | | 74 | | 75 | 75 | 73 |
| PSYCHIATRIC NURSES | | | | | | | | | 83 | 83 |
| SOCIAL WORKER | | | | | | **82** | | | 83 | 77 |
| DENTISTS | 74 | | | 74 | | 73 | | 74 | 75 | |
| ORAL SURGEONS | | | | | | | | | | |
| OPTOMETRISTS | | | 80 | 74 | **83** | 73 | | | 82 | 73 |
| PODIATRISTS | | | 81 | 74 | | 73 | | | | 73 |
| CHIROPRACTORS | | | | 74 | 86 | 73 | **80/86** | 75 | 86 | 73 |
| OSTEOPATHS | | | | | | | | | | 73 |
| NATUROPATHS | | | | | | | | | | |
| ALCOHOLISM | | | | 76 | | 86 | **78** | **80** | **74** | 82 80 |
| DRUG ABUSE | | | | | | **78/86** | | **80** | 83 | 78 |
| MENTAL HEALTH | | | **74/77** | | | 78/86 | **86** | 75 | 79/83 | 73/86 |
| BREAST RECONSTRUCTION | | | 80 | | | | | | | |
| MATERNITY | 74 | | | | | | | | 75 | 75 |
| PRESCRIPTION DRUGS | | | | | | | | | 83 | |
| ORTHOTIC AND/OR PROSTHETIC DEVICES | | | | | | | | | | 78 |
| CLEFT PALATE | | 85 | | 85 | | | | | | 82 |
| DIABETIC EDUCATION | | | | | **84** | | | | | |
| DIABETIC OUTPATIENT | | | | | | | | | | |
| SECOND OPINION | | | | | | | | | | 85 |
| HOME HEALTH | | | | | | | **82** | | 77 | 79 |
| HOSPICE | | | | | | | | | | 82 |
| LONG TERM CARE | | | | | | | 86 | | | |
| INVITRO FERTILIZATION | 87 | | | | | | | | | 85 |
| AMBULATORY SURGERY | 74 | | | | | | 78 | | | |
| ANTI-ABORTION | | | | | | | 78 | | | |
| PUBLIC INSTITUTIONS | | | | | | | | | | 67 |
| AMBULANCE/TRANSPORT FOR NEWBORNS | | | | | | | | 80 | | |
| PREVENTIVE CARE FOR CHILDREN/INFANTS | | | | | | | | | | |
| OTHER HEALTH CENTERS | | | | 85 | | | | | 79 | 76 |
| DEPENDENT STUDENTS | | | | | | | | 78 | | 79 |
| ADOPTED CHILDREN | | | 81 | | | | | | | 79 |
| NEWBORNS | 74 | 74 | 75 | 76 | 74 | 74 | **76** | 73 | 76 | 77 |
| MENTALLY/PHYSICALLY HANDICAPPED | 68 | 72 | 67 | 69/86 | | | | 72 | | X |
| NON-CUSTODIAL CHILDREN | | | | | | | | | | |
| CONVERSION PRIVILEGE | | | 83 | | 86 | 78/80 | 74 | | 82 | 79 |
| CONTINUATION FOR DEPENDENTS | | | 76/85 | | 86 | 78/84 | 80 | | | 77 |
| CONTINUATION FOR EMPLOYEES | 74 | 75 | 84 | | 86 | 84 | 80 | 83 | 83/86 | 79 |
| CATASTROPHIC COVERAGE | | | | | | | | | | 78 |
| MANDATE EVALUATION | 87 | | | | | | | | | |

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08/87

## MANDATED COVERAGES

| | MA | MI | MN | MS | MO | MT | NE | NV | NH | NJ |
|---|---|---|---|---|---|---|---|---|---|---|
| ALL LICENSED HEALTH PROFESSIONALS | | | | | | | | | | |
| NURSES | | | | | | | | 85 | | 84 |
| NURSE MIDWIVES | | | 83 | 80 | | 87 | 84 | | | 82 |
| NURSE PRACTITIONERS | | | | 80 | | 87 | | | 85 | |
| NURSE ANESTHETISTS | | | 83 | 80 | | | | | | |
| PHYSICAL THERAPISTS | | | | | | | | | | 75 |
| OCCUPATIONAL THERAPISTS | | | | | | | | | | |
| SPEECH/HEARING THERAPISTS | | | | | 84 | | | | | |
| PROFESSIONAL COUNSELORS | | | | | | 85/87 | | | 83 | |
| PSYCHOLOGISTS | 75 | 68* | 75 | 74 | 83 | 81 | 74 | 80 | 75 | 73 |
| PSYCHIATRIC NURSES | 86 | | | | | | | | | |
| SOCIAL WORKER | 82 | | | | | 85 | | | 83 | |
| DENTISTS | 75 | | 73 | 74 | 78 | 83 | 75 | 75 | | 79 |
| ORAL SURGEONS | | 85 | | | | | | | 75 | |
| OPTOMETRISTS | | | 73 | 66 | 78 | | 69 | 75 | | 67 |
| PODIATRISTS | | | 73 | | 78 | | 69 | 75 | | |
| CHIROPRACTORS | | 79 | 73 | 80 | 78 | | 67 | 82 | | 80 |
| OSTEOPATHS | | | | | | | 67 | 75 | | |
| NATUROPATHS | | | | | | | | | | |
| ALCOHOLISM | 73 | 74/82 | 73/82 | 74 | 77/85 | 79 | 80 | 83 | | 77 |
| DRUG ABUSE | | 74/82 | 73/82 | | 80 | 81 | | 83 | | |
| MENTAL HEALTH | 73/82 | | 75 | | 80 | 81 | | | 75/83 | |
| BREAST RECONSTRUCTION | | 85 | 80 | | | | | 83 | | 83 |
| MATERNITY | | | 73 | | 73 | | | 77 | | |
| PRESCRIPTION DRUGS | | | | | | | | | | |
| ORTHOTIC AND/OR PROSTHETIC DEVICES | | 85 | | | | | | | | |
| CLEFT PALATE | | | | | | | | | | |
| DIABETIC EDUCATION | | | | | | | | | | |
| DIABETIC OUTPATIENT | | | | | | | | | | |
| SECOND OPINION | | | | | | | | | | 80 |
| HOME HEALTH | 86 | | | | | 81 | | 75 | | |
| HOSPICE | | 84 | | | | | | 83 | | |
| LONG TERM CARE | | | | | | | | | | |
| INVITRO FERTILIZATION | | | | | | | | | | |
| AMBULATORY SURGERY | | 84/85 | 76 | | 75/81 | | | | | |
| ANTI-ABORTION | | | | | 83 | | | | | |
| PUBLIC INSTITUTIONS | | | 73 | | | 73 | 84 | | | |
| AMBULANCE/TRANSPORT FOR NEWBORNS | | | | 79 | | | | | | |
| PREVENTIVE CARE FOR CHILDREN/INFANTS | | | | | | | | | | |
| OTHER HEALTH CENTERS | | | | | | | | | | |
| DEPENDENT STUDENTS | | | | | | | 76 | | | |
| ADOPTED CHILDREN | 75 | | 83 | | | | | | | |
| NEWBORNS | 74 | | 73 | 74 | 74 | 73 | 75 | 76 | 75 | 75 |
| MENTALLY/PHYSICALLY HANDICAPPED | 56 | 66 | 69 | 72 | | 71 | | 76 | 69 | 66 |
| NON-CUSTODIAL CHILDREN | | | | | | | | | | |
| CONVERSION PRIVILEGE | 76 | | 77 | | 81 | 81 | 78 | 80 | | |
| CONTINUATION FOR DEPENDENTS | | | 73/77 | | 69 | | 80 | 80 | 81 | 76/80 |
| CONTINUATION FOR EMPLOYEES | | | 73 | | 85 | 81 | 79 | | | 82 |
| CATASTROPHIC COVERAGE | | | 76 | | | | | | | |
| MANDATE EVALUATION | | | | | | | 86 | | | |

X = Year unknown

* = Commercials only

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08/87

## MANDATED COVERAGES

| | NH | NY | NC | ND | OH | OK | OR | PA | RI | SC |
|---|---|---|---|---|---|---|---|---|---|---|
| ALL LICENSED HEALTH PROFESSIONALS | | | | | | | | | | |
| NURSES | | **84** | | | | | | 86 | | |
| NURSE MIDWIVES | 85 | 82 | | | 84 | 71 | | 82 | | |
| NURSE PRACTITIONERS | | | | 84 | | | 80 | 86 | | |
| NURSE ANESTHETISTS | | | | | | | | 86 | | |
| PHYSICAL THERAPISTS | | 73 | | | | | | | | |
| OCCUPATIONAL THERAPISTS | | | | | | | | | | |
| SPEECH/HEARING THERAPISTS | | | | | | | | | | |
| PROFESSIONAL COUNSELORS | | | | | | | | | | |
| PSYCHOLOGISTS | 77 | 71 | 77 | 87 | 74 | 71 | 76 | 78 | | |
| PSYCHIATRIC NURSES | | | | | | | | | | |
| SOCIAL WORKER | | 85 | | | | | | | | |
| DENTISTS | 77 | 75 | | | 73 | 71 | 71 | | | |
| ORAL SURGEONS | | | | | | | | | | |
| OPTOMETRISTS | 77 | X | | | 80 | 71 | 76 | 78 | | 85 |
| PODIATRISTS | 77 | X | | | 80 | 71 | | | | 72 |
| CHIROPRACTORS | 84 | X | 73 | 79 | 80 | 71 | | **81** | 87 | **80** |
| OSTEOPATHS | 77 | | | | 80 | | | | | |
| NATUROPATHS | | | | | | | | | | |
| ALCOHOLISM | **83** | 82/83 | **84** | 75/87 | 78 | | 75/81 | 86 | 80 | |
| DRUG ABUSE | | | **84** | 75/87 | | | | | 87 | |
| MENTAL HEALTH | | 77 | | 75/87 | 83 | | 73 | | | |
| BREAST RECONSTRUCTION | | 75 | | | | | | | | |
| MATERNITY | | 76 | | | 79 | | 73 | | | |
| PRESCRIPTION DRUGS | | | | | | | | | | |
| ORTHOTIC AND/OR PROSTHETIC DEVICES | | | | | | | | | | |
| CLEFT PALATE | | | 82 | | | | | | | |
| DIABETIC EDUCATION | | | | | | | | | | |
| DIABETIC OUTPATIENT | | | | | | | | | | |
| SECOND OPINION | | 76 | | | | | | | 83* | |
| HOME HEALTH | 77 | 72/75 | | | | | | | 84* | |
| HOSPICE | | **85** | | | | | | | | |
| LONG TERM CARE | | | | | | | | | | |
| INVITRO FERTILIZATION | | | | | | | | | | |
| AMBULATORY SURGERY | | **X** | | | | 76 | | | | |
| ANTI-ABORTION | | | | 79 | | | | 82 | | |
| PUBLIC INSTITUTIONS | | | 75 | | 76 | | | | | |
| AMBULANCE/TRANSPORT FOR NEWBORNS | 75 | | | | | | | | | |
| PREVENTIVE CARE FOR CHILDREN/INFANTS | | 82 | | | | | | | | |
| OTHER HEALTH CENTERS | | **X** | | | | | | | | |
| DEPENDENT STUDENTS | | | | | | | | | | |
| ADOPTED CHILDREN | | | | | | | | | | |
| NEWBORNS | 75 | 77 | 73 | 79 | 74 | **84** | 75 | 76 | | 74 |
| MENTALLY/PHYSICALLY HANDICAPPED | 69 | 65 | 69/73 | **82** | 71 | | | 68 | | 70 |
| NON-CUSTODIAL CHILDREN | | | | | | | | | | |
| CONVERSION PRIVILEGE | 83 | 71/81 | 82 | 83 | 75/84 | | 77 | | 78 | 78 |
| CONTINUATION FOR DEPENDENTS | 83 | 81 | 83 | 87 | | | | | 83 | 78 |
| CONTINUATION FOR EMPLOYEES | | | | 80 | | | | | | |
| CATASTROPHIC COVERAGE | | | | | | | | | 74 | |
| MANDATE EVALUATION | | | | | | | 85 | 86 | | |

X = Year unknown

* = Commercials only

**Bold Print** = Mandated offerings

08/87

## MANDATED COVERAGES

| | SD | TN | TX | UT | VT | VA | WA | WV | WI | WY |
|---|---|---|---|---|---|---|---|---|---|---|
| ALL LICENSED HEALTH PROFESSIONALS | 80 | | | | | | | | | 71 |
| NURSES | | | | | | | 81 | | | |
| NURSE MIDWIVES | 80 | | | 79 | | | 81 | 83 | | |
| NURSE PRACTITIONERS | 80 | | | | | | 81 | | | |
| NURSE ANESTHETISTS | | | | | | | | | | |
| PHYSICAL THERAPISTS | | | | | | 87 | | | | |
| OCCUPATIONAL THERAPISTS | | | | | | | | | | |
| SPEECH/HEARING THERAPISTS | | | 83 | | | | | | | |
| PROFESSIONAL COUNSELORS | | | | | | 87 | | | | |
| PSYCHOLOGISTS | 86 | 74 | 77 | 75 | | 77 | | | | 85 |
| PSYCHIATRIC NURSES | | | | | | | | 77 | | |
| SOCIAL WORKER | | **85** | 87 | 75 | | **79/87** | | | | |
| DENTISTS | | 74 | 83 | | | | | | 75 | |
| ORAL SURGEONS | | | | | | | | | | |
| OPTOMETRISTS | | 65 | 79 | 75 | | 77 | | | 75 | |
| PODIATRISTS | | 65 | 77 | 75 | | 79 | 83 | | 75 | |
| CHIROPRACTORS | | 81 | 79 | 75 | | 79* | **83** | | **76** | |
| OSTEOPATHS | | | **58** | | | 77 | | | | 71 |
| NATUROPATHS | | | | | | | | | | |
| ALCOHOLISM | 79 | **79** | 81 | 81 | 82/85 | 77/80 | 74/87 | 82 | 74/85 | |
| DRUG ABUSE | | | 81 | | | 77/80 | | | 74/85 | |
| MENTAL HEALTH | | **79/80** | 81 | | 76 | 76/77 | 83 | 77* | 74/86 | |
| BREAST RECONSTRUCTION | | | | | | | 83/85 | | | |
| MATERNITY | | 84 | 77 | | | 78 | | | 82 | |
| PRESCRIPTION DRUGS | | | | | | | | | | |
| ORTHOTIC AND/OR PROSTHETIC DEVICES | | | | | | | | | | |
| CLEFT PALATE | | | | | | | | | | |
| DIABETIC EDUCATION | | | | | | | | | 84 | |
| DIABETIC OUTPATIENT | | | | 84 | | | | | 82 | |
| SECOND OPINION | | | | | | | | | | |
| HOME HEALTH | | | **87** | | 76 | | **83** | | 78 | |
| HOSPICE | | | | | | | **83** | | | |
| LONG TERM CARE | | | | | | | | 86 | | |
| INVITRO FERTILIZATION | | | **87** | | | | | | | |
| AMBULATORY SURGERY | | | | 76 | | | | | | |
| ANTI-ABORTION | | | | | | | | | | |
| PUBLIC INSTITUTIONS | | | | | | | | | 80 | 75 |
| AMBULANCE/TRANSPORT FOR NEWBORNS | | | | | | | | | | |
| PREVENTIVE CARE FOR CHILDREN/INFANTS | | | | | | | | | | |
| OTHER HEALTH CENTERS | | | 83 | | | | | | 75 | |
| DEPENDENT STUDENTS | | | | | | | | | | |
| ADOPTED CHILDREN | 83 | | | 85 | | | | | | |
| NEWBORNS | 76 | 74 | 73 | 77 | 76 | 76 | 74/84 | 75 | 76 | 75 |
| MENTALLY/PHYSICALLY HANDICAPPED | | 69 | 81 | 75 | | 74 | 69 | | 75 | 71 |
| NON-CUSTODIAL CHILDREN | | | | | | | | | | |
| CONVERSION PRIVILEGE | 79 | 80 | 77 | 79 | | 82 | 84 | | 80 | 83 |
| CONTINUATION FOR DEPENDENTS | 80 | 86 | 79 | | 84 | | 80 | 83 | 80 | |
| CONTINUATION FOR EMPLOYEES | | | | | | | 73 | 82 | 73/80 | |
| CATASTROPHIC COVERAGE | | | | | | | | | | |
| MANDATE EVALUATION | | | | | | | 84 | | | |

X = Year unknown

* = Commercials only

**Bold Print** = Mandated offerings

08/87

## MANDATED COVERAGES

### Miscellaneous

AZ - Maternity benefits for natural mother of an adopted child on adopted parents policy (86)

CA - Sterilization (70); Prenatal Care (76,79); Acupuncture (84); Psychiatric Health Facility (84)

CT - Notice of Termination (82); most passed under comprehensive health care act of 1975; HMO Rehabilitation Facilities (82); Emergency Ambulance Services (83); Home Health Aides; (84) Home Health Aides under Medicare supplement policies (86)

CO - Anti abortion mandate for state group only (85)

HI - Prepaid Health Care Plans (74)

ID - Complications of Pregnancy (76)

IL - Raped or Sexual Assault (75,82); Psychologists Mandated Through Regulation (76); Liver Transplants (84);

KY - Newborn Nursery Care (80); Nursing Home (86)

LA - Non-group to age 65 (74)

MA - Cardiac rehabilitation (86)

MD - Partial Psychiatric Hospitalization (76); Blood Products (75); Orthopedic Braces (78); OP benefits resulting from UR programs (85)

MI - Non-group Medicare Complimentary Coverage (85); Mental Hospitals (83)

MS - Pre-existing Conditions (82)

MO - Pharmacists (78)

MT - Denturists (85)

NV - Chinese Medicine (75)

NJ - Diagnostic X-rays by Chiropractors (76)

NY - Pre-admission Testing (76); Ambulance Cancer Treatment (82); Nursing Home Option (X)

ND - Continued Coverage after HMO Selections (83)

NH - Practitioner Mandates of 1977 do not apply to Plan; Lay Midwives (85)

OH - OP Dialysis (72)

OR - Denturists (80)

TN - School Psychologists (82)

TX - OP Psychiatric Centers (83); Dietician (87)

VA - Opticians (77); Termination Notice (82); Mandated Benefit Option (82)

WA - Removal of a rider (87)

WI - Tuberculosis; Skilled Nursing Homes (75); Kidney Disease (74) Insulin Infusion Pumps (81)

ALASKA HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

TO: Lisa DATE: 10/12

FROM: Mary Jennings

We didn't do overlays of prenatal service to Ak. area populations because: (1) community populations don't correspond to the area pop. actually served by a provider; (we also couldn't get females of child bearing by community – only by census area); (2) Census Areas don't really work because a provider's work area doesn't really correspond to the census areas. I feel the issue of prenatal care delivery in Alaska can be researched from another angle but I'm not sure ~~dire~~ which direction you would like to take. Please contact me if you would like to discuss this.

MJ

Pouch Y, State Capitol
Juneau, Alaska 99811
(907) 465-3991

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
**RESEARCH AGENCY**

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

October 12, 1987

MEMORANDUM

TO: Representatives Niilo Koponen and Johnny Ellis

ATTN: Lisa McLaren

FROM: Mary Jennings
Legislative Analyst

RE: **Location of Prenatal Care Providers in Alaska**
Research Request 88.032

You requested that we determine the number of prenatal care providers in Alaska by community and by provider type (i.e., private practice, State of Alaska public health nurse, U.S. Public Health Service, military and lay midwife).[1] Additionally, you requested information concerning the patient eligibility requirements applicable to the State public health nurse service and the U.S. Public Health Service.

## Private Practice

There are approximately 129 private physicians providing prenatal care throughout Alaska. The physicians specialize in either obstetrics/gynecology or family practice medicine. In addition to the physicians, there are 10 certified nurse midwifes. These prenatal care providers are associated with the 17 hospitals located in the state.[2]

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[1]After discussions with various health professionals, it was decided that a prenatal care provider is best defined as a physician, certified nurse midwife, or lay midwife who is the primary care provider of a pregnant woman and has delivery privileges at a hospital or birthing center. Although State health nurses are not primary care providers, these data are significant because for those rural women who are unable to regularly visit a physician, the public health nurse, with urban physician oversight, is the provider of prenatal care.

[2]Of the 20 hospitals in the state, 17 provide primary health care services and three are psychiatric facilities.

## Public Health Nurses

Public health nurses are employed by the State of Alaska Department of Health and Social Services (DHSS) to provide professional nursing services in urban health centers and rural communities. There are 68 public health nurses in the state.[3] Public Health Nurses are employed at health centers and also serve on an itinerant basis. Itinerant nurses are based in one community but do the majority of their work in outlying rural areas. In addition to providing education and counseling considered essential to ongoing prenatal care, public health nurses may provide pregnancy testing and initial screening for referral to primary care. Anyone may visit a public health nurse. Persons with financial resources may volunteer payment for services rendered.

According to DHSS, all communities in Alaska are provided with some level of health service, including prenatal care. The department states that remote rural areas, to which transportation is costly, receive the lowest level of health care service. Some communities may receive only a few visits per year from an itinerant nurse. The department specifically mentioned the Prince of Wales area as receiving minimal service. Although a public health nurse is employed at the Craig Health Center, the surrounding communities are served by only one itinerant nurse. The Prince of Wales-Outer Ketchikan area has a population of over 5,000 people.

## U.S. Public Health Service

The U.S. Public Health Service provides health care to Native persons in Alaska. The Health Service has a large medical center in Anchorage and nine smaller facilities throughout the state.[4] To obtain health care, persons must have identification showing that they are registered as Native Americans with the Bureau of Indian Affairs. A non-Native spouse of a

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[3]Ten nurses serve on a contract basis with DHSS. These contractors are based in Kotzebue, Barrow, Nome and Anchorage.

[4]Aside from the medical facility in Anchorage, the U.S. Public Health Service has clinics in Barrow, Dillingham, Fairbanks, Juneau, Ketchikan, Kotzebue, Metlakatla (Annette Island), Sitka and Bethel.

Native may receive prenatal care. (Health care to the mother is curtailed after the birth of the baby.) Fifty-three physicians and 13 certified nurse midwives employed by the U.S. Public Health Service provide prenatal care. Physicians or nurse midwives visit all villages at least twice a year to provide health services.

Each village has a health aid employed by the U.S. Public Health Service. The health aid is a lay person who has received several weeks of medical training with emphasis on prenatal care. The health aid acts as a liaison between the urban physician and the pregnant women of his or her village. According to Jackie Greenman, Director of the U.S. Public Health Service prenatal care program, this system of care delivery provides adequate service. Ms. Greenman stated that many village women see a physician only once during their pregnancy. She felt that if additional funding existing for transportation, women would be encouraged to visit a primary care provider during their first and third trimesters of pregnancy.

## Military

The United States Military has five facilities in the state that provide military employees and their dependents with prenatal care. A total of 20 physicians provide this service.

## Lay Midwives

There are 11 lay midwives registered with the Alaska Lay Midwife Association. All 11 midwives have private practices and are located in urban areas in the state. Registration with the Association is voluntary. According to Sherry Holly, director of the Association, there are several more practicing midwives in the state, but it would be difficult to estimate their numbers--especially those in rural areas.

## Location of Providers

Table 1 provides a list of Alaska communities and the location and type of prenatal care providers. The table indicates that there are 37 communities in which one or more prenatal care providers are based. (There are 295 communities/villages in the state.) The table does not provide an accurate indication of the level of prenatal care service received throughout the state. Some service is provided to all areas because, as mentioned

earlier, many of the public health nurses are based in urban areas but actually work in rural areas. Also, U.S. Public Health Service prenatal care providers visit all villages.[5]

Discussions with the Department of Health and Social Services and the U.S. Public Health Service indicated that there are areas in the state that receive relatively low levels of prenatal care service. The majority of officials agreed that many rural areas could be better served by additional funding that would allow more frequent visits by primary care providers and/or more visits by rural women to urban areas.

I hope you find this information useful. Please contact me if you have any questions.

Attachment

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[5]Public health nurses and the U.S. Public Health Service coordinate services when possible. For example, if a public health nurse is going to a rural community where there are pregnant women under Public Health Service care, the nurse will consult with the village health aid as to the health of these women.

TABLE 1
PRENATAL CARE PROVIDERS BY COMMUNITY

| COMMUNITY | | PRIVATE PRACTICE | | PUBLIC HEALTH NURSE | U.S. PUBLIC HEALTH SERVICE | | MILITARY | | LAY MIDWIFE |
|---|---|---|---|---|---|---|---|---|---|
| | TOTAL | Physician | Nurse | | Physician | Nurse | Physician | Nurse | |
| Adak | 2 | | | | | | 2 | 0 | |
| Aleution Chain | 1 | | | 1 | | | | | |
| Anchorage | 94 | 60 | 4 | 2 | 6 | 7 | 8 | | 7 |
| Annette Island | 2 | | | | 1 | 1 | | | |
| Barrow | 7 | | | 3 | 4 | 0 | | | |
| Bethel | 24 | | | 10 | 13 | 1 | | | |
| Bristol Bay | 5 | | | | 4 | 1 | | | |
| Cordova | 3 | 3 | 0 | | | | | | |
| Craig | 1 | | | 1 | | | | | |
| Dillingham | 1 | | | 1 | | | | | |
| Fairbanks | 38 | 13 | 0 | 10 | 4 | 1 | 8 | 0 | 2 |
| Fort Greely | 2 | | | | | | 2 | 0 | |
| Fort Yukon | 1 | | | 1 | | | | | |
| Galena | 1 | | | 1 | | | | | |
| Glenallen | 3 | 2 | 0 | 1 | | | | | |
| Haines | 1 | | | 1 | | | | | |
| Homer | 8 | 4 | 2 | 2 | | | | | |
| Juneau | 18 | 8 | | 5 | 4 | 0 | | | 1 |
| Kenai | 2 | | | 2 | | | | | |
| Ketchikan | 16 | 5 | 1 | 5 | 4 | 1 | | | |
| Kodiak | 9 | 6 | 0 | 2 | | | | | 1 |
| Kotzebue | 6 | | | 2 | 4 | 0 | | | |
| McGrath | 1 | | | 1 | | | | | |
| Naknek | 1 | | | 1 | | | | | |
| Nome | 10 | 6 | 0 | 4 | | | | | |
| Palmer | 5 | 3 | | 2 | | | | | |
| Petersberg | 3 | 2 | 0 | 1 | | | | | |
| Prince of Wales | 1 | | | 1 | | | | | |
| Seward | 5 | 3 | 1 | 1 | | | | | |
| Sitka | 15 | 3 | 0 | 2 | 9 | 1 | | | |
| Soldotna | 8 | 6 | 2 | | | | | | |
| Tanana Valley | 1 | | | 1 | | | | | |
| Valdez | 3 | 3 | 0 | | | | | | |
| Valdez-Cordova | 1 | | | 1 | | | | | |
| Wasilla | 2 | | | 2 | | | | | |
| Wrangell | 3 | 2 | 0 | 1 | | | | | |
| TOTAL | 304 | 129 | 10 | 68 | 53 | 13 | 20 | | 11 |

Prepared by the House Research Agency, October 1987 (88.032; 080387-03).

# POLICY STATEMENT

## THE ROLE OF THE PUBLIC HEALTH NURSE IN PRENATAL CARE

Public health nurses provide professional nursing services in urban health centers, rural communities and remote villages Statewide. Many public health nurses work in isolated areas of the State that have limited medical resources. Pregnant women in these areas may not have ready access to "a primary care provider."[1] In medically underserved areas, the public health nurse is often the only accessible licensed health care provider. In these areas, the degree and variety of public health nursing services provided may vary in relation to medical resources.

In urban areas, in addition to providing education and counseling considered essential to ongoing prenatal care, the public health nurse may provide pregnancy testing and initial screening, and referral to a primary care provider.

In medically underserved areas, the public health nurse may initiate prenatal monitoring. Copies of the client's Prenatal History (06-1371) and Prenatal Flow Record (06-1372) shall be provided to the client's primary care provider. Upon receipt of the client's Prenatal Flow Record (06-1372), on which the primary care provider has identified risk factor, problems and plans, the public health nurse may continue to provide services to the client on an ongoing basis. In addition to education and counseling, these services may include gathering and monitoring selective prenatal data and evaluating the normalcy of the data through the process of guided assessment. The record of each client encounter is forwarded to the primary care physician following each visit.

In situations where the client makes no contact with a primary care provider, and/or the public health nurse receives no response to the record of her assessment, the public health nurse may continue to provide education and counseling.

[1]A primary care provider (attending physician or certified nurse midwife) is one who is trained and licensed to provide the medical management of pregnant women, and is held legally responsible for the consequences of their medical care and accountable for the outcome of the patient and her pregnancy.

Approved by:

Elizabeth Ward, M.N.
Director
Division of Public Health

March 13, 1987
Date

STATE of Alaska, Division of Public Health.

| PUBLIC HEALTH NURSES | PCN | TELEPHONE | LOCATION |
|---|---|---|---|
| Abel, Betty | 1502 | 543-2110 | Bethel Itinerant, Dist V |
| Andrew, Jo | 1115 | 543-2110 | Bethel Itinerant, Dist II |
| Bayer, Nancy | 1489 | 452-1593 | Fairbanks Itinerant |
| Berger, Jeanne | 1323 | 276-5363 | Anchorage Itinerant |
| Blaschka, Rae Jean | 1102 | 486-3319 | Kodiak Itinerant |
| Bliesath, Lissa | 1147 | 662-2460 | Fort Yukon Itinerant |
| Brunner, Joanne | 1545 | 452-6406 | Fairbanks Home Health |
| Cameron, Linda | 1103 | 543-2456 | Bethel Health Center |
| Campbell, Marjorie | 1259 | 376-2437 | Wasilla Health Center |
| Chamberlin, Mary | 1424 | 835-4612 | Valdez/Cordova Itinerant |
| Cushing, Marlene | 1218 | 772-4611 | Petersburg Health Center |
| DeBerge, Mary | 1520 | 543-2456 | Bethel Health Center |
| Daubney, Lois | 1141 | 224-5567 | Seward Health Center |
| Delaney, Dorothy | 1148 | 452-1776 | Fairbanks Health Center |
| Demoski, Diane | 1123 | 524-3868 | McGrath Itinerant |
| Dohner, Sheree | 1148 | 452-1776 | Fairbanks Health Center |
| Elston, Katharine | 1500 | 225-4350 | Ketchikan Health Center |
| Fenske, Donna | 1124 | 235-8857 | Homer Itinerant |
| Finn, Kathy | 1100 | 543-2110 | Bethel Itinerant, Dist VII |
| Fisch, Mary | 1544 | 586-3736 | Juneau Home Health |
| Ford, Pamela | 1371 | 874-3615 | Wrangell Health Center |
| Golden, Debra | 1425 | 452-1776 | Fairbanks Health Center |
| Henley, Shirley | 1236 | 283-4871 | Kenai Health Center |
| Hopson, Barbara | 1460 | 586-3736 | Juneau Health Center |
| Housman, Janis | 1302 | 842-5981 | Dillingham Itinerant, Dist II |
| Jacobsen, Elinore | 1220 | 225-4350 | Ketchikan Health Center |
| Jepsen, Deborah | 1408 | 452-1776 | Fairbanks Health Center |
| Johnson, Bonnie | 1383 | 452-6406 | Fairbanks Home Health |
| Krygier, Barbara | 1382 | 586-3736 | Juneau Health Center |
| Lefever, Dolly | 1136 | 246-4250 | Naknek Itinerant |
| Lehmann, Patricia | 1225 | 747-3255 | Sitka Itinerant |
| Lokken, Janet | 1146 | 452-1593 | Tanana Valley Itin., Fbks. |

| PUBLIC HEALTH NURSES | PCN | TELEPHONE | LOCATION |
|---|---|---|---|
| Manual, Wilma | 1122 | 543-2110 | Bethel Itinerant, Dist VI |
| Martin, Susan | 1399 | 543-2456 | Bethel Health Center |
| Martinek, Karen | 1109 | 822-3209 | Glennallen Itinerant |
| McKelvey, Margaret | 1409 | 452-1776 | Fairbanks Health Center |
| McMonagle, Nancy | 1224 | 747-3255 | Sitka Health Center |
| Merkel, Kari | 1216 | 586-3736 | Juneau Health Center |
| Mills, Carol | 1153 | 656-1200 | Galena Itinerant |
| Monsen, Norma | 1333 | 745-4258 | Palmer Health Center |
| Morral, Colleen | 1411 | 452-1776 | Fairbanks Health Center |
| Mosher, Judith | 1217 | 766-2125 | Haines Health Center |
| Muth, Pamela | 1149 | 452-1776 | Fairbanks Health Center |
| Nantez, Carmen | 1459 | 826-3433 | Craig Health Center |
| Nault, Diane | 1531 | 452-1776 | Fairbanks Health Center |
| O'Bryan, Mary | 1142 | 452-1776 | Fairbanks Health Center |
| Ott, Susan | 1501 | 376-2437 | Wasilla Health Center |
| Parks, Johnnie | 1490 | 235-8857 | Homer Health Center |
| Paterson, Marylou | 1119 | 543-2110 | Bethel Itinerant, Dist III |
| Pfeffer, Penelope | 1314 | 543-2456 | Bethel Health Center |
| Pontti, Jeanne | 1408 | 452-1776 | Fairbanks Health Center |
| Reed, Darlene | 1139 | 745-4258 | Palmer Health Center |
| Robson, Ann | 1543 | 225-4350 | Ketchikan Health Center |
| Russell, Susan | 1252 | 225-4350 | Ketchikan Health Center |
| Sackinger, Patricia | 1547 | 452-6406 | Fairbanks Home Health |
| Sawyer, Cynthia | 1112 | 283-4871 | Kenai Health Center |
| Skelton, Barbara | 1522 | 586-3736 | Juneau Health Center |
| Smaha, Elizabeth | 1279 | 276-5363 | Aleutian Chain Itinerant |
| Staska, Lauren | 1533 | 225-4350 | Ketchikan Health Center |
| Strebeck, Hazel | 1214 | 225-9431 | Prince of Wales Itinerant |
| Sugita, Mildred | 1281 | 486-3319 | Kodiak Health Center |
| Sullivan, Catherine | 1520 | 543-2456 | Bethel Itinerant, Dist I |
| Trollan, Connie | 1215 | 586-3736 | Juneau Health Center |
| Via, Suzanne | 1096 | 543-2110 | Bethel Itinerant, Dist IV |

PUBLIC HEALTH NURSING SERVICES CONTRACTED TO:

MANIILAQ ASSOCIATION

Kotzebue Public Health Nursing, Box 170, Kotzebue 99752
Telephone: 442-3313

903 X Marian Mann, Program Manager 902
901 ✓ Reggie Kuhnley

| | | |
|---|---|---|
| Ambler | Kivalina | Noorvik |
| Buckland | Kobuk | Point Hope |
| Deering | Kotzebue | Selawik |
| Kiana | Noatak | Shungnak |

NORTH SLOPE BOROUGH HEALTH & SOCIAL SERVICES AGENCY

Public Health Nursing, P.O. Box 69, Barrow 99723 Telephone: 852-5600

954 X LEEANNE MERCIER, Program Manager
952 X Bobbie McCumber
953 X Joan Kovil, Maternity Services

| | | |
|---|---|---|
| Atqasuk | Barter Island | Nuiqsut |
| Barrow | (Kaktovik) | Point Lay |
| | | Wainwright |

NORTON SOUND HEALTH CORPORATION

Nome Health Center, P.O. Box 1710, Nome 99762 Telephone: 443-3221

971 X DORENE VALLEE, PHN Director
970 ✓ Eleanor Oakes
972 . Katherine Becher
975 . Vickie-Marie Colacicco

| | | |
|---|---|---|
| Brevig Mission | Golovin | Shishmaref |
| Council | Little Diomede | Teller |
| Elim | Nome | Wales |
| Gambell | Savoonga | White Mountain |
| Koyuk | Shaktoolik | Stebbins |
| St. Michael | Unalakleet | |

MUNICIPALITY OF ANCHORAGE HEALTH DEPARTMENT*
DEPARTMENT OF HEALTH & ENVIRONMENTAL PROTECTION, P.O. Box 196650
Anchorage 99519-6650

Jeanne Wolf
Manager
Community Health Services

Telephone: 264-4607

Jan Wills
Coordinator of Nursing Services
and Nursing Staff

Telephone: 264-4800

*Note: This information is included for your convenience; Anchorage Health Department is not operated by the State of Alaska.

# MEMORANDUM State of Alaska

TO: Lisa McLaren
Professional Assistant
Health Hess Committee

DATE: September 18, 1987

FILE NO:

TELEPHONE NO: (907) 274-7626

SUBJECT: Prenatal Care

FROM: Rita Schmidt, Chief
Section of Family Health

This memo is in response to a request for information regarding Prenatal Care in the State of Alaska. I have attempted to answer the specific questions you have asked, and am adding additional information that is relevant to this topic.

1) How many women of child bearing age are in Alaska?

1984 Alaska Vital Statistics Annual Report

Women by Age and Race

| Age | White | Native | Other | Total Females |
|---|---|---|---|---|
| 15-19 | 13,605 | 4,051 | 1,684 | 19,340 |
| 20-24 | 14,455 | 3,980 | 2,139 | 20,574 |
| 25-29 | 23,497 | 3,338 | 3,902 | 30,737 |
| 30-34 | 24,205 | 2,939 | 1,785 | 21,248 |
| 35-39 | 17,192 | 2,271 | 1,083 | 14,459 |
| | 104,604 | 18,305 | 13,873 | 136,782 |

This table shows that for Alaska Native women, the numbers of women in the lower age groups are double the numbers for the older age groups. This is markedly different than for the "White" and "Other" category. It is currently estimated that the teen Alaska Native pregnancy rate is 70% higher than for teens nationally. Because there are greater numbers of Alaskan Natives who will be coming into the prime childbearing years, it is critical to plan services around this increase in number of women in the childbearing years.

The following table shows that out of the number of women of childbearing age in 1984, the following births occurred. What is not stated in this table is the number of pregnancies that end in miscarriages, stillbirths, fetal deaths in utero, and abortions that would also occur to these women.

Births by Age and Race of Mother

| Age | White | Native | Black | Other | Unknown | Total |
|---|---|---|---|---|---|---|
| <15 | 4 | 4 | 0 | 0 | 0 | 8 |
| 15-17 | 158 | 136 | 17 | 3 | 0 | 314 |
| 18-19 | 531 | 294 | 41 | 11 | 6 | 883 |
| 20-24 | 2,929 | 848 | 160 | 82 | 30 | 4,049 |
| 25-29 | 3,163 | 628 | 126 | 119 | 25 | 4,061 |
| 30-34 | 1,911 | 328 | 51 | 77 | 23 | 2,390 |
| 35-39 | 567 | 117 | 5 | 39 | 0 | 733 |
| 40-44 | 55 | 22 | 0 | 4 | 0 | 81 |
| 45+ | 1 | 1 | 0 | 1 | 0 | 3 |
| | 1 | 2 | 0 | 0 | 0 | 3 |
| | 9,320 | 2,380 | 400 | 336 | 89 | 12,525 |

Alaska has the highest birthrate (24.1) of any state in the Nation. Within Alaska, Natives experience a higher birthrate (35.0), than is true for Whites (22.6). The birthrate for other races (including Asians, Blacks, and Pacific Islanders) is 18.5. Alaska's crude birthrate in 1984 was 23.9 births per thousand residents, compared to 15.7 for the United States.

Alaska also has the highest fertility rate for any state. Alaska's fertility rate in 1984 was 40% higher than the U.S. rate. Alaskan "White" fertility rate exceeded the rate for U.S." White" by 38%. National rates for Natives are not available, but the Alaska Native fertility rate was 119 percent higher than the national rate for all races.

2) Where Do They Live?

The most recent information concerning place of residence for women of childbearing age is the Alaska Population Overview-1985, from the State Demographers Office, Greg Williams, state demographer. This document includes a table for each census area in the State of Alaska, by age and race.

3) How Many Of Them Are Likely To Be High Risk?

In 1980, the State of Alaska received an Improved Pregnancy Outcome Grant from the Federal Government. The activities of this grant included the development of a prenatal care risking form that could be used to identify high risk pregnancy patients. This form has been implemented throughout the Alaska Native Health Services and is in use with the State Public Health Nurses. The Indian Health Service has developed a system to deliver perinatal care that includes assessment of all pregnant women using this form. The health aide fills out the form and sends it to the Regional Maternal Child Health Coordinators, employed by Health Corporations, who assess each patient for complications during pregnancy. A written plan is then developed for each high risk patient and is communicated to the health aide. The plan of care is then implemented by the health aide.

In 1986, there was a total of 1948 Native births. Using this system described above, the Indian Health Service identified 728 high risk pregnancies, or approximately 38%. It is generally accepted that in any normal population, at least 15% of the population will experience a high risk pregnancy. How these numbers would compare to the total Alaska population is unknown at this time, as there is no system for identifying high risk pregnancies in the state for non-Native women.

4) How Many Women Have Guaranteed Access To Care Through Indian Health Services Or Other Providers?

The Batell Study of 1982 did an extensive analysis of the health insurance coverage of residents of the State of Alaska. At that time, 17.2% of the employed, non-Native labor force were not eligible for Medicare, job related insurance, Medicaid, VA or Champus. Small employers tend to offer limited or no health benefits. There are a large number of small employers in Anchorage and Alaska. In Anchorage, from 1977 through 1984, 86% of the small businesses have less than 20 people. The economics of scale, as well as high administrative costs, make the purchasing of health plans more expensive relative to larger employers. Small employers are often disqualified from group plans.

As you are aware, the Medicaid program provides payment of medical bills for those people who are at 97% of poverty level. There are currently discussions to enhance the Medicaid coverage to include women up to 100% of the Alaskan poverty income. This would mean allowing women who are in the following family sizes and incomes to be incorporated into the Medicaid program.

| Family Size | Income |
|---|---|
| 1 | $ 6,860.00 |
| 2 | 9,240.00 |
| 3 | 11,620.00 |
| 4 | 14,000.00 |
| 5 | 16,380.00 |

There is no doubt that expanding Medicaid to include higher income levels would greatly expand the number of women who would be eligible for prenatal care in the state of Alaska, however, there are many women who would still be left without any resource to prenatal care.

The state demographer estimates that 11% of the Alaska population have incomes above the Alaska poverty scale, but below $18,000.00 per year. A recent study done by a private firm has shown that the disposable income per capita, for Alaska citizens, is the same as it was in the period 1969 through 1973, prior to the Alaska pipeline construction.

## THE COSTS OF PRENATAL CARE and HOSPITAL CHARGES

Hospital Costs (Providence)

Providence Hospital Labor and Delivery Charges

| | |
|---|---|
| "Package rate" for normal uncomplicated NSVD (Normal Spontaneous Vaginal Delivery) | $1,950 |
| Approximate cost of an "uncomplicated" C-Section with a 3 day hospital stay | $3,000 |
| Costs for the surgical delivery (C-section) increase if the patient had a complicated labor, required additional laboratory and pathology services, and as the number of days in the hospital increase. | An average of $5,000 |

Alaska Women's Health Service - Prenatal Care

| | |
|---|---|
| 1st Prenatal Visit | $ 200 |
| Each Subsequent Visit @ $45.00 x 13 visits | $ 585 |

Since the recommended prenatal visit schedule for prenatal care totals 14 visits for a low risk full term gestation, I multiplied the $45 per visit rate by 13 visits.

Delivery Fees

| | |
|---|---|
| Vaginal delivery | $ 700 |
| Cesarean Section | $1,400 |

Cost of a Vaginal Delivery

| | |
|---|---|
| Prenatal Care | $ 785 |
| Delivery-Physician Chge. | 700 |
| Total Fees | $1,485 |
| Providence Hospital Charges | $1,950 |
| Grand Total | $3,435 |

Cost of a C-Section Delivery

| | |
|---|---|
| Prenatal Care | $ 785 |
| C-Section Delivery | $1,400 |
| Total Fees | $2,185 |
| Providence Hospital Charges | $3,000 to $5,000 |
| Grand Total | $5,185 to $7,185 |

Neighborhood Health Center

Fee includes all prenatal visits plus delivery charges

| 0 Fee | 25% Fee | 50% Fee | 75% Fee | Full Fee |
|---|---|---|---|---|
| Medicaid Eligible | 125% Poverty | 150% Poverty | 175% Poverty | 200% Poverty |
| $0.00 | $300 | $600 | $900 | $1,200 |

The minimum monthly income which a single pregnant woman can earn and be qualified for MEDICAID is $572 per month. The following calculations below compare a single woman's yearly income, at various poverty levels, with the cost of a normal vaginal delivery and a C-Section.

125% of Poverty

| | |
|---|---|
| Monthly Income | $ 573 - $ 761 |
| Yearly Income | $ 6,876 -$ 9,132 |

| | NSVD | C-Section |
|---|---|---|
| Percent of Income Needed for Prenatal and Hospital Care | 37%-50% | 57%-75% |

150% of Poverty

| | |
|---|---|
| Monthly Income | $ 762 - $ 955 |
| Yearly Income | $ 9,144 - $11,460 |

| | NSVD | C-Section |
|---|---|---|
| Percent of Income Needed for Prenatal and Hospital Care | 30%-37% | 45%-57% |

175% of Poverty

| | |
|---|---|
| Monthly Income | $ 956 - $ 1,144 |
| Yearly Income | $11,472 - $13,728 |

| | NSVD | C-Section |
|---|---|---|
| Percent of Income Needed for Prenatal and Hospital Care | 25%-30% | 38%-45% |

200% of Poverty

| | |
|---|---|
| Monthly Income | $ 1,145 |
| Yearly Income | $13,740 |

| | NSVD | C-Section |
|---|---|---|
| Percent of Income Needed for Prenatal and Hospital Care | 25% | 38% |

Women earning just over 200% of poverty are not considered low income and must pay the full fee for prenatal care. A woman at this income level who has a low risk, uncomplicated pregnancy and birth must spend at least 25% of her income for prenatal fees and hospital charges. If she has a low risk pregnancy, but must have a surgical delivery (C-Section), the expenses equal a minimum of 38%. If her pregnancy is complicated by threat of pre-term labor, her expenses mount up at the rate of about $350-$500 per day in the hospital for management and control of this complication.

The Medicaid Statute requires states to determine eligibility, but since applications are generally initiated by pregnant women after the pregnancy is verified, this always results in a delay, which can result in poor women foregoing prenatal care during a critical period. Many women are not eligible for Medicaid because of seasonal employment or low paying jobs that keep them just above the income guidelines. These women are of particular concern. Among this group are women with multiple medical, social and personal risks. Because they are underemployed, they do not have health insurance and do not have the cash-out-of-pocket to purchase care.

In addition, the Alaska Medicaid application is intimidating in its length (35 pg.) and is quite complicated. Many Alaskan women who qualify for Medicaid have great difficulty reading, understanding, or filling out the application. The application is a particular barrier for Native women. The illiterate or non-English speaking woman also has the difficulty with the monthly reporting requirements. Competeting survival needs in the sometimes crisis filled lives of these women often make the monthly reporting inconsistent. It is not uncommon for a woman to become eligible one month, fail to send in her form, and, therefore, be ineligible the next month.

The Fairbanks Health Center public health nurses are currently following pregnant teenagers and other low income women identified through the family planning clinic, or who come in for pregnancy testing. Out of a total of 90 pregnant women seen during the past year, seventy-eight were teenagers. Of the teenagers, three had not received prenatal care until the third trimester, and nine had not initiated care by the beginning of the second trimester. Sixteen patients were smokers, seven had a history of drug and alcohol abuse, three had a history of premature labor, one had active herpes, two were diabetic, two were losing weight during their pregnancies, several had poor weight gain, and one had a history of kidney problems.

The program coordinator reports that 68 of the women are not eligible for Medicaid. The teens are not eligible before their third trimester of pregnancy because they live at home and the combined assets and income of their parents is above the poverty guidelines. The older women, who are living independently, are minimally employed, but earn just enough to be over the Medicaid guidelines.

The 1984 Vital Statistics documents that 25% or 605 Native women had inadequate prenatal care (initial visit in the third trimester, or fewer than five prenatal visits). This compares with 13% of white Alaskan women who received inadequate care. The Chief of Maternal Child Health Services for IHS has indicated that while IHS has elements of a system in place, many of the women are not Medicaid eligible. Native women could receive additional IHS services, if travel dollars could be made available. For example, in some cases, women who require special tests such as ultrasound to determine the maturity of the fetus, or a glucose tolerance test to screen for diabetes, must pay for their own transportation to the hospital themselves, or go without care. Because of the eligibility criteria of Handicapped Children's Program, any child who is handicapped as a result of poor prenatal care would become the responsibility of the state, therefore, prenatal care services to improve their outcome could reduce expenditures to the Handicapped Children's Program, and improve the birth outcomes for Native women. The state must include Native women as part of the target population who need improved service.

The Anchorage Neighborhood Health Center is currently funded to provide prenatal care to low income women. Each physician can accept 5 or 6 prenatal patients per month only. When these slots are filled up, women are referred to the Alaska Women's Health Clinic in Anchorage. This agency reports that 27% of the women they are seeing are not eligible for any third party reimbursement or Medicaid, and they currently have a growing number of women who have agreed to pay for their care on a payment plan. The accounts receivable ledger for this care is $40,000.00, and the agency may soon stop providing this care unless a mechanism to help these women financially can be provided.

The Alaska Women's Health Clinic reports that physician's from their clinic are called to the emergency rooms in Anchorage 4 to 5 times per month to deliver babies. This is a result of the women having no physician providing prenatal care who can be called for the delivery. The Anchorage Neighborhood Health Center and the Alaska Women's Health Clinic are the only two providers who have agreed to make their OB-GYN's available for emergency room deliveries. In all instances, the physician has no information on the woman's reproductive or current prenatal status.

Providence Hospital reports that in 1986 there were 2,480 births at Providence Hospital. Of this total, 390 were Medicaid eligible and 667 were women who had no third party reimbursement for their birth. 555 of these women have established some sort of payment plan for their birth. 112 of these women were thought to be Medicaid eligible at the time of the birth, but did not qualify for Medicaid subsequently, and have not been able to establish a payment plan for their charges.

The prenatal care in Alaska, as it now stands, leaves many gaps, including underemployed poor women who aren't eligible for Medicaid; teenagers less than 18 who live at home; women who have medical insurance, but cannot afford the cost of transportation to access care; and Native women who need special care or tests, but cannot afford the travel expenses. The prenatal care program we are proposing would compliment private insurance, Medicaid, and the Alaska Native Health Service by filling these gaps by providing pregnant women with the care or transportation necessary to enhance their health and the health of their baby. It would create the final piece of a system that would make prenatal care accessible to every woman.

5) How many of them are Medicaid eligible?

This information was covered in the memo you received from Nancy Bennett and in the answers to question #4. I have no other information to add, other than the information that we have that there are many people who are falling between the cracks as not being Medicaid eligible and not being eligible for third party reimbursement.

6) Where and by whom is prenatal care being delivered now, and how does it link with delivery/neonatal care?

The Indian Health Service has their own system for Native women and I have attempted to explain some of the gaps in that system. For non-Native women, the availability of prenatal care is dependent on the geographic area in which they live. Urban communities, such as Anchorage, Fairbanks, and Juneau have private providers and the Anchorage community has two clinics, the Anchorage Neighborhood Health Center and Women's Health Care Clinic, both of which attempts to provide prenatal services to low income women and deliver babies at both Providence and Humana. The Anchorage Neighborhood Health Center has one OB-GYN on staff, the rest of the physicians are general practitioners or family practice physicians. The Women's Health Care Clinic has four OB-GYN's on staff. Some communities, such as Prince of Wales Island, other communities of the Southeast and outlying areas in the Fairbanks area have no access to prenatal care. All of the physicians in those areas have stopped accepting prenatal care patients, or there are no longer any physicians providing services to that area.

7) What is it we want to impact?

The National Institute of Health estimates that for every dollar spent on prenatal care, two dollars can be saved in the first year of an infant's life because of the reduced need for hospital care. Researchers estimate that the incidence of low birth weight can be reduced by as much as 33%-61% when

literature suggests that prenatal care plays an important role in preventing poor pregnancy outcomes, especially among minorities, low income, and adolescent women who are regarded as high risk groups. Complications of pregnancy are more likely to occur among women who received no prenatal care until the third trimester, or who received no prenatal care at all.

Babies born to women who received no prenatal care are at least three times as likely to be low birth weight, as are babies born to women who received early care. In 1984, there were a total of 608 low birth weight births in Alaska. Sixty-two percent of these low weight births occurred to women who reside outside the city of Anchorage. The highest rates of low weight births occur in the North Slope, Bristol Bay, Yukon-Koyukuk, and Prince of Wales census districts, and the Native and black population of the city of Anchorage.

The American College of Obstetrics and Gynecology (ACOG) recommends a comprehensive program of prenatal care beginning as early in the first trimester as possible. For uncomplicated pregnancies, the prenatal visits should occur every four weeks for the first 28 weeks of pregnancy, one visit every two weeks for the next eight weeks, and one week thereafter until delivery, or a total of 14-15 visits for prenatal care per birth. In 1980, the median number of visits per mother, nationally, was 11.2, up from 10.4 in 1972. The 1984 Alaska Vital Statistics reports that 16% of the Alaska births, or 2,004, had fewer than 5 prenatal care visits. Anecdotal information from public health nurses indicate that many women in the rural areas of Alaska have only one prenatal visit.

Furthermore, the ACOG standards assume that the prenatal care provider is prepared as, either, an Obstetrician/Gynecologist, a Certified Nurse Midwife, or an Advanced Nurse Practioner. It is suspected that many of the prenatal visits in Alaska are delivered by providers who do not have these qualifications.

What is Adequate Prenatal Care?

The number of visits and the content of care is dependent on previous reproductive history, current medical status, and exposure to such risks as previous cesarean delivery, use of alcohol, drugs, or tobacco, and genetic disorders. Many women need services besides medical care, such as nutrition counseling, social services and parent training.

1) Prenatal care should begin in the first trimester of the pregnancy.

2) The number of visits should include one visit every 4 weeks for the first 28 weeks of pregnancy. One visit every 2 weeks for the next eight weeks, and one visit thereafter until delivery. Complicated pregnancies should include more visits.

3) Care should include pregnancy testing, clinical assessment, laboratory testing, including amniocentesis and ultrasonograph as indicated, identification of high risk patients through risk rating, and referral for appropriate care, health education, counseling, social services, labor and delivery services and post partum care (including family planning).

4) Qualifications of Providers - National standards assume that the health care provider will be a physician or nurse practitioner. This will need to be modified for Alaska, as sufficient providers do not exist.

Proposed Program:

1) Eligibility - Low income women of childbearing age, who had been denied eligibilty through the Medicaid program and who were experiencing a high risk pregnancy, either as a result of a medical condition or because of lack of access to prenatal care. High risk medical conditions include: fetuses, currently pregnant and hypertensive, distended uterus from amniotic fluid (polyhydramnios), history of pre-term birth or low birth weight infants, or DES exposure, history of drug and alcohol abuse, history of education less than grade 12, all teenagers, or because of absence of available medical prenatal care. Each woman would be assessed financially for most recent IRS statement, availability of other insurance resources, and documentation of financial assets. Each woman would have a participation amount that would be dependent on her income and family size (see proposed sliding participation amounts, and financial eligibility form). The woman would be eligible for the program once she had documented her participation amount in receipts or bills.

2) Application Process - Each woman would complete an application packet in conjunction with her public health nurse, who would complete the prenatal history assessment form (attached) that would be part of the packet that would be sent to the Family Health Section Office.

3) Services to be Provided - Payment of travel for treatment, ongoing prenatal care visits, nutrition counseling , amniocentesis, ultrasound, prenatal medications, other laboratory testing, pregnancy testing, health education, and parenting and social services counseling.

4) Case Management - The Section of Family Health would hire a case manager, who would work with the public health nurse in establishing a plan for care for each pregnant woman. Specific treatments would be authorized for payment under the prenatal care program, the case manager would be in contact with all other providers and get the pregnant woman to other needed services. Travel arrangements would be made either by the woman herself, the public health nurse, or in some instances, the Section of Family Health case manager.

Under COBRA, the states may now cover case management services to all Medicaid recipients as an optional Medicaid service. State legislation is required to include this service for Alaskan women. Case management services are defined as "services which aid individuals eligible under the plan gaining access to needed medical, social, educational, and other services."

Case management services include outreach, patient referral and coordination of services, and can improve access to care and insure better utilization.

5) Contract Services - The Section of Family Health would document geographic areas of the state where adequate prenatal service is not available, and contract with nurse practioners and physicians, to provide the prenatal care in these areas. This would be done on an as needed basis, and attempts would be made to negotiate contracts to provide prenatal care. Arrangements and agreements would be made with local hospitals, and local private providers to continue to deliver the babies of these women. This would require negotiation by the case manager, the public health nurses, and

staff of the Section of Family Health, with hospitals in the vicinity of each patient. Facilities such as the Anchorage Neighborhood Health Center, would continue with their current efforts, however, women they identify as meeting these eligibility criteria would now have a payment source other than a once a year grant, or their charity slots.

Inherent Problems with the Program:

1) It will be very difficult to meet the standards of care established by the American College of Obstetrics and Gynecology stated above. A more realistic goal for our state, would be an average number of 8 visits per pregnancy.

2) We have estimated that the number of women who would use this program during a first year would be 120 women. However, this is a best guess estimate, and in reality may turn out to be many more women than this.

3) Once the need for this service is well documented through a one year trial, it may increase the needed budget for this program, for it very likely will increase the acceptability of the clients with private providers, and may result in increased services in the state. This will, in turn, also increase the budget, however, it will also increase the access to prenatal care. As with the Handicapped Children's Program, the payment of these services increase the use of the services, but it should decrease the cost of care in the newborn intensive care unit.

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
**RESEARCH AGENCY**

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

September 28, 1987

MEMORANDUM

TO: Representatives Johnny Ellis and Niilo Koponen

ATTN: Lisa McClaren

FROM: Jay Livey
Legislative Analyst

RE: Maternal and Child Health Statistics for Alaska
Research Request 88.033

You asked that we provide statistics on the number of infants in Alaska who are born with birth defects or handicapping conditions. You also asked that we research the extent to which these conditions could be mitigated through prenatal programs. In addition to this information, we include health statistics related to infant mortality and its causes.

PREVALENCE OF HANDICAPPING CONDITIONS AND INFANT DEATH

The current state plan for the Alaska Governors Council for the Handicapped and Gifted (AGCHG) defines an individual who is substantially handicapped as "a person who has a severe, chronic disability which:

1. Usually originated in childhood or before age 22;

2. Is attributable to mental or physical impairments or a combination of mental and physical impairments

3. Is likely to continue indefinitely;

4. Results in substantial functional limitations in three or more of the following areas of major life activities:

   -- self-care
   -- receptive and expressive language
   -- learning

-- mobility
-- self-direction
-- capacity for independent living
-- economic self sufficiency

5. Reflects the person's need for a combination and sequence of special, interdisciplinary, or generic care, treatment, or other services which are of lifelong or extended duration and are individually planned and coordinated.

Table 1 indicates the number of Alaskans who are defined as substantially handicapped for 1980 and 1984. As the table indicates, the number of handicapped children under age 5 increased from 1,375 in 1980 to 1,792 in 1984. However, as a percentage of the total population within the 0 to 5 years old age group, the number of children with handicaps remained constant at approximately three percent.

TABLE 1

NUMBER OF ALASKAN CHILDREN AGE 0 TO 5 WITH SUBSTANTIALLY HANDICAPPING CONDITIONS; 1980 AND 1984

| AGE RANGE | 1980 | 1984 |
|---|---|---|
| Birth - 2 years | 732 | 955 |
| 3 - 5 years | 643 | 837 |
| Total | 1,375 | 1,792 |

Source: Alaska Governors Council for the Handicapped and Gifted, Three Year State Plan 1987-1989, page 14.

Although Table 1 provides the number of handicapped children in Alaska, it does not provide information regarding the cause of the handicap or when the handicap first occurred. The Department of Health and Social Services maintains a system which monitors birth certificates to record congenital anomalies (any abnormalities encountered by babies at birth). Although the information from some birth certificates is not usable, we can use data from this system to generally indicate the health status of Alaska infants at birth.

Table 2 contains the number of babies born in Alaska with congenital anomalies during the period 1982 through 1985. As the table indicates, a total of 1,230 babies, or approximately 2.5 percent of all babies born during the period, were born with anomalies. The table also indicates that the percentage of babies born with anomalies increased from 1.69 percent in 1982 to 3.40 percent in 1985. The reader is cautioned, however, that because a relatively low number of infants are born with anomalies in each

TABLE 2
CONGENITAL ANOMALIES OF ALASKA INFANTS
1982-1985

| YEAR | NUMBER OF INFANTS BORN WITH CONGENITAL ANOMALIES | TOTAL NUMBER OF BIRTHS | % OF INFANTS BORN WITH CONGENITAL ANOMALIES |
|---|---|---|---|
| 1982 | 192 | 11,355 | 1.691% |
| 1983 | 295 | 12,093 | 2.439% |
| 1984 | 304 | 12,533 | 2.426% |
| 1985 | 439 | 12,896 | 3.404% |
| TOTAL | 1,230 | 48,877 | 2.517% |

SOURCE: ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES, DIVISION OF PUBLIC HEALTH

Prepared by the House Research Agency, September 1987 (88-033B;080387-03)

year, annual percentages can be greatly influenced by minor changes in occurrences.

Two factors that are considered by Maternal and Child Health experts to be significant indicators of healthy babies are: 1) the weight of the infant at birth, and 2) when the mother began prenatal care. Table 3 compares the birthweights of babies with congenital anomalies to the birthweights of all babies for the years 1982 through 1985. As the table indicates, between 1982 and 1985, 4.826 percent of all babies born weighed less than 2,500 grams, the weight normally considered to be low. However, during this same period, 14.027 percent of the babies born with anomalies weighed less than 2,500 grams at birth. This result indicates that a higher percentage of babies with anomalies have a low birthweight than do the total number of babies born. Although this does not mean that low birthweight causes birth anomalies, it does suggest that they are related.

Table 4 examines the relationship between the initiation of prenatal care and the number of babies born with congenital anomalies. The table indicates that, by the end of the second trimester of pregnancy, 95.640 percent of all pregnant women during the period 1982 through 1985 had begun prenatal care. During this same period, 95.120 percent of the women whose babies were born with anomalies had entered prenatal care by the end of the second trimester. The same percentage of women whose babies had anomalies entered prenatal care by the end of the second trimester as women whose babies had no anomalies. It should be noted that we have examined only the initiation of prenatal care and not the quality or frequency of prenatal visits.

INFANT MORTALITY

Additional information regarding maternal and child health can be gathered by looking at infant mortality--deaths which occur within one year of birth. Maternal and child health professionals generally agree that eliminating the conditions which are highly correlated with infant death would also decrease the prevalence of preventable handicaps. Additionally, infant mortality rates are a more standard measure of the success of maternal and child health programs.

TABLE 3
BABIES WITH CONGENITAL ANOMALIES BY BIRTHWEIGHT CATEGORIES
1982-1985

| YEAR | BIRTHWEIGHT IN GRAMS: < 1,000 | | 1,000 - 1,499 | | 1,500 - 1,999 | | 2,000 - 2,499 | | 2,500 - 3,999 | | 4000 + | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | |
| 1982 | 3 | 52 | 2 | 48 | 7 | 87 | 19 | 334 | 133 | 8,922 | 24 | 1,640 | 11,271 |
| 1983 | 2 | 43 | 7 | 49 | 10 | 126 | 12 | 313 | 211 | 9,485 | 50 | 1,709 | 12,017 |
| 1984 | 2 | 54 | 4 | 48 | 5 | 104 | 26 | 362 | 195 | 9,771 | 69 | 1,825 | 12,465 |
| 1985 | 6 | 37 | 6 | 46 | 20 | 99 | 40 | 373 | 308 | 9,939 | 58 | 1,919 | 12,851 |
| TOTAL | 13 | 186 | 19 | 191 | 42 | 416 | 97 | 1,382 | 847 | 38,117 | 201 | 7,093 | 48,604 |
| % OF TOTAL BIRTHS BY WEIGHT | | 0.409% | | 0.432% | | 0.942% | | 3.043% | | 80.166% | | 15.007% | |
| % OF BIRTHS WITH ANOMALIES BY WEIGHT | | 1.066% | | 1.559% | | 3.445% | | 7.957% | | 69.483% | | 16.489% | |

NOTES: TABLE 2 DOES NOT INCLUDE ALL BIRTHS FROM 1982 - 1985 AS SOME BIRTH DATA WAS EXCLUDED BECAUSE IT WAS NOT CODED FOR BIRTH WEIGHT.
SOURCE: ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES, DIVISION OF PUBLIC HEALTH

Prepared by the House Research Agency, September 1987 (88-0338;080387-03)

TABLE 4
CONGENITAL ANOMALIES OF ALASKA INFANTS BY TRIMESTER PRENATAL CARE BEGAN
1982-1985

| YEAR | PRENATAL CARE - 1ST TRIMESTER | | PRENATAL CARE - 2ND TRIMESTER | | PRENATAL CARE - 3RD TRIMESTER | | NO PRENATAL CARE | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | WITH ANOMALY | NO ANOMALY | |
| 1982 | 111 | 8,142 | 52 | 1,973 | 4 | 389 | 1 | 30 | 10,702 |
| 1983 | 206 | 8,278 | 66 | 2,226 | 12 | 417 | 3 | 71 | 11,279 |
| 1984 | 213 | 8,751 | 64 | 2,243 | 13 | 467 | 3 | 73 | 11,827 |
| 1985 | 306 | 8,958 | 97 | 2,403 | 18 | 423 | 4 | 82 | 12,291 |
| TOTAL | 836 | 34,129 | 279 | 8,845 | 47 | 1,696 | 11 | 256 | 46,099 |
| % OF TOTAL BIRTHS BY WHEN PRENATAL CARE BEGUN | | 75.848% | | 19.792% | | 3.781% | | 0.579% | |
| % OF BIRTHS WITH ANOMALIES BY WHEN PRENATAL CARE BEGUN | | 71.270% | | 23.785% | | 4.007% | | 0.938% | |

NOTE: DOES NOT INCLUDE ALL BIRTHS FROM 1982-1985 AS SOME WERE NOT CODED FOR INITIATION OF PRENATAL CARE.
SOURCE: ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES, DIVISION OF PUBLIC HEALTH

Prepared by the House Research Agency, September 1987 (88-033;080387-03).

Table 5 provides the number of infant deaths in Alaska for the period 1980 through 1984 and compares these rates to the United States rates for the same time periods.

TABLE 5

INFANT DEATH RATE FOR ALASKA AND THE UNITED STATES
1981-1984

| 1980 | ALASKA | UNITED STATES |
|---|---|---|
| BIRTHS | 9,609 | |
| INFANT DEATHS | 117 | |
| RATE | 13.6% | 12.5% |
| 1981 | | |
| BIRTHS | 10,203 | |
| INFANT DEATHS | 130 | |
| RATE | 11.9% | 11.9% |
| 1982 | | |
| BIRTHS | 11,358 | |
| INFANT DEATHS | 123 | |
| RATE | 11.9% | 11.5% |
| 1983 | | |
| BIRTHS | 12,089 | |
| INFANT DEATHS | 148 | |
| RATE | 11.5% | 11.2% |
| 1984 | | |
| BIRTHS | 12,525 | |
| INFANT DEATHS | 141 | |
| RATE | 11.7% | 10.8% |

NOTES: Infant death rates are calculated as a three year moving average except for 1984 which is a two year average (1983 and 1984).

SOURCE: Alaska data from Vital Statistics, 1984 published by the Department of Health and Social Services. United States data from Vital Statistics, 1984 and Statistical Abstract of the United States, 1986.

As Table 5 indicates, the infant death rate for Alaska is consistently higher than the rate for the United States for the period 1980 through 1984. However, during this period, the Alaska rate has decreased from 13.6 percent to 11.7 percent.

Infant deaths are categorized as neonatal (occurring within 28 days of birth) and postneonatal (occurring between 23 days and the end of the first 11 months of life). The Department of Health and Social Services Vital Statistics report for 1984 (hereinafter referred to as Vital Statistics) notes that of Alaska's 141 infant deaths in 1984, 72 (51.43 percent) were neonatal while 69 (48.57 percent) were postneonatal. Vital Statistics reports that during 1984, congenital anomalies was the primary cause of neonatal mortality while sudden infant death syndrome was the primary cause of postneonatal death, accounting for 53 percent of these deaths.

Low Birthweights and Infant Mortality

As noted above, it is generally accepted by Maternal and Child Health professionals that the weight of a baby at birth is a significant indicator of the health of the baby. The Alaska State Plan for Maternal and Child Health notes that:

> "Infants born weighing less than 2500 grams (5 pounds 8 ounces) are considered low birthweight babies and are at high risk for serious health problems. Low birthweight infants have a high mortality rate and a greater incidence of disease, mental retardation, and other developmental problems..."

Table 6 reports low birthweight rates and percent of total births for Alaska and the United States in 1984.

TABLE 6
LOW BIRTHWEIGHT RATE AND PERCENT OF TOTAL BIRTHS
BY RACE FOR ALASKA AND THE UNITED STATES
1984

| RACE OF CHILD | ALASKA L.B.W. RATE | ALASKA % OF BIRTHS | U.S. % OF BIRTHS |
|---|---|---|---|
| WHITE | 43.6 | 4.4 | 5.6 |
| NATIVE | 56.6 | 5.9 | NA |
| BLACK | 69.7 | 7.0 | 12.4 |
| OTHER RACES | 60.0 | 6.3 | 11.1 |
| TOTAL | 47.8 | 4.9 | 6.7 |

NOTES: "OTHER RACES" IN THE UNITED STATES DATA INCLUDES NATIVES. LOW BIRTH WEIGHT (LBW) RATES ARE: LBW BIRTHS/ALL BIRTHS * 1000.

SOURCE: VITAL STATISTICS 1984, PAGE 13.

Table 6 suggests that, overall, a lower percentage of Alaska babies are low birthweight than are all babies born in the United States. Within Alaska, a smaller percentage of white babies are low birthweight than are babies of other races. Low birthweights would appear to be a significant problem among black babies in Alaska. It should also be noted that in 42 percent of all the infant deaths in Alaska, the baby was low birthweight.

I hope you find this information useful. If you require additional research, please contact the agency.

# Medicaid Eligibility for Pregnant Women: Reforms Contained in the Sixth Omnibus Budget Reconciliation Act (SOBRA)

Prepared by
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April, 1987

## Introduction

In October, 1986, as part of the Sixth Omnibus Budget Reconciliation Act (SOBRA, Pub. L. 99-509), Congress broadened states' ability to provide Medicaid coverage to indigent pregnant women and young children and enabled them to establish a program of presumptive eligibility (PE) for pregnant women. These reforms potentially can revolutionize the manner in which low-income pregnant women and children are covered by, and gain access to, Medicaid. They should also strongly encourage the provision of early and continuous prenatal and pediatric care.

The purposes of this memorandum are to: describe the reforms and their review background and need; describe the elements of a successful presumptive eligibility program; and identify key elements in negotiating effectively for a PE contract.

## I. Background and Need for the SOBRA Reforms

There is overwhelming evidence of the need to improve the Medicaid coverage of pregnant women and children.

### A. The Health Status of Low Income Infants

Infants born to low-income women are at significantly greater risk of death and disability. Poor children are 1.5 to 2 times more likely to die before reaching their first birthday,[1] 1.5 times more likely to be born at low birthweight (weighing less than 5.5 pounds),[2] and are at significantly greater risk (because of their lower birthweight) of suffering from such permanent disabilities as retardation, cerebral palsy, epilepsy, vision and learning disabilities, and other serious lifelong

impairments.[3]

The toll that infant death and disability take can also be measured financially. Between 1978 and 1990, because of the lack of comprehensive, preventive maternity programs, the nation will experience more than 300,000 low birthweight births that might have been averted through comprehensive services.[4] The first year costs alone associated with caring for these infants will exceed $2 billion,[5] and over $500 million of this amount will be spent by the Medicaid program.[6]

B. Millions of poor women do not receive the care they need

Low income women are significantly less likely to receive early and continuous prenatal care. Poor women are less likely to begin prenatal care early in pregnancy.[7] They are also twice as likely to receive either no prenatal care at all or none until the final trimester of pregnancy.[8]

Many factors contribute to low income women's failure to receive comprehensive maternity care. But a fundamental cause is their inability to purchase needed services. In 1984, one-third of all low-income women of childbearing age were completely uninsured.[9] Another third were covered by Medicaid,[10] but of these, studies suggest that only about half are covered for a full year, because of the program's low eligibility standards.[11] The remainder rely chiefly on private health insurance, which all too frequently provides inadequate pregnancy benefits for low-income maternity patients.[12] Comprehensive maternity care (including medical and hospital care associated with labor and

delivery) costs to thousands of dollars. As a result, uninsured, or partially insured, pregnant women living at or near the federal poverty level are without the means to purchase care on an out-of-pocket basis.

## II. Medicaid And Pregnant Women

Medicaid is a vital source of health care for pregnant women. Medicaid-eligible pregnant women are entitled to coverage for a comprehensive array of prenatal, delivery and postpartum care. By dramatically increasing poor women's access to maternity care, Medicaid has contributed to the nearly 60 percent reduction in infant mortality that occurred between 1965 and 1984. Moreover, comprehensive Medicaid coverage during pregnancy is cost-effective, because it improves infant health outcomes and thus reduces the need for intensive infant care. Federally funded studies show that comprehensive Medicaid coverage during pregnancy can save nearly $2.00 for every $1.00 spent.[14]

### A. Pre-SOBRA Medicaid

Observers have known for years that Medicaid was not reaching sufficient numbers of low income pregnant women. Medicaid's historic eligibility barriers fall into three major categories. These are: restrictive financial eligibility standards, restrictive categorical eligibility standards, and an extremely complex and time consuming application and eligibility determination process that deters even eligible women from gaining entry into the program.

1. restrictive financial eligibility standards

Prior to SOBRA, state Medicaid financial eligibility standards for pregnant women were, by law, tied to states' AFDC income and resource eligibility levels. This was true even in states that had "medically needy" programs (which permit women who have incomes and resources that exceed AFDC standards to become eligible by "spending down" to Medicaid eligibility levels by incurring high medical costs), since state "medically needy" income eligibility levels (the level to which women must "spend down") can be no greater than 133% of its AFDC payment level. In many states the medically needy income eligibility levels are no greater than 100% of the AFDC payment level, particularly are for larger families. Table I.

By 1986, 30 states maintained AFDC payment levels that were less than 50 percent of the federal poverty level.[15] Table II. Indeed, so low are AFDC payment levels that in only one states (California) did the 1986 medically needy eligibility level for a family of three exceed the federal poverty level.[16] Table I.

2. Restrictive Categorical Eligibility Standards

Another major barrier to adequate Medicaid coverage of pregnant women has been the automatic exclusion of two parent working families. Until passage of the Consolidated Omnibus Budget Reconciliation Act of 1986 (COBRA),[17] 20 states maintained categorical Medicaid eligibility criteria that excluded women who were extremely poor but who lived in two-parent working families. COBRA, which was enacted in April, 1986, removed all

categorical barriers to Medicaid eligibility for pregnant women.[17a] As of July 1, 1986, all states were required to provide Medicaid to all pregnant women, including married and employed women with family income and resources at or below AFDC eligibility levels.

3. Complicated eligibility determination procedures

In addition to restrictive eligibility standards, however, there are other reasons why Medicaid has failed to reach thousands of women who need coverage--even women who meet their state programs' limited eligibility standards. These reasons have to do with Medicaid's isolation from the rest of the public prenatal care delivery system, the difficulty many women encounter in applying for aid, and the long waiting times they must endure until their eligibility is determined.

- Isolation: Many low income pregnant women first seek assistance by going to a health department clinic or a health center site or some other health care location where they can obtain free or reduced-cost prenatal services. Yet in virtually all states, the Medicaid application site is located somewhere other than the clinic -- normally at the local welfare office.

  Studies show that Medicaid's penetration into the eligible population is low when eligibility is not tied to the receipt of cash assistance.[18] This depressed penetration phenomenon is intensified by Medicaid's isolation from the public health system. Individuals who are sick or who need medical care often do not think about going to the welfare office, which they associate with cash aid and food stamps. As Medicaid's availability for the non-AFDC population becomes better known, this tendency may begin to change. But because Medicaid enrollment has not been physically located within the "service stream" that low income pregnant women turn to, this has greatly delayed their entry into the program.

By 1986, a few states had begun to place Medicaid applications at provider sites in order to facilitate enrollment.[19] However, once applications are completed and filed, women must wait at least 45 days, until the eligibility determination process completed,[20] before their coverage begins.

- Complicated applications: A Medicaid application is often enormously complicated, many pages long and requiring extensive verification. Many of these verification requirements relate to measuring an applicant's assets (e.g., the value of a home, car, and personal possessions, and the existence, if any, of savings accounts, checking accounts, and so forth). exceed welfare eligibility levels. Moreover, there are frequently no applications for Spanish-speaking and other non-English-speaking persons, thereby making the process even more difficult.

Throughout this complicated and time-consuming process, women -- even women who clearly are poor enough to qualify for Medicaid -- continue to go uncovered. Moreover, many who have struggled to enroll are denied coverage, not because their income and assets exceed eligibility levels, but because they are unable to verify that they meet the program's myriad eligibility requirements.

As a result, some indigent and uninsured women may make one prenatal visit but never return, because they are billed for services and unable to pay. Others fear commencing care at all, because they know they cannot pay. Still others may seek physicians who will extend care "on credit" until their Medicaid applications are processed, only to find that physicians demand either evidence of insurance or payment in advance. Finally, women who do find at least some care at free or reduced-cost health clinics (such as health centers) may go without the highly specialized services they require because they are uninsured and

thus cannot be referred for specialty care.

In theory, women should have fewer access problems once they have applied for benefits, because Medicaid eligibility is retroactive to the date on which a written application is filed[20a] and actually can begin up to 3 months prior to that date if the woman would have been eligible for benefits at the time services were rendered.[21] But provision of services in advance of eligibility verification requires a leap of faith on a provider's part that the patient has applied for benefits at the time of her first visit and will in fact be found eligible for coverage. Few providers other than those serving the poor will take this risk.

B. Congressional Response to the Need: The Elements of SOBRA

Recognizing the dual problems of limited eligibility standards and highly complex enrollment procedures, Congress included two important provisions in SOBRA. The first permits states to dramatically liberalize Medicaid's financial eligibility standards for pregnant women and children under age five. The second allows agencies to establish a program of "presumptive eligibility" for pregnant women.

1. SOBRA's financial eligibility reforms

SOBRA liberalizes Medicaid financial eligibility criteria in 3 distinct ways. First, it permits states to use a more generous income eligibility standard, that exceeds AFDC and medically needy eligibility levels. Second, SOBRA permits states to

eliminate use of an asset test entirely in the case of pregnant women and children under age five. Third, SOBRA allows states to eliminate the threat of "on-again-off-again" Medicaid eligibility among pregnant women that results from the application of restrictive income and asset standards.

a) liberalized income standards

SOBRA permits states to estabilsh an income eligibility standard for Medicaid for pregnant women and children under age five, which is higher than AFDC or medically needy eligibility levels, but less than the federal poverty level.[21a] Since one-third of all uninsured pregnant women have family incomes below the federal poverty level, if all states were increase Medicaid eligibility to this level, the number of uninsured pregnant women would drop by one third nationwide.[21b]

b) elimination of an assets test

SOBRA allows states to eliminate use of an asset test entirely for pregnant women and children under age five[21c] (if states do elect to use an asset test for pregnant women, they may use a standard no more restrictive than that used under the SSI program, which is more liberal than the AFDC asset test).[21d]

The importance of persuading states to eliminate use of an asset test for these populations cannot be overstated. Almost no indigent pregnant women or children have assets that exceed SSI eligibility levels.[22] The asset test adds immeasurably to the complexity and time-consuming nature of the application process, and increases the likelihood that applicants will be denied

coverage for failure to comply with documentation requirements. Moreover, states are subject to severe penalties if their Medicaid eligibility approvals turn out to be erroneous.[23] A complicated asset test adds many more criteria to the eligibility determination process, further exposes the state to serious federal error rate sanctions (which involve the reduction of federal funds).

Even if a state does not have the resources to lift its income eligibility standards to the federal poverty level, it can use its SOBRA flexibility to waive the imposition of an asset test for pregnant women and children under age 5, thereby greatly simplifying both its eligibility standards and the application procedure, thereby reducing the potential for error rate sanctions.

c) Continuous eligibility

It is possible that women who are found eligible for coverage will lose their benefits midway through pregnancy because of a slight change in their countable income levels resulting from the complex AFDC budgetting system (a woman can find herself with increased "countable" income even if her actual income level does not change at all). To avoid this, SOBRA gives states the option of treating any Medicaid-eligible pregnant woman as continuously eligible for coverage until 60 days following the termination of her pregnancy, without having to reverify of her eligibility.[24] This benefit is similar to the 6 month minimum eligibility option for HMO enrollees.

As with the option to waive an asset test, the continuous eligibility option can be exercised either alone or in combination with the other SOBRA financial liberalization options.

**One final note:** In determining any pregnant woman's eligibility for Medicaid when her application is based on her pregnancy status, federal law mandates that she be treated as at least a family of two (herself and her unborn child).[25] Medicaid eligibility standards for women applying on the basis of pregnancy should thus identify a family of two as the smallest family unit size.

**2. Presumptive Eligibility**

The second major SOBRA option allows states to establish presumptive eligibility (PE) programs for pregnant women. States may adopt a PE program regardless of whether they also liberalize their eligibility standards as described above. But for reasons that will be discussed below, PE will work best in states that have: (1) eliminated all but an income eligibility test for pregnant women as discussed above; and (2) developed a short Medicaid application form.

Under a PE program, a state Medicaid agency may contract with one or more Medicaid clinical providers furnishing maternity care to low income women to perform on-the-spot Medicaid enrollments for a 45-day period for all outpatient maternity services in the case of any woman who is pregnant and who

qualifies for Medicaid on the basis of income alone. This presumptive eligibility period effectively ensures that pregnant women will have Medicaid coverage for the 45-day period during which their formal Medicaid applications are being processed by the state agency.

a) **Why presumptive eligibility is important**

Presumptive eligibility is important for seven reasons:

- First, the program permits commencement of Medicaid coverage on the day that pregnant women first seek maternity care. At their initial visit, pregnant women can be enrolled in Medicaid and thus insured for all necessary outpatient care.

- Second, the program permits states to better consolidate Medicaid with other pregnancy programs. As noted above, federal law has always permitted Medicaid agencies to make Medicaid applications available through their health providers, who in turn can assist their patients apply for coverage. Some health department and other clinical providers now do this. But the presumptive eligibility program improves on this option by actually permitting certain providers to make a Medicaid eligibility determination so that their patients are temporarily insured while their formal applications are pending.

- Third, permitting Medicaid to be placed with other health services constitutes a tremendous Medicaid outreach program. By placing the benefits where the patients are, a presumptive eligibility program better ensures that the large number of Medicaid-eligible, but unenrolled, women will enter the program.

- Fourth, the program stimulates and encourages pregnant women to receive early and continuous prenatal care by reducing financial considerations that may affect their decision to remain in a prenatal care program once they have initially sought services.

- Fifth, the program is low-cost. Establishing a presumptive eligibility determination process itself should be reimbursable as a Medicaid administrative expense; morever, since Medicaid coverage is already retroactive to the date of application, the state will incur extra costs only for women who ultimately are found ineligible for coverage, and then only for outpatient care.

- Sixth, PE, by increasing the likelihood that a woman will seek out and remain in a pregnancy program, promotes access to cost-effective care. Studies have shown that nearly $2.00 can be saved by Medicaid for every dollar spent to provide early comprehensive and continuous prenatal care to pregnant women, by reducing the number of low birthweight infants who need extraordinary levels of care during the first year of life.

- Finally, a state suffers no penalty in the event that a presumptively eligible woman is ultimately not found eligible for permanent coverage. States keep the federal funds paid to providers on behalf of presumptively eligible women and will thus receive federal matching funds for expenditures for prenatal care furnished to indigent women that otherwise might have been made entirely out of state and local offers. If a woman is ultimately not found eligible for Medicaid after her period of presumptive eligibility, the presumptive determination is not considered erroneous under federal Medicaid error rate rules,[25a] and the state is not liable for recoupment of federal funds claimed for services furnished to presumptively eligible women. Presumptive eligibility is just that -- a period of time during which a pregnant woman is treated as if she had applied and been found eligible for Medicaid.

b) **Elements of the Presumptive Eligibility Program**

1) Who is eligible for presumptive eligibility?

Any woman whose pregnancy has been verified and who is determined by a qualified PE provider, on the basis of "preliminary information" to have family income that does not exceed the state's Medicaid eligibility level. The presumptive eligibility program uses no resource test.[26] Any pregnant woman whose income is low enough is presumptively eligible. As with permanent Medicaid eligibility, no categorical test may be applied. All pregnant women, regardless of family composition work status, are potential candidates for both regular and presumptive Medicaid benefits.

2. What benefits are covered during the presumptive eligibility period?

A presumptively eligible woman is entitled to coverage for all ambulatory prenatal care services provided under a state's Medicaid plan.[27] No inpatient care may be reimbursed on the basis of presumptive eligibility. However if a woman is hospitalized after she has filed her formal Medicaid application (or up to 3 months prior to the date on which she files the application if she was eligible at the time services were rendered) her hospital bills will be covered retroactively once she is found eligible for permanent coverage.

3. When does presumptive eligibility begin?

Presumptive eligibility begins on the date on which a "qualified" PE provider determines, on the basis of "preliminary information,"[28] that the woman's family income does not exceed the state's Medicaid income eligibility level.

4. When does presumptive eligibility end?

Presumptive eligibility lasts for 45 days after the date on which a woman's presumptive eligibility is determined.[29] If the state completes work on the woman's formal Medicaid application in less than this 45-day period, then the presumptive eligibility period ends as of the date that eligibility is finally determined.[30] As of that date, either the woman's regular Medicaid eligibility begins, or else she is no longer covered by Medicaid.

**HOWEVER:** A woman's presumptive eligibility period will end 14 days after the date on which she is found eligible by the presumptive eligibility provider if she fails to file a formal Medicaid application with the Medicaid agency within 14 days.[31] Thus, it is vital that women file a formal Medicaid application as soon as their PE period begins.

5. Who can be a presumptive eligibility provider?

Only certain types of Medicaid maternity providers can act as presumptive eligibility providers. Moreover, states are given wide discretion to select among the qualified PE providers they wish to use (in other words, not all providers that meet federal qualifications need be given PE contracts, even though all qualified providers must be allowed to furnish medical assistance).[32]

The term "qualified provider", in the context of presumptive eligibility, means any provider that:

1) is participating as a Medicaid provider under the state's plan; and

2) furnishes "services of the type described in Section 1905 (a)(2) or 1905(a)(9) of the Act -- that is, a provider that is either hospital outpatient or freestanding clinic. Only maternity providers that are also clinics -- either hospital-based or free-standing, -- are eligible to act as presumptive eligibility providers; and

3) receives funding under the Community or Migrant Health centers programs, OR the Title V Maternal and Child Health Block Grant, OR is a participant in a state's perinatal health services program OR is a WIC or Commodity Supplemental Food Program grantee.[33]

As a practical matter, only states that reimburse clinical providers at a clinic rate should use PE. A PE clinic thus

provide or purchase under contract with office-based physicians, pharmacies, and so forth, services needed during the PE period and bill Medicaid for all care rendered. Doctors who are not clinic-based cannot be PE providers. But PE providers can refer their patients to office-based physicians, reimburse them under contract as clinical staff, and bill Medicaid directly for all covered services.

b) What reponsibilities do states have under the PE program?

States must:

- o develop income eligibility criteria for PE providers to use
- o develop a PE application form
- o select PE providers
- o determine the type of "preliminary information" a provider may use to determine a woman's eligibility (but this information may not include a resource test).
- o supply providers with regular Medicaid application forms and training so that they can assist women apply for benefits.

- o ensure that the formal Medicaid application can be filed within the required 14-day period.

- o Ensure that women's formal Medicaid applications are processed quickly and that PE providers are trained to assist their patients identify and gather all verification that is needed.

7) What are the obligations of presumptive eligibility providers?

Providers must:

- o make sure that workers are properly trained to not only make the presumptive determination but also to provide assistance on completing and filing the formal Medicaid application.
- o Use all forms designated by the state agency and file the names of PE women within 5 days.
- o ensure that applications for regular Medicaid benefits are filed within 14 days.

8. How would a good presumptive eligibility program operate?

To be simple and effective, PE should be instituted in states that have:

a) developed simple income eligibility criteria.
b) used the SOBRA option to waive the asset test, so that PE standards and formal Medicaid standards are as closely aligned as possible.
c) developed a "short form" for Medicaid applications for pregnant women that can double as both the PE and the regular application form. This allows consolidation of the PE and formal application form into one step to be completed at the provider's location and filed with the state.

a) developing a simple income eligibility chart

(1) In states that elect to use a Medicaid eligibility level equalling 100 percent of the federal poverty level, the income eligibility chart furnished to PE providers can be the federal poverty guidelines for a family of two or larger. See table III, reproduced from the 1987 Federal Register.

(2) In states whose SOBRA income eligibility is lower than the federal poverty level, special income criteria for families of two or larger will have to be developed. To develop schedule, states could take their AFDC eligibility levels (either the payment standard or, in five states including SC, MS, UT, ME, and CO, the standard of need) and instruct provider to add $235.00 in the case of working applicants to take into account an allowance for work-related and child care costs. States could also simply use 185% of the AFDC standard of need for families of 2 or larger (this is the initial AFDC eligibility threshold).

States with medically needy programs could use the medically needy income level for families of two or greater (increased by

$235.00 per unit for working families work-related and child care expenses). For example, if the AFDC income eligibility level for a family of three is $500, the PE income level applied to a working pregnant woman with one child already born would be $735 ($500 + 235.00 for child care and work-related expenses).

The best test of all would probably be a two-tiered one consisting of either the state's SOBRA level (whatever it is) or 185 percent of the AFDC standard of need for families of two or greater. This would pick up women whose incomes exceed SOBRA levels but are low enough to permit them to be considered for categorically needy coverage.

b) Waiving the asset test

Once a state waives application of an asset standard, PE is more easily meshed with formal Medicaid eligibility. Both programs would require only that a woman's pregnancy be verified and that she be income-eligible.

c) developing a "short form" for PE and formal Medicaid applications

With financial eligibility criteria pared down to a minimum, a PE application form that doubles as the regular application form can be developed. The essential elements of the form are as follows:

- Date
- Name of woman
- Name of PE provider and the provider's Medicaid ID Number
- Social Security Number of the woman (or affirmation that the woman has or will apply for a number).
- Verification that the woman has been found to be pregnant
- A statement of the woman's estimated monthly income and an

affirmation that her income is to be equal to or less than the state's income eligibility level for a family of that size. Earned and unearned income (such as disability or child support payments) should be separated listed. Step-parent income and incomes of a minor applicant's siblings should not be included.

- o Verification of the woman's legal status (affirmation of citizenship or lawful alienage status) including temporary status under the 1986 immigration amendments.
- o Affirmation that the woman is a resident of the state
- o Any information pertaining to private insurance the woman has.

These are the basic items that will be needed (along with documentation, which the woman can supply at a later date) to prove that she is eligible for formal Medicaid coverage. The items are not so lengthy that they cannot readily be added to the PE form.

9. What is "preliminary information" that is used to determine PE income eligibility?

The type of information that can be used by providers to preliminarily determine Medicaid eligibility is not defined by law and can be identified by states. Since the purpose of this program is to permit providers to make the determination quickly, states should keep their definition simple. Ideally, the information should be the same type of information that providers use to make eligibility determinations for their other programs. Thus, if eligibility for Title V, WIC, or community health center subsidized services is based on a patient's oral affirmation that her income is below the eligibility level for the program, then the state Medicaid agency should use oral affirmation for its program.

The bottom line is to **KEEP IT SIMPLE.** States can choose the type of information they will require. Congress was so concerned about the need to get benefits to pregnant women that it has allowed states to reduce or entirely eliminate normal documentation procedures during the PE period. Moreover, because only federally or state-funded clinics praticed in doing eligibility determinations can be PE providers, this in and of itself acts as a safeguard.

C) States that do not wish to use PE

Some states may decide that for various reasons they do not want to adopt PE. Even if a state choose not to use PE, it should be persuaded to:

- Waive the asset test
- develop an income screening charts for providers to use to identify eligible women
- develop a "short form" application
- distribute the short form to providers
- arrange for an expedited determination of Medicaid eligibility in the case of pregnant women.

However, once formal Medicaid eligibility is simplified it should be relatively simple to add PE and modify the Medicaid claims payment system to pay PE providers for services furnished to women during the 45-day period following the date of presumptive eligibility. States wishing to use this option should reimburse PE providers on the basis of a cost-based clinic rate for services furnished during the 45-day period. The PE provider can furnish the service directly or subcontract for services not furnished in the office, pay the subcontractor, and then bill Medicaid on an all-inclusive basis.

## FOOTNOTES

1. Egbuonu, Lisa & Starfield, Barbara, "Child Health and Social Status," 69 Pediatrics 550 (May, 1982).

2. Ibid.

3. U.S. Dept. of Health and Human Services, Healthy People (HHS, 1979).

4. Hughes, Dana, Johnson, Kay, Rosenbaum, Sara, Simons, Janet, Butler, Elizabeth, The Health of America's Children (CDF, Washington. D.C., 1987).

5. Ibid

6. National Center for Health Services Research, National Hospital Discharge Survey (1984 data).

7. Kleinman, Joel, Use of Ambulatory Care by the Poor: Another Look at Equity" Medical Care (1981).

8. Ibid.

9. Gold, Rachel and Kenny, Asta, "Paying for Maternity Care", Family Planning Perspectives (May/June, 1985).

10. Ibid.

11. Statistics derived from National Medical Expenditure Survey data presented in Wilensky, Gail and Berk, Mark, "Health Care of the Poor and the Role of Medicaid."

12. Rosenbaum, Sara "Reducing Infant Mortality: The Unfulfilled Promise of Federal Health Programs for the Poor", Clearinghouse Review (1983).

13. CRS, Infant Mortality (Washington, D.C., 1985).

14. California Health Department, Final Evaluation of the Obstetrical Access Project (1985).

15. Hughes, op. cit.

16. Unpublished data, National Governor's Association.

17. Pub. L. 99-272.

17a. Section 9501 of Pub. L. 99-272.

18. Rymer, Marilyn Comprehensive Review of Medicaid Eligibility (Urban Systems Services, Inc., 1977).

19. Sec., e.g., Jones, Judith, presentation at APHA, October 1985, regarding Medicaid eligibility among New York city women.

20. 42 CFR Section 435.911 requires that Medicaid agencies complete the determination process on application filed by non-disabled persons within 45 days of the date they are filed.

20a. 42 CFR Section 435.907.

21. 42 USC Section 1396a(a)(34).

21a Section 9401 of Pub. L. 99-507.

21b Computation by Sara Rosenbuam, based on 1984 census data.

21c Section 9401 of Pub. L. 99-507.

21d Ibid.

22. State officials indicate show that only about 4 percent of AFDC applicants are rejected on the ground that they have excess assets. Virtually none of these applicants would be rejected if the SSI test were used, since the basis for the rejection often has to do with possession of a slightly too valuable car or extra household goods. All of these non-liquid assets (as well as liquid resources) are treated more liberally under the SSI program.

23. 42 CFR Section 431.800.

24. Section 9501 of Pub. L. 99-507.

25. See HCFA Transmittal dated August, 1986.

25a Section 9407 of Pub. L. 99-5-7.

25b Ibid

26. Ibid

27. Ibid

28. Ibid

29. Ibid

30. Ibid

31. Ibid

32. Ibid.

33. Ibid.

# Appendix A

**Table 1.**
**Annualized Medicaid Eligibility Thresholds –**
**AFDC, Medically Needy, SSI – as Percent of Poverty**
**Current as of December 1986**

| State | AFDC Family of 3 | Percent of Poverty ($9,120)[2] | Medically Needy Family of 3 | Percent of Poverty ($9,120)[2] | SSI Independent Individual[3] | Percent of Poverty (5,360)[3] |
|---|---|---|---|---|---|---|
| Alabama | $1,416 | 15.5% | [3] – | – % | $4,752 | 88.7% |
| Alaska | 8,880 | 77.9 | – | – | 7,260 | 108.4 |
| Arizona[4] | – | – | – | – | – | – |
| Arkansas | 2,304 | 25.3 | 3,100 | 34.0 | 4,032 | 75.2 |
| California | 7,404 | 81.2 | 9,900 | 108.6 | 6,396 | 119.3 |
| Colorado | 5,052 | 55.4 | – | – | 4,728 | 88.2 |
| Connecticut | 6,060 | 66.4 | 7,300 | 80.0 | 5,780 | 107.8 |
| Delaware | 3,720 | 40.8 | – | – | 4,032 | 75.2 |
| District of Columbia | 4,200 | 46.1 | 5,820 | 63.8 | 4,212 | 78.6 |
| Florida | 3,024 | 33.2 | 4,092 | 44.8 | 4,032 | 75.2 |
| Georgia | 3,072 | 33.7 | 4,104 | 45.0 | 4,032 | 75.2 |
| Hawaii | 5,616 | 53.5 | 5,700 | 54.3 | 4,091 | 66.3 |
| Idaho | 3,648 | 40.0 | – | – | 4,656 | 86.9 |
| Illinois | 4,092 | 44.9 | 5,496 | 60.3 | –[5] | – |
| Indiana | 3,072 | 33.7 | – | – | 4,032 | 75.2 |
| Iowa | 4,572 | 50.1 | 6,096 | 66.8 | 4,032 | 75.2 |
| Kansas | 4,524 | 49.6 | 5,520 | 60.5 | 4,032 | 75.2 |
| Kentucky | 2,364 | 25.9 | 3,204 | 35.1 | 4,032 | 75.2 |
| Louisiana | 2,280 | 25.0 | 3,096 | 33.9 | 4,032 | 75.2 |
| Maine | 6,432 | 70.5 | 6,300 | 69.0 | 4,152 | 77.5 |
| Maryland | 4,140 | 45.4 | 4,908 | 53.8 | 4,032 | 75.2 |
| Massachusetts | 5,712 | 62.6 | 7,896 | 86.5 | 5,578 | 104.1 |
| Michigan | 5,388 | 59.0 | 6,252 | 68.5 | 4,366 | 81.4 |
| Minnesota | 6,384 | 70.0 | 6,384 | 70.0 | 4,452 | 83.1 |
| Mississippi | 4,416 | 48.4 | – | – | 4,032 | 75.2 |
| Missouri | 3,348 | 36.7 | – | – | 4,032 | 75.2 |
| Montana | 3,984 | 43.7 | 4,848 | 53.2 | 4,032 | 75.2 |
| Nebraska | 4,200 | 46.1 | 5,400 | 59.2 | 4,692 | 87.5 |
| Nevada | 3,420 | 37.5 | – | – | 4,469 | 83.4 |
| New Hampshire | 4,668 | 51.2 | 5,604 | 61.4 | 4,200 | 78.4 |
| New Jersey | 4,848 | 53.2 | 6,492 | 71.2 | 4,407 | 82.2 |
| New Mexico | 3,096 | 33.9 | – | – | 4,032 | 75.2 |
| New York | 5,964 | 65.4 | 7,300 | 80.0 | 4,895 | 91.3 |
| North Carolina | 2,952 | 32.4 | 3,996 | 43.8 | 4,032 | 75.2 |
| North Dakota | 4,452 | 48.8 | 5,220 | 57.2 | 4,032 | 75.2 |
| Ohio | 3,624 | 39.7 | – | – | 4,032 | 75.2 |
| Oklahoma | 3,720 | 40.8 | 5,004 | 54.8 | 4,752 | 88.7 |
| Oregon | 4,764 | 52.2 | 6,348 | 69.6 | 4,052 | 75.6 |
| Pennsylvania | 4,380 | 48.0 | 5,100 | 55.9 | 4,421 | 82.5 |
| Rhode Island | 5,292 | 58.0 | 7,600 | 83.3 | 4,698 | 87.6 |
| South Carolina | 4,560 | 50.0 | 3,192 | 35.0 | 4,032 | 75.2 |
| South Dakota | 4,392 | 48.2 | – | – | 4,212 | 78.6 |
| Tennessee | 1,860 | 20.4 | 2,496 | 27.3 | 4,032 | 75.2 |
| Texas | 2,208 | 24.2 | 3,204 | 35.1 | 4,032 | 75.2 |
| Utah | 8,316 | 91.2 | 6,012 | 65.9 | 4,152 | 77.5 |
| Vermont | 6,372 | 69.9 | 7,296 | 80.0 | 4,700 | 87.7 |
| Virginia | 3,492 | 38.3 | 4,300 | 47.1 | 4,032 | 75.2 |
| Washington | 5,904 | 64.7 | 6,624 | 72.6 | 4,368 | 81.5 |
| West Virginia | 2,988 | 32.8 | 3,480 | 38.1 | 4,032 | 75.2 |
| Wisconsin | 6,528 | 71.6 | 7,692 | 84.3 | 5,252 | 98.0 |
| Wyoming | 4,320 | 47.4 | – | – | 4,272 | 79.7 |
| **Average State** | **$4,428** | **48.2%** | **$5,470** | **59.5%[6]** | **$4,422** | **81.8%** |

Source: Ian Hill, State Medicaid Information Center, National Governors' Association, December 1986.

TABLE II

In 1986, levels for AFDC payment and Medicaid coverage for families with no other income were extremely low. The unweighted national average among states was only 47.4 percent of the federal poverty level. In no state did payment levels reach the federal poverty level. Thirty-two states maintained payment levels less than 50 percent of the federal poverty level for a family of three.

The standard of need is the threshold for determining AFDC and Medicaid eligibility for most families with children. In theory it reflects the amount a family would need to subsist, but in most states it is much lower. In 1986 the standard of need in Alabama was $384 a month for a family of three (50.5 percent of the federal poverty level).

In 1986, payment levels to AFDC recipients were so low that in more than half of the states actual payments did not meet their own official definition of the amount a family would need to subsist. The payment level in Alabama was only 31 percent of its standard of need, which was only 50.5 percent of the federal poverty level (see Table 2.21b). In dollars, this meant a payment of $118 per month for a family of three.

TABLE 2.21A

## AFDC Maximum Payment Levels* and Medicaid Coverage for Families with No Other Income as a Percent of the Federal Poverty Level, 1986

| *Rank* | *State Name* | *Percent* |
|---|---|---|
| 1 | Alaska | 77.9 |
| 2 | California | 77.2 |
| 3 | Vermont | 76.7 |
| 4 | Connecticut | 74.9 |
| 5 | Wisconsin | 72.9 |
| 6 | Minnesota | 69.5 |
| 7 | Rhode Island | 66.2 |
| 8 | New York | 65.4 |
| 9 | Washington | 64.7 |
| 10 | Michigan | 63.9 |
| 11 | Massachusetts | 56.6 |
| 12 | Hawaii | 53.5 |
| 13 | New Jersey | 53.2 |
| 14 | Oregon | 52.2 |
| 15 | Kansas | 51.5 |
| 16 | Maine | 51.2 |
| 17 | New Hampshire | 51.2 |
| 18 | Pennsylvania | 50.3 |
| 19 | Iowa | 50.1 |
| 20 | Utah | 49.5 |
| 21 | North Dakota | 48.8 |
| 22 | Wyoming | 47.4 |
| 23 | Montana | 46.6 |
| 24 | Virginia | 46.6 |
| 25 | Nebraska | 46.1 |
| 26 | Colorado | 45.5 |
| 27 | Illinois | 44.9 |
| 28 | Maryland | 43.3 |
| 29 | South Dakota | 43.3 |
| 30 | District of Columbia | 43.0 |
| 31 | Oklahoma | 40.5 |
| 32 | Idaho | 40.0 |
| 33 | Ohio | 39.7 |
| 34 | Delaware | 39.2 |
| 35 | Arizona | 36.6 |
| 36 | Nevada | 37.5 |
| 37 | Missouri | 36.1 |
| 38 | New Mexico | 33.9 |
| 39 | Indiana | 33.7 |
| 40 | Florida | 33.2 |
| 41 | West Virginia | 32.8 |
| 42 | North Carolina | 32.4 |
| 43 | Georgia | 29.3 |
| 44 | South Carolina | 26.2 |
| 45 | Kentucky | 25.9 |
| 46 | Arkansas | 25.3 |
| 47 | Louisiana | 25.0 |
| 48 | Texas | 24.2 |
| 49 | Tennessee | 20.1 |
| 50 | Mississippi | 15.5 |
| 51 | Alabama | 15.5 |

*All AFDC recipients are entitled to Medicaid coverage

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund*

TABLE III

Federal Poverty Guideline

| Family Size | Continental U.S. | Alaska | Hawaii |
|---|---|---|---|
| 2 | 7,400 | 9,240 | 8,500 |
| 3 | 9,300 | 11,620 | 10,690 |
| 4 | 11,200 | 14,000 | 12,880 |
| 5 | 13,100 | 16,380 | 15,070 |
| 6 | 15,000 | 18,760 | 17,260 |
| 7 | 16,900 | 21,140 | 19,450 |
| 8 | 18,800 | 23,520 | 21,650 |
| Each Add'l | +1,900 | +2,380 | +2,190 |

The HHS notice defines "family" as "all persons related by birth, marriage or adoption who reside together" (unrelated individuals, even in the same house, would be considered separate families); and it defines "income" as "total annual cash receipts before taxes from all sources" (including salaries, public assistance/unemployment/retirement payments, Social Security, child support, etc., but excluding gifts, assets from sale of property, or non-cash benefits such as Medicaid, food stamps, public housing, etc.)

* Family size of 1 is inapplicable to pregnant women.

Source: Fed. Reg. 2/20/87

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
**RESEARCH AGENCY**

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

October 7, 1987

MEMORANDUM

TO: Representative Niilo Koponen

ATTN: Lisa McLaren

FROM: Brad Pierce
Legislative Analyst

RE: Omnibus Budget Reconciliation Act (OBRA) Option for Pregnant Women
Research Request 88.052

You requested this agency to analyze some assumptions used by the Alaska Department of Health and Social Services (DHSS) in computing the cost of adopting the Omnibus Budget Reconciliation Act of 1986 (OBRA) option for pregnant women, infants and children. This option would allow pregnant women, infants and children with family incomes above the current State Medicaid threshold income level ($8,988 for a family of three) but below the federal poverty level ($11,620) to receive Medicaid payments for prenatal, delivery and post partum medical services.[1] The federal government would share the cost of the program at a 50 percent matching rate.

We have included the DHSS cost estimates for this option as well as background material explaining the program in detail in Attachment A. According to Nancy Bennett, Acting Program Officer with the DHSS-Division of Medical Assistance, the total cost of offering the OBRA option would be approximately $5.2 million, exclusive of increased administrative costs to the department for the anticipated increase in their Medicaid caseload. The methodology used in this estimate is straightforward--simply multiplying the average cost per delivery for pregnant Medicaid women in Anchorage ($4,163) plus the Medicaid cost for children up to age one ($1,198) times the estimated number of eligibles (974). There are several reasons to be cautious in using this estimate, however.

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[1]Aid to Families with Dependent Children (AFDC) resource eligibility criteria for pregnant women may be eliminated under the OBRA option in favor of simple income threshold criteria. States which do not choose to eliminate resource eligibility criteria cannot adopt more restrictive standards and must use the SSI standard.

First, the number of potential eligibles was taken from a National Governor's Association report, using 1980 census data to derive their estimates for each state, which makes it quite dated. According to Greg Williams, State Demographer, there are no more recent income distribution figures by state from which to make more accurate estimates. The current DHSS vital statistics database cannot provide information on the number of statewide Medicaid pregnancies and is therefore useless in this regard. A new Medical Management Information system will become operative in 1988, which will make this information available in the future.

Another uncertainty is the number of potential eligibles that are already receiving financial assistance from other sources, most notably the Indian Health Service (IHS). According to Jackie Greenman, Chief of Maternal and Child Health Care, the IHS has handled 2,500 - 2,700 deliveries annually during the past few years (out of approximately 13,000 deliveries statewide). For those IHS clients who would qualify for Medicaid under the OBRA option, transportation expenses and prematernal home services (for high-risk pregnancies) are likely to be the main costs picked up by the program. These individuals would then have costs that are substantially lower than average Medicaid pregnancy costs. On the other hand, just a few complicated pregnancies could dramatically increase the cost of the program. For example, the State's Catastrophic Illness Program (no longer in existence) experienced an average pregnancy cost of $31,928 and single cases that cost over $200,000.[2]

All of the factors listed above add uncertainty to the estimation of the cost of the adoption of the OBRA option. The health care providers we have spoken with in preparing this memorandum focus on fulfilling perceived health care needs, not on costs. The DHSS-Medical Payment System cannot provide the information necessary to make accurate forecasts. Information from other states with different population characteristics and health care cost structures is not readily applicable. In short, we have examined the cost estimates used by DHSS for the OBRA option and have found no information that would allow a more accurate forecast. In our judgment, the $5.2 million total cost figure by DHSS may overstate actual costs somewhat because some of the potential eligibles may be receiving primary care from other sources. However, the great amount of uncertainty inherent in these projections indicates that using the upper range of probable cost is prudent budget planning.

I regret that we have not been able to answer your question more conclusively. Please call if we can be of further assistance or if you have any questions.

Attachment

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[2]For an analysis of the Alaska Catastrophic Illness Program, see House Research Agency memorandum 87.002.

ATTACHMENT A
Memorandum to Karen Perdue from Nancy Bennett,
Optional Coverage of Categorically Needy Groups Article,
National Governors' Association Article and
"Expanded Medicaid Coverage for Pregnant Women
and Children" Issue Paper

# MEMORANDUM State of Alaska

TO: Karen Perdue, Deputy Commissioner
Department of Health & Social Services

DATE: September 11, 1987

FILE NO: M-1

TELEPHONE NO: 465-3355

THRU:

SUBJECT: OBRA option for pregnant women and children

FROM: Nancy Bennett, Acting Program Officer
Division of Medical Assistance

You have asked for cost estimates for adopting the new OBRA Medicaid option covering pregnant women and children with incomes up to 100% of the federal poverty level. This estimate comes with several caveats, of which you are well aware, but they include: 1) inadequate data concerning the number of potential eligibles; 2) lack of data to base transportation, neonatal intensive care unit and extraordinary medical procedure cost factors; and 3) lack of data relating to IRS transportation cost shift. Given these factors, I have estimated the cost of adopting the option (including only current Medicaid covered services; excluding enhanced services and new positions which may be requested by DPA) at $5,221,614.

This estimate is based on the existing average cost for Medicaid pregnant women and children (including inpatient hospital care, physician services and laboratory and x-ray services). The average cost per pregnant woman is $4,163 or $4,054,762 for all pregnant women in the OBRA group. The average cost per child is $1,198 or $1,166,852 for all newborns in the OBRA group. The number of persons used in making this estimate is 974; the estimate made by the National Governor's Association by extrapolating the data from their telephone survey and the 1980 census figures. These costs would be shared at the federal matching rate - 50%.

Given that the average cost in Anchorage for a normal delivery, including prenatal care is $3,510; and the range for a cesearean section is $5,180 to $7,180 (and a 25% C-section rate in the state); the $4,163 figure may be low. In addition, we believe that prenatal and delivery costs in other parts of the state are much higher (we will have a break down of these costs by region from Public Health in a few weeks). With all these "yellow lights", it's the best estimate we can make right now.

## 3571 OPTIONAL COVERAGE FOR POOR PREGNANT WOMEN, INFANTS, AND CHILDREN

Section 9401 of the Omnibus Budget Reconciliation Act of 1986 (OBRA 86) authorizes a new optional categorically needy eligibility group of poor pregnant women (through 60 days following pregnancy), infants and children. In determining financial eligibility for this group you may set an income standard which does not exceed 100 percent of the Federal poverty level. You need not employ a resource standard. The Federal poverty levels are published in the Federal Register annually within 30 days after the Consumer Price Index data are released. The methods and standards employed in determining income and resource eligibility may not be more restrictive than those applied under the cash assistance programs, as described in detail below.

3571.1 Coverage of Poor Pregnant Women, Infants, and Children.—Section 9401 amends §1902(a)(10)(A)(ii) of the Act and adds §1902(l), creating a new optional categorically needy group. This new group consists of pregnant women, infants, and children who do not qualify as mandatory categorically needy (are not cash assistance recipients or qualified pregnant women or qualified children under age 5) and whose family income does not exceed a level you have established. This level must not exceed 100 percent of the Federal poverty level. Application of a resource standard is optional. You may elect this group only if:

- o Payment levels in effect under your established AFDC plan (part A of title IV) are not less than the payment levels in effect under the AFDC plan on April 17, 1986, and
- o You cover both pregnant women (through 60 days following pregnancy) and infants under 1 year of age.

You may not cover only pregnant women or only infants and children. If you opt to cover one group, you must also cover the other. Furthermore, those which elect to cover groups of children over age 1 must cover all children below the age specified (up to age 5). Coverage of children over age 1 may be phased-in in accordance with the effective dates set out in §3571.5.

3571.2 Financial Requirements of the New Group.--

A. Income Standards.—Family income level must not exceed your set income level for the appropriate family size. The family income level shall be no higher than 100% of the official nonfarm income poverty level applicable for a family size equal to the size of the family, including the woman, infant, or child. The pregnant woman will be budgeted as if her child were born and living with her at the time she applied for assistance.

The official nonfarm income poverty level is determined by the Department of Health and Human Services and published in the Federal Register annually in or around the month of February. The published levels apply to both nonfarm and farm income standards.

B. Income Methodologies.—Family income must be determined in accordance with the methodology applied under the State AFDC or the State IV-E adoption assistance or foster care plan, as appropriate. Family income is income remaining after appropriate disregards are applied.

Costs incurred for medical care or for any other type of remedial care shall not be taken into account. That is, no spenddown is applied to the new group. Individuals who do not meet the eligibility criteria for this new optional categorically needy group must meet current medically needy eligibility criteria to establish eligibility.

C. Resource Standards and Methodologies.—The application of a resource standard for the pregnant woman, infant, or child is at your option.

If you set a resource standard for pregnant women and women during the 60-day extended period, that standard and the methodology applied may be no more restrictive than that applied in the Supplemental Security Income Program.

If you set a resource standard for infants and children, that standard and the methodology applied may be no more restrictive than that applied in the State AFDC plan.

NOTE: If you establish resource standards for both the woman and an infant or child, you may need to perform two separate resource computations, since the woman's resources are determined in accordance with SSI methods and the infant or child's resources are determined in accordance with AFDC methods. As a result, you may count the same resources in each computation.

3571.3 Benefits.--

A. Pregnant Women.—Benefits to pregnant women eligible under this new category are limited to services related to pregnancy, including prenatal, delivery and post partum services, and other conditions which may complicate pregnancy. While we are not listing specific services or conditions to be included, States are expected to reasonably interpret these statutory provisions. Services included must be services which are coverable under §1905 of the Act.

B. Children.—Children eligible under this new category are entitled to all services included in the State plan.

3571.4 Continuation of Assistance.—

A. Pregnant Women.—Once a pregnant woman is determined eligible for services under the optional categorically needy group and continues to meet all established eligibility criteria you must provide services throughout the pregnancy and the 60-day period beginning the last day of the pregnancy. The woman may remain eligible, at your option, during the pregnancy and through the end of the 60-day period beginning on the last day of her pregnancy without regard to any change in family income.

B. Children.—If an infant's or child's eligibility ends because the maximum age with respect to which you provide coverage has been reached, but the child continues to meet all other eligibility criteria, and is receiving inpatient services provided under the State plan on the date that eligibility should end, the child's eligibility continues until the end of his or her inpatient stay.

3571.5 Effective Dates of §9401 of OBRA 86.—

- o Pregnant Women and Infants Under Age 1: April 1, 1987
- o Children between Ages 1 and 2: October 1, 1987
- o Children between Ages 2 and 3: October 1, 1988
- o Children between Ages 3 and 4: October 1, 1989, and
- o Children between Ages 4 and 5: October 1, 1990.

These effective dates are without regard to whether or not final regulations have been promulgated by the applicable date. If you elect to cover this group, do so by indicating your election on the revised State plan preprint, and submit the amendment to the appropriate HCFA Regional Office for review.



o U.S. GOVERNMENT PRINTING OFFICE 1987—181-270 60270

National Governors' Association

John H. Sununu
Governor of New Hampshire
Chairman

Raymond C. Scheppach
Executive Director

September 8, 1987

TO ALL MEDICAID DIRECTORS:

MEDICAID ELIGIBILITY THRESHOLDS FOR FAMILIES AND PREGNANT WOMEN
INFORMATION UPDATE

The Health Policy Studies unit at the National Governors' Association continues to receive frequent inquiries regarding state income eligibility thresholds under Medicaid and updated information on states which are adopting OBRA-86 authority to provide Medicaid for pregnant women and young children with family income up to the federal poverty level. The attached table represents our most current data. Three types of income levels are presented for each state (where applicable) - AFDC eligibility thresholds, Medically Needy Protected Income Levels, and OBRA-86 special income levels for pregnant women and young children. In all cases, income limits for a family of three (the average unit size under AFDC) are displayed.

At this time, 24 states will, by January 1, 1988, provide Medicaid coverage to pregnant women and young children under special income ceilings allowed by OBRA-86. Two other states, California and Minnesota, provide such expanded coverage under medically needy authority. This level of activity is noteworthy, given that optional authority under OBRA-86 was granted less than one year ago and states have had only one legislative session under which to develop, approve and implement program expansions. Several other states, including Pennsylvania, Ohio, Virginia, Georgia and Hawaii, will either receive final approval this year, or pursue pregnant women expansions in their next sessions. Additionally, up to eleven states either have or plan to adopt presumptive eligibility programs for pregnant women (Arkansas, Florida, Maine, Maryland, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, Utah, and Wisconsin).

Under the AFDC programs, nearly one-half of the states increased their income eligibility thresholds on July 1, 1987. This level of activity is much higher than in past years, when states have been slow to adjust income limits under AFDC. Today, the AFDC eligibility threshold for a family of three, in the average state, is $4,616 per year - or 49.3% of the federal poverty level. This amount represents an improvement over the average state rate of 48.9% in January 1987 and 47.9% in January 1986, and thus marks a reversal in the decade-long trend of declining AFDC thresholds which in 1975 averaged 71.4% of poverty for a family of three.

Twenty states also increased their medically needy income thresholds in July of this year. The annual limit for a family of three in the average state is now $5,748 (61.3% of the federal poverty level), an improvement over the level in January 1987, which was set at 59.8% of poverty.

For further information, call Ian Hill at 202-624-7820.

ANNUALIZED MEDICAID ELIGIBILITY THRESHOLDS[1] -
AFDC, MEDICALLY NEEDY - AS OF JULY 1987
OBRA-86 PREGNANT WOMEN - EFFECTIVE BY JANUARY 1988

| | AFDC Family of 3 | Percent of Poverty ($9,300)[2] | Medically Needy Family of 3 | Percent of Poverty ($9,300)[2] | OBRA-86 Pregnant Women Family of 3 | Percent of Poverty (9,300)[2] |
|---|---|---|---|---|---|---|
| Alabama | $1,416 | 15.2% | $--- | ---% | $ --- | ---% |
| Alaska | 8,988 | 77.3 | --- | --- | --- | --- |
| Arizona | 3,516 | 37.8 | --- | --- | 9,300 | 100 |
| Arkansas | 2,424 | 26.1 | 3,300 | 35.5 | 6,975 | 75 |
| California | 7,596 | 81.7 | 10,200 | 109.7 | 10,200 | 109.7[3] |
| Colorado | 5,052 | 54.3 | --- | --- | --- | --- |
| Connecticut | 6,168 | 66.3 | 7,500 | 80.6 | 9,300 | 100 |
| Delaware | 3,720 | 40.0 | --- | --- | 9,300 | 100 |
| District of Columbia | 4,368 | 47.0 | 5,820 | 62.6 | 9,300 | 100 |
| Florida | 3,168 | 34.1 | 4,308 | 46.3 | 9,300 | 100 |
| Georgia | 3,156 | 33.9 | 4,200 | 45.2 | --- | --- |
| Hawaii | 5,892 | 55.1 | 5,892 | 55.1 | --- | --- |
| Idaho | 3,648 | 39.2 | --- | --- | --- | --- |
| Illinois | 4,104 | 44.1 | 5,496 | 59.1 | --- | --- |
| Indiana | 3,456 | 37.2 | --- | --- | --- | --- |
| Iowa | 4,572 | 49.2 | 6,096 | 65.5 | --- | --- |
| Kansas | 4,596 | 49.4 | 5,580 | 60.0 | --- | --- |
| Kentucky | 2,364 | 25.4 | 3,204 | 34.5 | 9,300 | 100 |
| Louisiana | 2,280 | 24.5 | 3,096 | 33.3 | --- | --- |
| Maine | 6,696 | 72.0 | 6,492 | 69.8 | --- | --- |
| Maryland | 4,308 | 46.3 | 5,004 | 53.8 | 9,300 | 100 |
| Massachusetts | 6,600 | 71.0 | 8,796 | 94.6 | 9,300 | 100 |
| Michigan | 6,480 | 69.7 | 6,444 | 69.3 | 9,300 | 100 |
| Minnesota | 6,384 | 68.6 | 8,508 | 91.5 | 8,508 | 91.5[4] |
| Mississippi | 1,416 | 47.5 | --- | --- | 9,300 | 100 |
| Missouri | 3,384 | 36.4 | --- | --- | 9,300 | 100 |
| Montana | 4,308 | 46.3 | 4,848 | 52.1 | --- | --- |
| Nebraska | 4,200 | 45.2 | 5,400 | 58.1 | --- | --- |
| Nevada | 3,420 | 36.8 | --- | --- | --- | --- |
| New Hampshire | 5,832 | 62.7 | 6,468 | 69.5 | --- | --- |
| New Jersey | 5,088 | 54.7 | 6,792 | 73.0 | 9,300 | 100 |
| New Mexico | 3,168 | 34.1 | --- | --- | 9,300 | 100 |
| New York | 5,964 | 64.1 | 7,400 | 79.6 | --- | --- |
| North Carolina | 3,108 | 33.4 | 4,200 | 45.2 | 9,300 | 100 |
| North Dakota | 4,452 | 47.9 | 5,220 | 56.1 | --- | --- |
| Ohio | 3,708 | 39.9 | --- | --- | --- | --- |
| Oklahoma | 3,720 | 40.0 | 5,004 | 53.8 | 9,300 | 100 |
| Oregon | 4,944 | 53.2 | 6,588 | 70.8 | 7,905 | 85 |
| Pennsylvania | 4,380 | 47.1 | 5,100 | 54.8 | --- | --- |
| Rhode Island | 6,036 | 64.9 | 7,896 | 84.9 | 9,300 | 100 |
| South Carolina | 4,656 | 50.1 | --- | --- | 9,300 | 100 |
| South Dakota | 4,392 | 47.2 | --- | --- | --- | --- |
| Tennessee | 4,236 | 45.5 | 2,604 | 28.0 | 9,300 | 100 |
| Texas | 2,208 | 23.7 | 3,204 | 34.5 | --- | --- |
| Utah | 8,316 | 89.4 | 6,012 | 64.6 | 9,300 | 100 |
| Vermont | 7,236 | 77.8 | 7,404 | 79.6 | 9,300 | 100 |
| Virginia | 3,492 | 37.5 | 4,300 | 46.2 | --- | --- |
| Washington | 5,904 | 63.5 | 6,804 | 73.2 | 8,370 | 90 |
| West Virginia | 2,988 | 32.1 | 3,480 | 37.4 | 9,300 | 100 |
| Wisconsin | 6,600 | 71.0 | 8,268 | 88.9 | --- | --- |
| Wyoming | 4,320 | 46.5 | --- | --- | --- | --- |
| Average State | $4,616 | 49.3% | $5,748 | 61.3%[5] | $9,125[6] | 98.1% |

SOURCE: State Medicaid Information Center, National Governors' Association
July 1987

NOTES

1. Based on annualized monthly maximum countable income for a family of three (AFDC, Medically Needy, OBRA-86 Pregnant Women). Under AFDC, the term "threshold" refers to that income limit which truly drives program eligibility, and can be either a state's AFDC Need or Payment Standard, depending on how each state determines eligibility.

2. Poverty levels for Alaska and Hawaii differ from other states: Alaska - family of 3 = $11,620; Hawaii - family of 3 = $10,690.

3. California already covers pregnant women (and all other groups) with family income below the federal poverty level by virtue of its medically needy threshold.

4. In response to OBRA-86, Minnesota elected to raise its medically needy threshold to the highest possible level (133 1/3% of AFDC payment standards) and, as a result, now covers all pregnant women with family incomes up to 91.5% of the federal poverty level.

5. The percentage represents the average medically needy threshold as a percent of poverty only for those states which have medically needy programs. If states without medically needy programs were included in the calculation (AFDC levels would represent eligibility thresholds), the percentage would drop significantly.

6. The percentage represents the average OBRA-86 pregnant women income threshold only for those states which have elected to expand such coverage, and includes California and Minnesota.

ISSUE PAPER

TOPIC: Expanded Medicaid coverage for pregnant women and children

September 4, 1987

## CURRENT MEDICAID COVERAGE FOR PREGNANT WOMEN AND NEWBORNS

The Consolidated Omnibus Reconciliation Act, P.L. No. 99-272 (COBRA), effective July 1, 1986, mandated coverage for all financially eligible pregnant women under the Medicaid program, regardless of marital status. In determining eligibility, the needs of the unborn child are included, providing a higher income standard under which the mother can qualify (i.e. if the mother is single, she could qualify under the financial need standard of two people which is $665). The woman must also provide medical verification of pregnancy.

COBRA also provides that any woman receiving Medicaid on the date of termination of her pregnancy (through delivery of the child, miscarriage or a Medicaid-funded abortion) automatically receives 60 days of postpartum Medicaid, without being required to meet any financial or categorical program requirements during the 60 day window. The only way a new mother could lose Medicaid coverage is if she refuses to document the child's birth, as this is the only way to determine the 60 day time period, or if she moves from the state. During this period, as with all Medicaid coverage, a recipient is entitled to the full array of Medicaid services offered by the state.

In addition, COBRA requires that the newborn child of a mother receiving Medicaid on the date of delivery be guaranteed Medicaid coverage as long as the mother is continuously eligible and the child remains in the mother's home, up to one year from the date of birth. In order to receive newborn coverage, the mother must verify the birthdate of the child and submit monthly reports to her Public Assistance office documenting that the child remains in her household. If the mother loses Medicaid coverage, has a break in coverage, or permanently leaves the state, the newborn also loses Medicaid coverage. All Eligibility Technicians (ETs) in the state have been instructed to re-evaluate a child's circumstances when newborn coverage is lost to determine if the child is eligible for "under 21" Medicaid coverage.

In Alaska, Medicaid operates on a "one-day one-month principle", meaning that if a person qualifies for Medicaid for one day of any given month, that person is eligible for the entire month. What this means in terms of the 60 day postpartum coverage is that, depending on the date of birth, the mother could qualify for up to three months of actual coverage, but will be guaranteed at least 60 days of coverage.

Retroactive Medicaid coverage is also available to any individual for a three month period prior to application or re-application, providing the applicant was eligible in each of the three prior months. For pregnant women, retroactive coverage is available as long as the woman meets the eligibility standards and was pregnant during each of the three prior months. Postpartum Medicaid coverage, however, cannot be granted retroactively, as the mother must be "receiving" Medicaid on the date of pregnancy termination to be eligible for postpartum coverage. For purposes of postpartum coverage, a person is considered to be "receiving" Medicaid if she has actually filed an application prior to termination of the pregnancy, whether or not the application has been acted upon by the state agency.

Pregnant women in Alaska can also receive an AFDC cash grant during the third tri-mester of pregnancy if there are no other children in the household. Eligibility for AFDC is determined by including the unborn child in the need standard, although the payment standard is based on the actual number in the household. (i.e. a single pregnant woman would need to qualify under the 2 person standard of $665 per month, but the payment would be based on the single pregnant woman standard of $421 per month).

OBRA 86

The Omnibus Budget Reconciliation Act of 1986 granted states flexibility in covering pregnant women and children whose family income is up to 100% of the federal poverty level under the Medicaid Program. In selecting this option, states may not lower their AFDC standards below those in effect on April 17, 1986 in order to finance the new option. Beginning in FY 88, states may increase the age level of covered children by one year each year until children up to the age of five are covered. States who select this option must cover both groups, and cannot elect to cover only pregnant women, or only infants and children. 26 states have taken advantage of this option.

OBRA INCOME STANDARDS

States may now opt to cover pregnant women (through 60 days following pregnancy) and newborn children (defined as birth through age one) with incomes above the state's AFDC eligibility threshold but below a state established threshold which can be set as high as the federal poverty level. Alaska's AFDC income standards are currently at 77.8% of the federal poverty level for Alaska (this equals 97% of the poverty level for the lower 48 states).

In Alaska, the income standards and payment standards are the same:

AFDC

| Adult included | | Adult not included | |
|---|---|---|---|
| | | 1 | $264 |
| 2 | $665 | 2 | $528 |
| 3 | $749 | 3 | $612 |

| | | | |
|---|---|---|---|
| 4 | $833 | 4 | $696 |
| 5 | $917 | 5 | $780 |
| 6 | $1001 | 6 | $864 |
| 7 | $1085 | 7 | $948 |
| each add | $84 | each add | $84 |

| | |
|---|---|
| single adult pregnant woman | $421 |
| increment for incapacitated spouse | $156 |

OBRA RESOURCE STANDARDS

OBRA allows states to eliminate any resource eligibility criteria for pregnant women. States who do not opt to eliminate the resource criteria must use the SSI resource standard rather than the AFDC resource standard. For children, states may not use a resource criteria more restrictive than the AFDC criteria.

The resource limits are:

| AFDC | APA/SSI |
|---|---|
| - a home of any value | - a home of any value |
| - a car worth $1,500 | - a car worth $4,500 |
| - other real or personal property worth up to $1,000 | - personal effects worth up to $2,000 |
| | - liquid resources worth $1,800 for individuals and $2,700 for couples |
| | - a burial plot |
| | - up to $1,500 for burial expenses |
| | - life insurance with face value up to $1,500 |

Newly covered pregnant women may also be considered as eligible throughout their pregnancy, regardless of any changes or fluctuations in family income. In addition, children receiving inpatient hospital care must be covered through the hospitalization, even if it goes beyond the child's first birthday.

OBRA SERVICES

Coverage for pregnant women is limited to pregnancy-related services (prenatal, delivery and postpartum) and services required for other conditions which complicate pregnancy; however, it is allowable for states to provide the full range of Medicaid services under this option.

States may also opt to provide enhanced services to pregnant women, without offering similar services to other eligible groups of recipients. The enhanced services may encompass the provision of case management, dietary counseling, social worker evaluations, prenatal education, etc., as

defined by the state. Infants and children under this option are eligible for the full scope of Medicaid services offered under the state plan.

Alaska provides the following Medicaid services:

- inpatient hospital care
- outpatient hospital care
- laboratory and x-ray services
- skilled nursing facility and home health services for individuals 21 and older
- physicians services
- rural health clinic services
- early and periodic screening, diagnosis and treatment for individuals under 21 (EPSDT)
- family planning
- medical transportation
- nurse midwife services
- community mental health clinic and state operated mental health clinic services
- intermediate care facility services
- intermediate care facility for the mentally retarded services
- skilled nursing facility services for individuals under 21
- optometrists services and eyeglasses
- mental institution services for persons under 21
- institution for mental diseases services for persons aged 65 and older
- treatment of speech, hearing and language disorders
- outpatient surgical care center services
- physical therapy
- occupational therapy
- prosthetic devices
- medical supplies
- adult dental services (limited to relief of pain and acute infection)
- chiropractic services
- personal care attendant services

Prescription drugs are provided to Medicaid recipients through the General Relief Medical Assistance Program.

PRESUMPTIVE ELIGIBILITY DETERMINATIONS

Another option provided by OBRA is one called presumptive eligibility. Under this option, ambulatory prenatal care may be made available to pregnant women when a qualified medical provider makes a presumptive eligibility determination based on the preliminary information that the family's income does not exceed Medicaid limits. Medical providers who can make presumptive eligibility decisions must meet certain federal criteria, be qualified by the state Medicaid agency, and be enrolled as a Medicaid provider with the state. These medical providers do not receive any additional compensation for making eligibility determinations.

Once a woman has been determined presumptively eligible, she must apply for Medicaid within 14 calendar days. The state has 45 days from the date of the presumptive eligibility determination to make a final determination of eligibility. Erroneous presumptive eligibility determinations made by medical providers are exempt from error rate calculations for the 14 day period and will receive matching funds from the federal government. The presumptive eligibility option is most useful when combined with the OBRA option covering pregnant women up to 100% of the federal poverty level with no resource test, since eligibility determinations involving income (and not resources) are simpler, and less prone to error.

The OBRA 86 changes were recommended to Congress by the National Governor's Association as a way of providing essential medical care to pregnant women and young children, improving the health status of the working poor and refocusing Medicaid back to its original purpose - providing medical care to poor children and their caretaker relatives. These options would provide extensive additional coverage of pregnant women and children, overlapping most of the same populations mandated to be covered by the medically needy program, without forcing the state to incur additional administrative costs. In addition, the OBRA changes would have a significantly smaller impact on error rates than a medically needy program. The major problem in implementing the OBRA pregnant woman option would involve developing a special claims processing system to accommodate the restriction of services to those related to pregnancy; and also making programming changes to the eligibility system if Alaska decided to allow for differing resource standards.

SUMMARY OF OBRA OPTIONS

NOTE: All of these changes require legislative action amending Title 47.07.020 and 47.07.030, as well as additional funds to cover selected optional groups and services.

1. Medicaid coverage of pregnant women, infants and children up to the age of one year. The pregnant women would be eligible for 60 days of postpartum coverage. The children would be eligible until the last day of the month of their first birthday, unless the child is hospitalized at that time, in which case the Medicaid coverage would continue until the child is released from the hospital.

2. Medicaid coverage for children can be expanded each year by a one year increment until children up to the age of five are covered.

3. Coverage of these two groups can be selected by the state at any income level above the AFDC standard but below 100% of the federal poverty level.

Alaska's federal poverty level

| Family size | annual income |
|---|---|
| 1 | $6,860 |

| | |
|---|---|
| 2 | $9,240 |
| 3 | $11,620 |
| 4 | $14,000 |
| 5 | $16,380 |
| 6 | $18,760 |
| 7 | $21,140 |
| 8 | $23,520 |
| each additional | $2,380 |

4. States may select a higher resource limit for these two groups; for pregnant women, the resource standard may be no more restrictive than the SSI standard, for children the limit may be no more restrictive than the AFDC standard. States may opt for no resource limit.

5. States may elect to limit coverage for pregnant women to prenatal, delivery and postpartum care, or provide the full range of Medicaid services. Children must be provided all Medicaid services.

6. States may choose to provide enhanced services for pregnant women.

7. States may choose to allow certain providers to make presumptive eligibility determinations.

PROBLEMS WITH IMPLEMENTATION

1. Estimating the cost of adopting the OBRA option. Unfortunately, Alaska has very little data upon which to base cost projections for the pregnant women and children option. There are approximately 13,000 births in the state each year; how many of these births are funded through Medicaid is unknown. The National Governor's Association made preliminary cost estimates for the OBRA option based on surveys within states and 1984 - 1986 population surveys. Their report estimated that 10,011 women in Alaska of childbearing years (age 15 to 44) live below the poverty level and do not have Medicaid coverage. The same study estimated that 974 births will occur to women without Medicaid coverage.

2. Resource options. Once again, estimating the number of women and children who would fall into particular groups based on the OBRA resource options (no resource limit, the SSI resource limit, or the AFDC resource limit for children) is not possible at this time. If women and children have differing resource options, there is a probability that pregnant women and their newborns would receive Medicaid through the 60 day postpartum period, and the children would then lose Medicaid coverage for the rest of their first year. The resource options would require some system changes in the Division of Public Assistance computer system, since the AFDC resource standard is currently on line as the resource limit. Additionally, adoption of the OBRA option would allow pregnant women and children who currently have incomes within the AFDC level, but are ineligible for Medicaid because they are over the resource limit, to attain Medicaid eligibility. Since the $1,000 resource limit is so low, many families

who may own land, or a vehicle valued over the $1,500 limit, are ineligible for Medicaid.

3. Medicaid services. Although states are allowed to limit the services available to pregnant women to pregnancy-related services and services for conditions which complicate pregnancy, in fact the current Alaska Medical Payment System is not capable of distinguishing these types of claims. It would be costly to implement a work order to accomplish this, and impractical since the current contractor will be replaced with a completely new Medical Management Information System in 1988. Additionally, the Division of Medical Assistance does not have the available staff resources to make medical judgements relating to claims for services for conditions which complicate pregnancy. In order to accomplish this, claims would have to be suspended, manually reviewed, and medical judgements made based on a review of each case file to determine if the claim was valid for payment. The Division does not have a physician on staff, and would need additional medical personnel to accomplish such a task. Denials of claims would result in increased hearings and may create unrest among enrolled medical providers, as providers would be less willing to provide services if they are aware that they may not be paid. Providing the full range of Medicaid services to pregnant women would be a more workable option.

4. Presumptive eligibility. If selected, this option should be chosen in conjunction with the "no resource limit" option, as eligibility determinations based solely on income are much simpler. This option would require that the division choose providers based on the federal criteria, complete outreach and training with the qualified providers, and develop and distribute simplified Medicaid applications. This option would place some stress on the Division of Public Assistance district offices, since the applications filed by pregnant women must be acted upon within 30 days. It would also require that the Division of Medical Assistance hire staff or expand its contract to provide outreach and training.

5. Personnel. A major increase in the eligible Medicaid population will have a direct impact on the Division of Public Assistance. Offices are already operating beyond capacity, and a significant increase in the number of applications would require additional staff to absorb the caseload, if the offices are to continue to process applications timely. The Division of Public Assistance estimates that they would need 9 new Eligibility Technicians to handle the increased workload: 4 for intake, and 5 for maintenance.

# ALASKA'S IMPROVED PREGNANCY OUTCOME PROJECT

The Improved Pregnancy Outcome (IPO) project was initiated in Alaska at the Fairbanks Health Center in 1980. Funded by a Federal grant (Health & Human Services MCJ-023119-02-0), it was administered by the Alaska Department of Health & Social Services. The goal of the project was healthier babies through increasing accessibility of prenatal care to high-risk women, especially teenagers. Assessment of risk was based on medical, social, and economic criteria.

Staffed by a full-time Public Health Nurse and a half-time Community Health Aide, IPO services included: 1) financial assistance for prenatal doctor visits; 2) prenatal education classes; 3) teen pregnancy support groups; 4) individual counseling; 5) referral to other agencies (including the WIC nutrition program); and 6) coordination of care and services.

An evaluation of the program was conducted in 1983. After an extensive literature review of both the measures of and factors affecting pregnancy outcomes especially among teenagers (available upon request), three indicators were chosen as outcome measures: infant's birth weight, gestational age, and 5-minute Apgar score. Prematurity, low Apgar score, and especially low birth weight have all been consistently linked to higher rates of infant mortality.

Factors influencing pregnancy outcomes were divided into two categories: socio-demographic (mother's age, race, education, and marital status; father's race and education; family size; annual income;

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and amount of IPO financial assistance), and medical-obstetric (mother's risk score, gravidity, and parity; timing and frequency of prenatal care; complications of pregnancy, labor, and delivery; and specific risk factors such as use of tobacco, alcohol, and drugs).

Data on these explanatory variables were gathered for the 309 women enrolled in the IPO program during 1981, 1982, to mid-1983. A random control group of 275, stratified by age, race, and marital status, was selected of women who delivered in Fairbanks during the 20 months immediately preceding the initiation of the IPO program. The second phase of the study, not included here, assessed the level of satisfaction with the IPO program by clients, providers, and staff.

The average monthly enrollment in IPO was 72 in 1981, 71 in 1982, dropping to 45 in 1983, the result of funding reductions. Over half of the women were in their 20's at delivery; over a third were teenagers (15 percent 17 years of age or younger); a tenth were in their 30's. Over 80 percent were white. Natives and blacks each constituted about 8 percent, with 2 percent Asian. At delivery, 54 percent were married. Two out of 3 mothers and almost 9 of 10 fathers had completed at least high school, while 9 percent and 12 percent respectively had completed at least 4 years of college. Over half (55 percent) of the IPO women were assessed as medical high risk, 38 percent as social high risk.

The percentage of IPO financial assistance for doctor visits was determined by a sliding scale based on client's income. Of 254 annual incomes reported, 82 percent were less than $10,000; half were under $5070. Two out of 3 enrollees (201 in all) were assisted with IPO funds at some level, IPO paying 100 percent for 154. The amount per client ranged from $13 to $954, half receiving $152 or less. Other

sources of financial aid included Medicaid (11 percent), Alaska Area Native Health Service (9 percent), military (4 percent), and private means (8 percent).

Of IPO women, 71 percent initiated prenatal care in the first trimester; 24 percent in the second, and 5 percent in the third. The number of prenatal doctor visits ranged from 0 to 28; half had 10 or more. It was the first pregnancy for 45 percent of the IPO clients; the first child for 68 percent. In all, 268 of the 309 clients (87 percent) delivered babies while enrolled. Of the 41 who did not deliver, 31 had either moved out of town or were lost to follow-up. Ten women, 4 of them teens, had spontaneous abortions, half before 14 weeks gestation. Of all deliveries, 21 percent were by Cesarean section; 96 percent of all deliveries occurred in a hospital.

As the data in Table 1 reveal, nearly 90 percent of the IPO mothers delivered babies of normal birth weight. The median birth weight of infants born to IPO women was 3387 grams. The tiniest baby that survived

Table 1

BIRTH WEIGHT FOR IPO BABIES
(in grams)

| | N | % |
|---|---|---|
| Very Low BW (≤1499 grams) | 7 | 2.6 |
| Low BW (1500-2499) | 12 | 4.5 |
| Normal BW (2500-4499) | 238 | 88.8 |
| High BW (≥4500) | 11 | 4.1 |
| TOTAL | 268 | 100.0 |

weighed 870 grams; the heaviest baby weighed 4918 grams.

Table 2 shows that over 87 percent of the IPO babies were term, ten percent were pre-term, with nearly 3 percent post-term. The range of gestational age was 28 to 43 weeks, the median being 40. All 7 of

the VLBW babies were premature, as were 6 of the 12 LBW babies.

Table 2

GESTATIONAL AGE FOR IPO BABIES
(in weeks)

| | N | % |
|---|---|---|
| Pre-term (< 38) | 27 | 10.1 |
| Term (38-42) | 234 | 87.3 |
| Post-term (> 42) | 7 | 2.6 |
| TOTAL | 268 | 100.0 |

The data in Table 3 show that nearly 94 percent of IPO infants had high Apgars; fully half had scores of 9 or 10.

Table 3

APGAR SCORES FOR IPO BABIES

| | N | % |
|---|---|---|
| Low(< 7) | 16 | 6.2 |
| High (7-10) | 244 | 93.8 |
| TOTAL | 260 | 100.0 |

Nearly 3 out of 4 VLBW babies had low Apgars, as did over one fourth of the HBW babies. However, all 12 LBW babies had Apgars of 7 or above. High Apgars characterized 80 percent of the premature babies, nearly 86 percent of the post-term babies as well as over 95 percent of term babies.

Table 4 compares the measures of the 3 outcome variables for the IPO and Control groups. The mean birth weight for IPO babies was 3351.1 grams, compared to 3327.5 grams for the Controls, a difference which was not statistically significant as determined by the difference of means t test. Neither did the groups differ significantly on gestational age or Apgar score.

Table 4

MEANS FOR IPO GROUP AND CONTROL GROUP

| | IPO | Control | |
|---|---|---|---|
| Birth Weight | 3351.1 | 3327.5 | $p > .05$ |
| Gestational Age | 39.5 | 39.8 | $p > .05$ |
| Apgar Score | 8.6 | 8.7 | $p > .05$ |

The data in Table 5 show, however, that the birth weight of babies born to IPO women age 18 years of age or less (3473.0 grams) was significantly higher than that for the babies of Control group women of the same age (3209.3 grams).

Table 5

BIRTH WEIGHT OF BABIES OF IPO AND CONTROL GROUPS
born to women age 18 years or less

| | IPO | Control | |
|---|---|---|---|
| Mean Birth Weight | 3473.0 | 3209.3 | |
| Standard Deviation | 469.9 | 584.9 | |
| N | 65 | 122 | $p < .05$ |

Thus, for the teens, who were the real focus of the program, IPO services did in fact result in healthier babies, as measured by birth weight.

The IPO data were examined in greater detail in order to determine which explanatory variables were highly associated with pregnancy outcomes. Pearson product-moment correlation coefficients between each variable and each of the 3 outcome measures were calculated, and then tested for statistical significance. Table 6 presents the result of that analysis for only those variables which were found to be

significantly correlated with one or more of the 3 outcome measures.

Table 6

PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS

| | Outcome Measures | | |
|---|---|---|---|
| Explanatory Variables | Birth Weight | Gestational Age | Apgar Score |
| Socio-demographic: | | | |
| Mother's Age | -.05 | -.17** | -.14* |
| Mother's Race | -.16* | -.14* | .00 |
| Father's Education | .06 | -.02 | .15* |
| Medical-Obstetric: | | | |
| Gravidity | -.01 | .00 | -.14* |
| Parity | .13* | .07 | -.04 |
| Risk Score | .01 | -.06 | -.17* |
| Number of Prenatal Visits | .23** | .22** | .06 |
| Number of Health Ctr Visits | .07 | .14* | .02 |
| Number of Home Visits | -.20** | -.20** | -.19** |
| Number of Phone Contacts | -.16* | -.11 | -.18** |
| Complications of Pregnancy | -.04 | .09 | .17** |
| Illness or Condition affecting Pregnancy | -.12 | -.05 | .18** |
| Type of Delivery | -.07 | -.14* | -.05 |

* $p < .05$
** $p < .01$

Of the socio-demographic variables studied, 3 were significant: mother's age, mother's race, and father's education. Research studies have consistently reported that adolescents are more likely than older women to deliver premature babies. In this study, however, younger mothers were less likely to have premature infants. IPO teens under 15 years of age delivered babies with a mean gestational age of 40.3 weeks, while women 25-29 years old, generally considered to be the prime age for childbearing, delivered babies with a mean gestation of 38.9 weeks. Teens made up nearly 40 percent of the entire IPO group, yet delivered

only 19 percent of the premature babies. The results for Apgar scores are similar. In general, babies of younger mothers had higher Apgars. These findings contrast with research data that have consistently reported higher infant mortality rates for newborns of mothers under 20 years of age. It appears that the IPO program was successful in promoting healthier babies among teenagers.

The mean birth weight of infants born to black women (2670 grams) was significantly lower than that for whites (3386 grams), Natives (3728), and Asians (3156). Blacks accounted for about 8 percent of the entire IPO group, yet delivered nearly 43 percent of the Very Low Birth Weight babies. Similarly, infants of black women had shorter gestations on the average than others. These findings of less successful pregnancy outcomes for black women are consistent with the research literature.

The level of father's educational attainment was positively correlated with the baby's Apgar score. Fifty-five of 56 babies born to fathers who had had some college had high Apgar scores, while nearly 9 of 10 low Apgar babies were born to men who had a high school education or less.

While differences in birth weight between IPO women actually financially assisted with IPO funds as compared to IPO women whose prenatal expenses were paid by other sources were not statistically significant, the mean birth weight for IPO-assisted babies was 3367.5, which was within 60 grams of the mean birth weight of babies born to mothers using insurance and private means for prenatal expenses, a group generally characterized by lower risk pregnancies. The IPO babies' average birth weight was 350 grams higher than that for Medicaid patients. Perhaps the education and counseling components of

the IPO program resulted in higher birth weights than a program such as Medicaid that gives financial assistance only.

The medical-obstetric variables which were significantly related to one or more of the outcome measures included mother's gravidity, parity, and risk score; number of prenatal doctor and Health Center visits, home visits, and telephone contacts; whether or not there had been pregnancy complications; and type of delivery.

Gravidity refers to the total number of pregnancies which a woman has had. The results of this study showed that the Apgar score of the baby decreased as the number of pregnancies increased. The mean Apgar for babies of first pregnancies was 8.6, but dropped to 5.3 for sixth through tenth pregnancies. Parity is the total number of live births a woman has had. Baby's birth weight increased as parity increased. Higher birth weight babies were more likely to be born to women with a greater number of previous live births. The mean birth weight of women giving birth to a first child was 3327.4 grams, compared to a mean of 3532.8 grams for mothers having a third, fourth, fifth, or sixth child, a difference of over 200 grams. It is unclear why Apgar scores were negatively correlated with number of pregnancies, while birth weight was positively correlated with number of live births. A suggestion is the increasing evidence that multiple abortions negatively impact subsequent births.

The risk assessment, an evaluation of the woman's risk regarding favorable birth outcome, was completed at enrollment or first prenatal visit, and was based on her prenatal history and current health status. An assessment of social high risk indicated potential problems during the pregnancy or after the baby's birth such as unmarried mother,

maternal age under 16, use of alcohol or drugs, or psychiatric problems. A woman was assessed as financial high risk if her annual income would be insufficient to pay for adequate prenatal care. IPO was of the most help to that group of women caught in the gap between eligibility for welfare and economic solvency. Over 93 percent of the IPO women were assessed as high risk on one or more of these three dimensions.

The data revealed that lower risk scores were related to higher Apgar scores. The women whose risk assessment scores of 6 to 9, indicating the highest risk, constituted less than 20 percent of the total enrollment, yet accounted for over 36 percent of the low Apgar infants. Every one of the low Apgar babies was born to a high-risk mother. As for specific risk factors, non-smokers delivered babies that were on the average 232 grams heavier than those of smokers, although this difference was not statistically significant. Birth outcomes did not differ significantly between users and non-users of either alcohol or street drugs.

Better birth outcomes were associated with a higher number both of prenatal doctor visits and prenatal Health Center visits, the latter occurring as the client picked up a voucher prior to each doctor's appointment, attended prenatal education classes or teen pregnancy support group meetings, or received nutritional-counseling. Better birth outcomes were also associated with fewer home visits by the Public Health Nurse and with fewer telephone contacts with the Health Center. Women with problem pregnancies or premature, low birth weight babies prompted more intensive staff follow-up.

Mothers with pregnancy complications of any kind delivered babies

with significantly lower mean Apgar scores (8.0) than mothers having no complications (8.7). The mean number of weeks gestation for babies of mothers having vaginal deliveries was significantly greater than that for Cesarean section deliveries (39.8 versus 39.0 weeks).

Multiple stepwise regression analysis showed that variables which in combination explained the greatest amount of the variance in each of the 3 outcome measures were essentially the same ones discussed above.

In summary, the babies of IPO teens had significantly higher birth weights than did the babies of the Control teens. Healthier babies did in fact result from IPO intervention for the targeted group, the high-risk teenager.

## Florida's Handicap Prevention Act of 1986

At the national meeting of Project Zero to Three in December, 1986, a number of participants requested copies of Florida's new legislation, which is designed to foster a continuum of integrated services to identify, diagnose, and treat high risk conditions in pregnant women and in young children between the ages of birth and five years. The legislative language is reproduced below. For further information contact Robert Furlough, Ph.D., Assistant Director, Children's Medical Services Program, Department of Health, 1323 Winewood Boulevard, Building 5, Room 130, Tallahassee, FL 32301.

Section 41.

(1) Short title--This section and the following seven sections of this act may be cited as the "Handicap Prevention Act of 1986."

(2) This section shall take effect July 1, 1986.

Section 42.

(1) **Legislative intent**--The Legislature finds and declares that 50 percent of handicapping conditions in young children can be prevented and such conditions which are not prevented can be minimized by focusing prevention efforts on high risk pregnant women and high risk and handicapped young children, in the formative years from 0 to 5, and their families. The Legislature further finds that by preventing handicaps in young children, infant mortality and child abuse can be reduced and Florida can reap substantial savings in both human potential and state funds. The Legislature finds that a continuum of integrated services is needed to identify, diagnose, and treat high risk conditions in pregnant women and in young children between the ages of 0 to 5 years. The Legislature further finds that intra-agency and interagency coordination can enhance the framework of a continuum that is already in existence and that coordination of public and private sector prevention services can reduce infant mortality and handicapping conditions in young children and minimize the effects of handicapping conditions. It is the intent of the Legislature, therefore, that a continuum of efficient and cost-effective prevention services be identified, that a plan for interagency and intra-agency coordination be developed for the purpose of implementing such a continuum and that the continuum of services be implemented as resources are made available for such implementation.

(2) This section shall take effect July 1, 1986.

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Section 43.

(1) **Definitions**—As used in this act, the term:

(a) **"Handicapped child"** means a preschool child who is developmentally disabled, mentally handicapped, speech impaired, language impaired, deaf or hard of hearing, blind or partially sighted, physically handicapped, health impaired, emotionally handicapped, or who has a specific learning disability or any other child who has been classified under rules of the State Board of Education as eligible for preschool special education services.

(b) **"High risk child"** means a preschool child with one or more of the following characteristics:

(1) A victim or a sibling of a victim in an indicated report of child abuse or neglect.
(2) A graduate of a perinatal intensive care unit.
(3) A mother under 18 years of age, unless the mother received necessary comprehensive maternity care and the mother and child currently receive necessary support services.
(4) A developmental delay of one standard deviation below the mean in cognition, language, or physical development, whose family is below poverty level.
(5) A child surviving a catastrophic infectious or traumatic illness known to be associated with developmental delay.
(6) A child of a parent or guardian who is developmentally disabled, severely emotionally disturbed, drug or alcohol dependent, or incarcerated and who requires aid in meeting his child's developmental needs.
(7) A child who has no parent or guardian.

(c) **"Neonate"** means a child from birth to 28 days of life.

(d) **"Prenatal"** means the time period from pregnancy to delivery.

(e) **"Preschool child"** means a child from 0 to 5 years of age.

(f) **"Preventive health care"** means periodic physical examinations, immunizations, and assessments for hearing, vision, nutritional deficiencies. and developmental of language, physical growth, small and large muscle skills, and emotional behavior, as well as age-appropriate laboratory tests.

(g) "Teen parent" means a person under the age of 18 years who is pregnant, who is the father of the unborn child, or who is the parent of a child.

(2) This section shall take effect July 1, 1986.

Section 44.

(1) Continuum of services--The Department of Education and the Department of Health and Rehabilitative Services shall utilize the continuum of prevention services to high risk and handicapped children outlined in this section as a basis for the intra-agency and interagency program coordination, monitoring, and analysis as required in the Handicap Prevention Act of 1986. The continuum shall be considered to be a guide and may be expanded or reduced as determined by intra-agency or interagency findings and agreement, whichever is applicable. Implementation of the continuum shall be based upon interagency prioritization when programs impact both agencies or upon single agency prioritization when programs impact only one agency and shall be based upon availability of resources. The continuum shall include, but not be limited to:

(a) FAMILY LIFE EDUCATION AND SUPPORT SERVICES PRIOR TO PREGNANCY--

1. Education of the public on the causes of handicapping conditions, normal and abnormal child development, and parenting skills important to the healthy development of young children.
2. Family planning services to low income women on a voluntary basis.

(b) MATERNITY AND NEWBORN SERVICES--

1. Comprehensive prenatal care, accessible to all pregnant women and provided for low income and high risk pregnant women.
2. Nutrition services for low income pregnant and lactating women and low income preschool children.
3. Delivery and postpartum care services for indigent pregnant women.
4. Perinatal intensive care.
5. Developmental training, parent training, and appropriate follow-through services for neonatal intensive care unit infants.
6. Metabolic screening for all newborns.
7. Registry of high risk newborns and newborns with birth defects which utilizes privacy safeguards for children and parents who are subjects of the registry.

8. A well-mother information program at the birth site to provide an informational brochure on immunizations, normal child development, and community services for all parents of newborns and to schedule Medicaid eligible infants for a health check-up.

(c) HEALTH SERVICES FOR PRESCHOOL CHILDREN--

1. Preventive health care accessible for all preschool children.
2. Preventive health care provided for indigent preschool children.
3. Well-baby insurance for preschool children included in the family policy coverage.
4. Medical care for seriously impaired and spina bifida preschool children.
5. Cost-effective quality health care alternatives for medically involved infants and young children in or near their home.

(d) EDUCATION AND RELATED SERVICES FOR HANDICAPPED AND HIGH RISK PRESCHOOL CHILDREN--

1. Special education and related services for handicapped children.
2. Education and related services for high risk children.
3. Local registry of preschool children with handicapping and high risk conditions which utilizes privacy safeguards for children and parents who are subjects to the registry.
4. Information sharing system between the Department of Health and Rehabilitative Services and the Department of Education on children eligible for services. Information may be shared when parental or guardian permission has been given for release.

(e) SUPPORT SERVICES FOR HIGH RISK AND HANDICAPPED CHILDREN AND THEIR FAMILIES--

1. Child care, parent education, counseling, prenatal care, and transportation for teen parents.
2. Respite care, homemaker care, crisis management, and other services that allow families of high risk and handicapped children to maintain and provide quality care to their children at home.
3. Utilization of the elderly, either as volunteers or paid employees, to work with handicapped or high risk children.

(2) This section shall take effect July 1, 1986.

Section 45.

(1) **Agency responsibilities; joint report--**

(a) The Department of Health and Rehabilitative Services and the Department of Education shall prepare a joint report to be presented to the President of the Senate, the Speaker of the House of Representatives, and the Governor by March 1, 1987, which shall include, but not be limited to, the following:

1. Identification of the department which has the responsibility for each program area described in the continuum;
2. Identification of the unit within each department which has responsibility for each program area described in the continuum and the unit which has responsibility for coordination, monitoring, and implementation as described in paragraph (c);
3. Identification of existing continuum programs on an intra-agency and interagency basis;
4. Identification of methodology for reduction of duplication and coordination of services on both an intra-agency and interagency basis;
5. Identification of coordination and integration of prevention services with state agencies other than the Department of Education or the Department of Health and Rehabilitative Services;
6. Description of the progress of the reduction of duplication and coordination as described in subparagraphs 4 and 5;
7. Prioritization of implementation of continuum components;
8. Identification of barriers impacting implementation of components of the continuum of services;
9. Proposed changes to the continuum of services;
10. Recommendations, if any, for legislative, administrative, or budgetary changes. Recommendations on budgetary changes shall include recommendations regarding the development by the Department of Health and Rehabilitative Services and the Department of Education of a unified program budget for all prevention services to high risk and handicapped children.

(b) At least biennially, the Department of Health and Rehabilitative Services and the Department of Education shall readdress the joint report submitted pursuant to this section and make necessary revisions. The revised report shall be submitted to the Governor, the Speaker of the House of Representatives, and the President of the Senate no later than January 1, 1989, and by January 1 of alternate years thereafter.

(c) The Department of Health and Rehabilitative Services and the Department of Education shall identify a unit within each respective agency with intra-agency responsibilities for the development of the report, for ongoing monitoring and implementation of the continuum, and for interagency coordination in the analysis of the implementation of the continuum.

(d) The Florida Developmental Disabilities Planning Council shall serve as the interagency coordinator for the activities of the Department of Health and Rehabilitative Services, the Department of Education, and other state agencies and shall monitor the development of the joint reports required by this section. The council shall advise the substantive committees of the Senate and the House of Representatives and the Office of the Governor on the progress of activities required by the Handicap Prevention Act. For the purpose of carrying out their responsibilities, the council shall have access to statistical information, budget documents and workpapers developed by the Department of Health and Rehabilitative Services and the Department of Education in preparing the joint report. By March 1, 1989, the council shall recommend to the President of the Senate, the Speaker of the House of Representatives, and the Governor a permanent placement for the interagency coordination function.

(2) This section shall take effect July 1, 1986.

Section 46.

(1) Uniform standards--

(a) The Department of Health and Rehabilitative Services, in consultation with the Department of Education, shall establish a minimum set of procedures for each preschool child who receives preventive health care with state funds. Preventive health care services shall meet the minimum standards established by federal law for the Early Periodic Screening, Diagnosis and Treatment program and shall provide guidance on screening instruments which are appropriate for identifying health risks and handicapping conditions in preschool children.

(b) If funds are appropriate, the interagency coordinator shall contract for a study to determine the feasibility of a uniform system for diagnosis and eligibility for services to handicapped or high-risk children by district schools and the Department of Health and Rehabilitative Services. If determined

feasible, the study shall also include recommendations of a uniform system for diagnosis and eligibility for services to handicapped or high-risk children. The study shall be completed by March 1, 1987. The uniform system, if recommended, shall be reviewed by both the Department of Education and the Department of Health and Rehabilitative Services to determine whether or not the system should be used by the diagnostic and learning resource system to assist school districts in diagnosing, evaluating, and determining multiple eligibility resources for handicapped or high-risk children pursuant to ss.229.832-229.834, Florida Statutes, and by the Department of Health and Rehabilitative Services in determine multiple eligibility resources for its clients.

(c) Duplicative diagnostic and planning practices shall be eliminated to the extent possible. Diagnostic and other information necessary to provide quality services to high-risk or handicapped children shall be shared between the program offices of the Department of Health and Rehabilitative Services, pursuant to the provisions of s.228.093, Florida Statutes.

(2) This section shall take effect July 1, 1986.

Section 47.

(1) Prenatal care--The Department of Health and Rehabilitative Services shall:

(a) Provide a statewide prenatal care program for low-income pregnant women which includes early, regular prenatal care by practitioners trained in prenatal care and delivery. access

(b) Provide a risk factor analysis to identify women at risk for a preterm birth, or other high-risk conditions, and provide education on maintaining health birth conditions.

(c) Monitor the availability and accessibility of prenatal care services and the development of special outreach programs for medically underserved and rural areas.

(d) Establish by rule the eligibility criteria for prenatal care for indigent pregnant women when state funds are used for prenatal care.

~ 550,000 base prg
70 000 90% - 125%

(e) Develop guidelines for expediting the provision of prenatal care for eligible women and monitor the implementation of the guidelines to determine the need for further action.

(f) Expand, to the extent possible, training of state and local health providers in programs and practices pertaining to improved pregnancy outcomes.

(2) This section shall take effect July 1, 1986.

Section 48.

(1) The Department of Health and Rehabilitative Services and the State Board of Education shall adopt rules necessary for the implementation of the Handicap Prevention Act of 1986.

(2) This section shall take effect July 1, 1986.

L3:bjp Z-76/87 2nd draft p--1

RECEIVED Code Reviser
SEP 08 1986
DSHS/Division of Health
Maternal & Child Health Section

DRAFT

AN ACT Relating to prenatal care; adding a new chapter to Title 71 RCW; and making an appropriation.

BE IT ENACTED BY THE LEGISLATURE OF THE State of Washington:

NEW SECTION. Sec. 1. The legislature finds that early and continuous comprehensive prenatal care is a major factor in assuring healthy, full-term infants. Research findings show that inadequate prenatal care is associated with stillbirths and low birthweight in infants and is the leading cause of neonatal and infant mortality, as well as continuing health and developmental problems during childhood and adulthood. Early comprehensive prenatal care will result in reduced human suffering, improved life quality, and reduced social service and education costs. Public funds invested in comprehensive prenatal care will result in corresponding, but greater reductions in hospital costs for delivery and perinatal care.

The legislature therefore establishes a comprehensive prenatal care program to increase participation in early care for low-income women who do not fully qualify for medical assistance or have adequate private insurance or other resources. The legislature further finds it in the public interest to provide public education on the benefits of early and continuous prenatal care and healthy lifestyles during pregnancy.

NEW SECTION. Sec. 2. Unless the context clearly requires otherwise, the definitions in this section apply throughout this chapter.

(1) "Comprehensive prenatal care" means the continuum of services required to promote optimal mother and infant health. Services shall include prenatal, delivery, and postpartum care and preventative education and counseling, as appropriate.

(2) "Department" means the department of social and health services.

(3) "Local health agency" means a health department, primary care clinic, private nonprofit agency, or other public or private agency that either has an appropriately qualified physician on staff or subcontracts with one or more physicians and is willing to coordinate comprehensive prenatal care within a designated geographic area.

(4) "Low income" means the eligibility levels established by the department for services provided under this chapter and does not include persons who fully qualify for medical assistance or have adequate private insurance or other resources.

(5) "Perinatal" means the period from the establishment of pregnancy to one month following delivery.

NEW SECTION. Sec. 3. The department shall establish a comprehensive prenatal care program for low-income women. In implementing the program, the department shall:

(1) Establish income or other eligibility standards, minimum standards for services to be provided, indicators and methods for measuring effectiveness, reimbursement methods, reporting, and other policies or guidelines as the department deems appropriate.

(2) Contract with local health agencies to provide comprehensive prenatal care services meeting the minimum standards required by the department.

(3) Provide technical assistance to local health agencies and encourage locally designed, cost-effective systems that coordinate with existing programs and promote community and provider participation in the delivery of prenatal care services under this chapter.

(4) Provide or arrange for public education programs emphasizing the benefits of early and continuous prenatal care and healthy lifestyles, with particular attention directed to high-risk populations such as teenagers and certain minority groups.

(5) Develop and implement a perinatal data system to monitor the rates of low birthweight and perinatal and infant mortality and evaluate effects of the services provided. The department shall ensure that information regarding client characteristics, use of

services, and individual outcomes is provided as required by local contractors in a manner which preserves client confidentiality.

(6) Adopt rules under chapter 34.04 RCW to carry out the purposes of this chapter.

NEW SECTION. Sec. 4. The department shall report, by January 15 of each odd-numbered year, to the appropriate committees of the senate and house of representatives on the comprehensive prenatal care program. The report shall include eligibility levels, numbers of persons served, an estimate of persons potentially eligible for program services, information on public education programs, and an analysis of the effectiveness of the program.

NEW SECTION. Sec. 5. The sum of ..... dollars or so much thereof as may be necessary is appropriated to the department of social and health services from the general fund for the 1987-89 biennium to carry out the purposes of this act.

NEW SECTION. Sec. 6. Sections 1 through 4 of this act shall constitute a new chapter in Title 74 RCW.

September 23, 1987




Mr. Lawton Chiles
Chairman
National Commission to
Prevent Infant Mortality
Switzer Building, Room 2006
330 C Street, SW
Washington, DC 20201

Dear Mr. Chiles:

Thank you for letting me know about the establishment of the National Commission to Prevent Infant Mortality. This is a vital issue of concern to all of us, but especially to parents of infant children.

I am taking the liberty of sharing your letter with Myra Munson, Commissioner of Department of Health and Social Services.

Good luck in your worthwhile endeavors and, please, keep me informed as to your progress.

Sincerely,

S/S Steve Cowper

Steve Cowper
Governor

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CAREN2/chiles

National Commission to Prevent Infant Mortality
Switzer Building • Room 2006
330 C Street, S.W. • Washington, D.C. 20201
202-472-1364

September 3, 1987

SEP 1987
GOVERNOR'S OFFICE

The Honorable Steve Cowper
Governor
Pouch A
Juneau, AK 99811

Dear Governor:

I am pleased to announce the establishment of the National Commission to Prevent Infant Mortality. Created by Congress (P.L. 99-660), the Commission, made up of Members of Congress, federal and state government officials, along with maternal and child health experts, has been charged with putting together a national plan for reducing and preventing infant mortality in the United States.

For many reasons an unacceptably high number of infants, nearly 11 out of 1000 born each year, die before their first birthdays. Although this rate is a marked improvement over years gone by, our progress in lowering our infant mortality rate has come to a virtual standstill in recent years. Indeed, the United States, which ranked sixth internationally in the early 1950's, now ranks fourteenth among industrialized countries.

Both the causes of infant mortality and potential solutions have been well documented in numerous studies and reports. The main cause of infant death is low birth weight and the most significant way to prevent low birth weight is for the mother to receive adequate, early prenatal care. It is such a simple sounding solution yet, as you know, it has remained an elusive goal in this country.

The answers are out there. They involve both health and social strategies, as well as filling in the gaps in programs and services for pregnant women and infants and finding ways to better coordinate and organize these programs and services. The National Commission to Prevent Infant Mortality has been established to galvanize a national strategy for preventing infant mortality. The Commission will be holding public hearings and meetings across the country to bring the problems and solutions to the attention of public policymakers and private sector leaders. We will be presenting our plan to the President and Congress within one year.

All of us have a stake in this and an important role to play. I ask for your support of our efforts during this year, and even more importantly, your leadership on this important public health issue. We will keep you informed of our progress as the year proceeds.

Sincerely yours,

Lawton Chiles

Lawton Chiles
Chairman

enclosures

National Commission to Prevent Infant Mortality
Switzer Building • Room 2000
330 C Street, S.W. • Washington, D.C. 20201
202-472-1864

## COMMISSION MEMBERS

The Honorable Lawton Chiles
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United States Senate
Washington, D.C. 20510
202/224-5274

The Honorable J. Roy Rowland
Vice Chairman
U. S. House of Representatives
Washington, D.C. 20515
202/225-6531

The Honorable Otis R. Bowen
Secretary, Department of
Health and Human Services
Hubert H. Humphrey Building
200 Independence Avenue S.W.
Washington, D.C. 20201
202/245-3410

The Honorable Charles A. Bowsher
Comptroller General of the
United States
General Accounting Office
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Washington, D.C. 20548
202/275-5481

The Honorable David F. Durenberger
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Lynda Johnson Robb
Hunton and Williams
2000 Pennsylvania Avenue N.W.
9th Floor
Washington, D.C. 20006
202/955-1692

(over)

# NATIONAL COMMISSION TO PREVENT INFANT MORTALITY

## BIOGRAPHICAL SKETCHES OF MEMBERS

The Honorable Lawton Chiles, Chairman
United States Senator

Senator Chiles (D-Florida) was first elected to the U. S. Senate in 1971. One of the Senate's key advocates for maternal and child health, he sponsored the legislation to establish the National Commission to Prevent Infant Mortality. Senator Chiles' committee assignments include the Senate Appropriations Committee and its Subcommittee on Labor, Health and Human Services which he chairs, and the Senate Budget Committee, which he also chairs. He is also a member of the Senate Children's Caucus.

Charles Bowsher
Comptroller General of the United States

Mr. Bowsher was appointed by President Reagan in October, 1981, to serve as Comptroller General, a 15 year appointment by law. Prior to that, he was with Arthur Andersen and Co. for 25 years, except for a 4 year appointment, 1967-1971, as Assistant Secretary of the Navy for Financial Management, under Presidents Johnson and Nixon.

The Honorable Otis R. Bowen, M.D.
Secretary, Department of Health and Human Services

Dr. Bowen was sworn in as Secretary of Health and Human Services on December 12, 1985. He is a former two-term governor of Indiana (1973-1981) and member of the state House of Representatives in Indiana (1957,1958, and 1961-1972). Dr. Bowen came to HHS from the Indiana University School of Medicine in Indianapolis where he was serving as Lester D. Bibler professor of family medicine and director of undergraduate family practice education. He has served on a number of federal advisory bodies, including the Advisory Council on Social Security, 1982-1984, of which he was the chairman.

The Honorable David F. Durenberger
United States Senator

Senator Durenberger (R-Minnesota) was first elected to the U.S. Senate in 1978 to fill the seat of Hubert H. Humphrey. He is a key leader in the Senate on maternal and child health issues, and has sponsored legislation to improve access to prenatal and postnatal care for low income women and health care for their

General and Assistant Secretary for Health and served in those capacities concurrently from July, 1977 through January, 1981. Dr. Richmond is a pediatrician.

The Honorable Richard Riley

Governor Riley serves as the chairman of the advisory committee to the Southern Regional Project on Infant Mortality and also chairs the Advisory Board to the new Robert Wood Johnson Healthy Futures Initiative, a project to reduce infant mortality in the southern states. Governor Riley is a former two-term Governor of the State of South Carolina.

Lynda Johnson Robb

Mrs. Robb, a former First Lady of the State of Virginia, is a strong national spokesperson on infant mortality and children's health issues. She has served on the Southern Regional Task Force on Infant Mortality and is a member of the Advisory Committee on Infant Mortality for the State of Virginia.

The Honorable J. Roy Rowland
Member of Congress

Representative Rowland (D-Georgia, 8th District), a physician, was first elected to the U.S. House of Representatives in 1983. His committee assignments include the Select Committee on Children, Youth, and Families and its Crisis Intervention and Prevention Strategies Task Forces. He also is a member of the Congressional Biomedical Ethics Board and the Congressional Rural Caucus.

The Honorable Thomas J. Tauke
Member of Congress

Representative Tauke (R-Iowa, 2nd District) was first elected to the U.S. House of Representatives in 1979. His committee assignments include the Energy and Commerce Committee and its Subcommittee on Health and the Environment, and the Education and Labor Committee and its Subcommittee on Human Resources of which he is the Ranking Minority Member. Mr. Tauke also is a member of the Congressional Biomedical Ethics Board.

The Honorable James Thompson
Governor of Illinois

Governor Thompson is serving his fourth term as Governor of Illinois. Prior to this, he was a U.S. Attorney for the Northern District of Illinois. Governor Thompson was the chairman of the

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# CONCEPT PAPER

# NATIONAL COMMISSION TO PREVENT INFANT MORTALITY

## INTRODUCTION

The National Commission to Prevent Infant Mortality was created by Congress (PL 99-660) and established on July 1, 1987. The Commission consists of 15 members, including Members of Congress, the Secretary of Health and Human Services, the Comptroller General of the United States, representatives from state governments, and members of the maternal and child health care community. Through a series of public meetings and hearings, the Commission will develop recommendations which it will publish and present to the President and Congress within one year of its establishment.

## MISSION STATEMENT

The National Commission to Prevent Infant Mortality is charged with recommending a cohesive and effective national policy to reduce and prevent infant mortality in the United States. This will involve outlining (1) appropriate strategies for high risk populations, (2) the appropriate roles of local and state governments, the Federal government, and the private sector in establishing a comprehensive approach to preventing infant mortality, and (3) specific changes needed within Federal laws and Federal programs, including changes needed to improve the national vital statistics registration system.

## DUTIES OF THE COMMISSION

The Commission will develop its recommendations by:

1. Identifying and examining Federal, state, local, and private resources that impact infant mortality -- including, but not limited to:

   - the effectiveness and adequacy of programs such as the Supplemental Feeding Program for Women, Infants, and Children (WIC), the Maternal and Child Health Block Grant, Community Health Centers, prepregnancy services

National Commission to Prevent Infant Mortality
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**PRESS RELEASE**

For Immediate Release
August 5, 1987

For Further Information:
Rae Grad (202)472-1364

**NATIONAL COMMISSION FORMED TO TAKE ACTION TO PREVENT INFANT DEATHS**

Washington, D.C. -- Congress has just appointed a one year National Commission to Prevent Infant Mortality, representing the first time Congress has given such high-level attention to the complex social and health problems that each year cause nearly 11 out of every 1000 babies in the United States to die before their first birthdays, a rate that places the United States 14th internationally behind other countries such as Japan, Canada, and France.

The 15-member Commission includes Senator Lawton Chiles (D-Fl.), chairman, Representative J.Roy Rowland (D-Ga.), vice chairman, Senator Dave Durenberger (R-Mn.), Representative Thomas Tauke (R-Ia.), Dr. Otis Bowen, Secretary of Health and Human Services, the Governor of Illinois, James Thompson, former Governor of South Carolina, Richard Riley, and Mrs. Lynda Johnson Robb. The Commission will hold public hearings and meetings around the country throughout the year and will recommend to Congress a national plan for solving the problems of infant mortality, defined as the number of infants born alive but who die before their first birthday, per 1000 live births.

The factor most associated with infant death is low birth weight, that is, babies born weighing less than 5 pounds, 8 ounces. Low birth weight is largely preventable when pregnant women receive adequate prenatal care, started early in pregnancy. Unfortunately, many pregnant women do not receive necessary prenatal care, particularly those with low incomes, minorities, and teenagers. Not only is it costly in terms of lost human potential when babies are born unhealthy, it is also expensive in terms of health care dollars. Low birth weight babies are more likely to need costly special care, and are also more likely to suffer from lifetime physical or mental disabilities which are expensive to treat.

"We are either unwilling or unable in this country to put together a plan so that all infants have a fair start on life. We're here today to do all we can to alert this nation and its leaders to what can and should be done," stated Senator Chiles.

"All of us have to solve this problem, not just lawmakers. The private sector and the business community - we have to get to them and move them too," commented Commission member, Lynda Johnson Robb.

National Commission to Prevent Infant Mortality
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# INFANT MORTALITY FACT SHEET

The infant mortality rate is the number of babies who are born alive but die before their first birthday per one thousand live births. The 1984 U.S. infant mortality rate is 10.8 per one thousand live births, ranking our country approximately 14th worst among industrialized nations.

The factor most closely associated with infant mortality is low birth weight, that is, babies born weighing less than five pounds, eight ounces. The percentage of babies born too soon or too small in the U.S. has remained virtually unchanged since the 1940s.

- In 1984, the most recent year for which final data is available, 39,580 babies died in this country before reaching their first birthday.

- The U.S. infant mortality rate is higher than many other industrialized nations, including Japan, Canada, Ireland, Switzerland and France.

- The infant mortality rate in the black population in the U.S. is nearly twice that of the white population. In 1984, the rate for blacks was 18.4 deaths per thousand live births compared to 9.4 among whites.

- In 1984, 6.7% of babies born in the U.S. weighed less than five pounds, eight ounces. Another 1.2% weighed less than three pounds, four ounces.

- Over the past seven years, there has been a disturbing increase in the percentage of babies born to women receiving late or no prenatal care. The number of babies born without receiving adequate prenatal care has grown by nearly ten percent since 1979.

- Many babies born low birth weight survive the first critical month of life because of costly high technology, but remain at risk during the remainder of their first year of life. Many of these children are left unprotected by any form of health care coverage. In fact, nearly one in five children under six years old have no health care coverage.

SOURCE: National Center for Health Statistics and Health U.S., 1986, U.S. Department of Health and Human Services

Ann Rev Public Health 1985 6:21–40
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CC Ian Gordon
Janet
I wish we'd
had this
before !

# POSTNEONATAL MORTALITY

*Barbara Starfield*

Department of Health Policy and Management, The Johns Hopkins University, Baltimore, Maryland 21205

## THE PROBLEM: FREQUENCY AND TRENDS

> In the field of infant mortality I believe we are facing a slower rate of decline in the death rate over the next decade than we have experienced in the past. This follows because a low point has already been reached for the age division beyond one month and because of the stationary condition of the high rate in the first four weeks of life. . . . It is the concentration of effort upon the causes of infant mortality beyond one month of age which brought about this reduction (11).

The success of public health interventions in the first two decades of the twentieth century was reflected in marked declines in postneonatal mortality, as indicated in the above quotation, which was published in 1927. As a result, neonatal mortality became relatively more important as a health concern and attention shifted to its control. Figure 1 shows the success of the ensuing activities: the neonatal mortality rate fell from over 30 per thousand in 1935 to well under 10 per thousand in 1980 in the United States.

Progress in the decline of postneonatal mortality continued to occur even as neonatal survival improved, however. In 1935, more than half (54%) of all infant deaths occurred in the postneonatal period; that is, after the first four weeks of life. Gradually thereafter, neonatal deaths assumed an increasingly larger share of the problem of infant deaths: 50% in the 1920s, 58% in the 1930s, 65% in the 1940s, and 75% in the mid-1960s despite the marked fall in neonatal mortality. From 1970 onward, however, the percentage of infant deaths occurring in the postneonatal period has been increasing yearly as follows: 24.7% in 1970, 25.5%, 25.9%, 27.1%, 26.3%, 28.0%, 28.3%,



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**Children's Defense Fund**
122 C Street, N.W.
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Washington, DC 20001
Telephone (202) 628-8787

**Dana Hughes, M.S., M.P.H.**
Senior Health Specialist

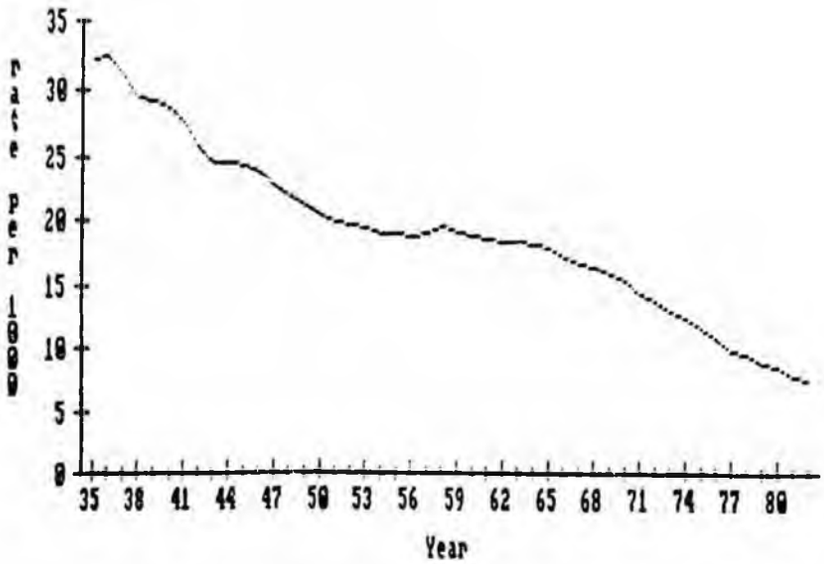



*Figure 1* Neonatal mortality, United States, 1935–1982.

29.8%, 31.2%, 32.3%, 32.5%, and in 1981 (the latest year for which final data are available) 33.0%.

This reversal of a long-standing trend in the relatively greater decline of postneonatal mortality is the stimulus for this review. The widespread perception that postneonatal mortality is a disappearing problem is probably the reason that so little has been written on the subject in recent years. A computerized search of the English language medical literature resulted in only six citations with the words "postneonatal mortality" between 1979 and 1983. Even as recently as 1977, Antonovsky & Bernstein's (1) comprehensive review of the relationship between social class and infant mortality suggested that postneonatal mortality is a "minor" component of infant mortality. Recent trends suggest that, at least relatively, postneonatal deaths should begin to command renewed attention.

Figure 2 shows the long-term trends of postneonatal mortality. Huge declines occurred in the late 1930s, then again during and just following the Second World War. From 1955 to 1965 little change occurred, but renewed decline characterized the late 1960s. During the 1970s the rate of decline slowed, with some periods of stability during that time. Declines in postneonatal mortality have not always occurred concurrently with declines in neonatal mortality, thus suggesting that the factors responsible for one have not been the same factors responsible for the other. Moreover, periods of maximum decline in neonatal mortality have not been followed by a period of slowed decline in postneonatal mortality, as might be expected to occur if early deaths were

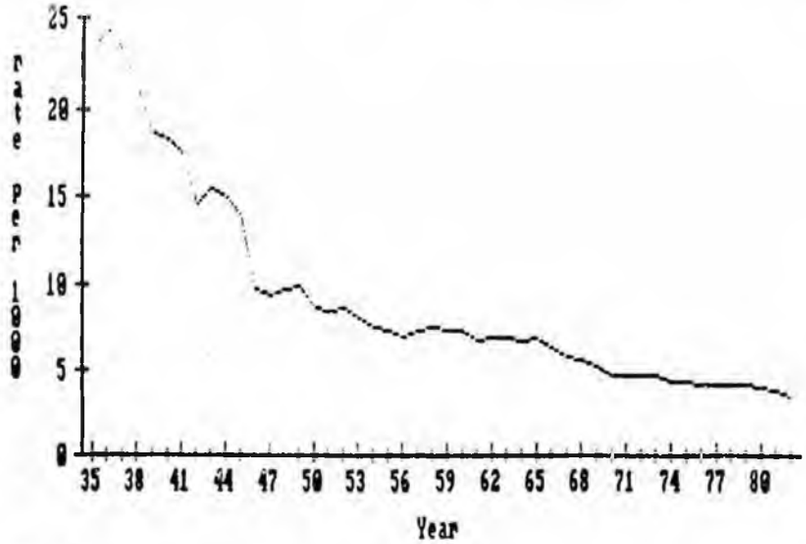



*Figure 2* Postneonatal mortality, United States, 1935–1982.

deferred in time. Figure 3 shows the rate for the two components of infant mortality. The decline in the mid and late 1940s was primarily concentrated in the postneonatal component. The marked and continued fall in the neonatal component in the most recent 15 years has not been accompanied by a parallel decline in the postneonatal component. Although it might be postulated that rapid declines in neonatal mortality might be accompanied by some increase in postneonatal mortality because of the possibility of postponement of deaths due to the saving of highly vulnerable infants by neonatal interventions, there is evidence that this is not the explanation for the lagging postneonatal rates (24, 28, 34). Although some institutions may be experiencing postponement of deaths of very low-birth-weight infants as a result of developments in neonatal management (14), there is no evidence that the general lag in postneonatal mortality is a result of an increase in survival of infants born with very low birth weight. For example, a study of all births and infant deaths in Upstate New York from 1968 to 1979 showed that the proportion of deaths that were postneonatal increased in all birth-weight groups. The relatively small proportion of deaths that were among very low-birth-weight infants was too small to account for the overall relative increase in importance of postneonatal mortality (45). Moreover, there was no shift in time of death to earlier in the postneonatal period, except among the 500–1000 gram infants [who accounted for less than 5% of all postneonatal deaths (calculated from 45)].

Of particular concern is the *increase* in postneonatal mortality rates among infants of teenage mothers. A study of mortality and morbidity of infants born

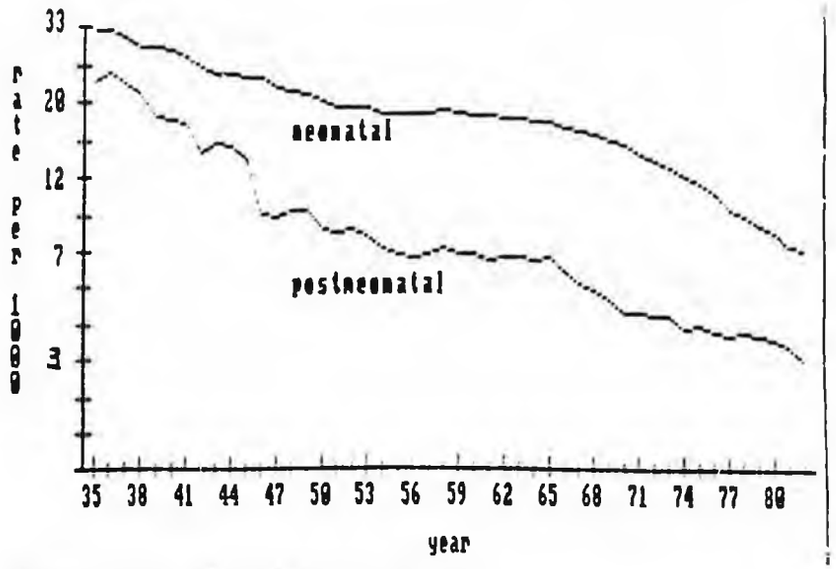



*Figure 3* Infant mortality, United States, 1935–1982.

in eight areas across the United States, including approximately 6% of the births in the country, found that the postneonatal death rate of infants born to mothers under the age of 17 and to multiparous mothers of ages 18 and 19 increased during the decade of the 1970s, especially among nonwhites, and even when birth weight was controlled (25).

## AN INTERNATIONAL PERSPECTIVE

The existence of differences in the definition of live births complicates comparison of trends in neonatal mortality across international boundaries, but there is little problem in the case of postneonatal mortality. Infant mortality rates below 70 per thousand were found in most industrialized countries as late as the 1920s (a rate of 70 was reached in 1926 in the United States), except in Norway, Sweden, Australia, and New Zealand, all of which reported rates under 70 earlier than 1915 (37). In France and Japan, rates below 70 were not reached until after World War II. These differences in infant mortality rates and differences in the rates of decline over time are largely a reflection of differences in the postneonatal component. In fact, the gap in postneonatal mortality rates between countries with high rates and those with low rates is much greater now than it was decades ago. Shapiro examined trends in infant mortality rates in a large number of nations with rates no greater than 30 per thousand. Figure 4 shows trends for several of these countries, selected to provide examples of the

situation in which the rates were very low, low, and moderate in the early 1970s. Countries with very low rates included Japan and the Netherlands, with rates below 4.5 per thousand in the early 1970s; those with low rates included the United States and the United Kingdom, with rates between 5 and 7 per thousand in 1971; and countries with moderate rates included Italy, with a rate of 9.2 in 1970. Japan's postneonatal mortality rate in 1950 was approximately equal to that of the "moderate" mortality countries in 1950 (32.0); its rate had halved by the end of the decade of the 1950s and reached a low of 4.2 by the early 1970s. The Netherlands had a rate of 8.8 in 1950 (approximately equivalent to a rate of 8.7 in the United States at the same time); the rate halved by 1960 and declined to 3.1 by the early 1970s. The United Kingdom's rate of 11.3 in 1950 had not quite halved even by 1971, a situation similar to that in the United States, which still experienced a rate as high as 4.9 in 1971. Italy's rate of 34.1 in 1950 had halved by 1963 and then fallen by 46% between 1963 and 1970. The periods since 1950 in which the maximum rates of decline were experienced by these countries were as follows: 50% drop between 1960 and 1965 in Japan, 50% drop between 1955 and 1960 in Netherlands, 30% drop between 1965 and 1970 in the United States, 33% drop between 1950 and 1955 in the United Kingdom, and a 30% drop between 1960 and 1965 in Italy. In both Japan and Italy, the rate of decline in several other five-year periods approximated the maximum rate, so that overall improvements in survival in the postneonatal period were relatively continuous over the 20-year time span. Uneveness in the rate of decline was most notable in the United States, which

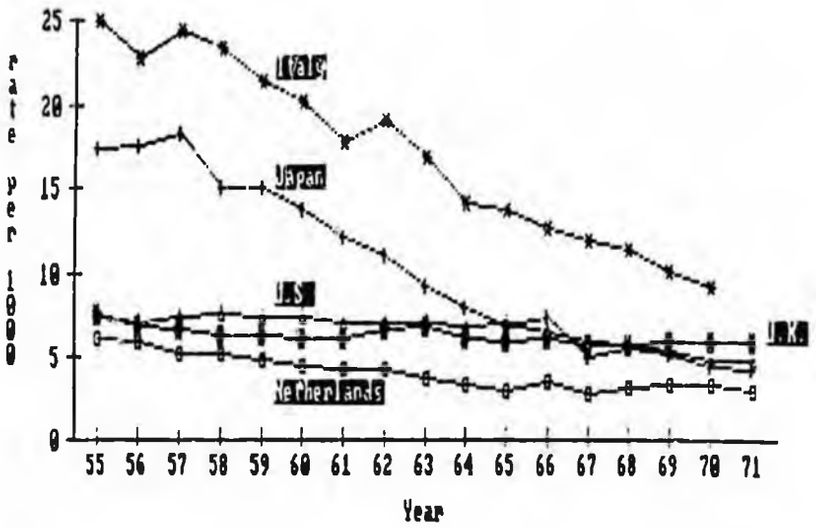



*Figure 4* Postneonatal mortality, 1955–1971.

showed no improvement during the 1950s and little improvement in the early 1960s. These marked differences in both the rate and timing of improvements in postneonatal survival strongly suggest an impact of factors other than the availability of specific medical technologies; in several cases, the periods of maximum improvement coincided with national changes in the organization or financing of health services, such as enactment of the entitlement legislation in the United States in the mid 1960s.

Although it is apparent that the overall differences in neonatal infant mortality rates in the United States and Scandinavia are a result of differences in birth-weight distributions rather than differences in birth-weight-specific mortality, this is not the case for postneonatal mortality, at least among the nonwhite population in the United States. For example, the differences between Norwegian postneonatal mortality rates and nonwhite postneonatal mortality rates in the United States are a result of higher birth-weight-specific mortality in the United States (10). For the country as a whole, however, the overall postneonatal mortality rate improved relative to that of Scandinavia between 1965 and 1978. For example, the ratio of postneonatal mortality rates in the United States to that of Sweden was 2.6 in 1960, 2.6 in 1965, 2.7 in 1970 (Sweden changed its system of reporting deaths at this time and the very low postneonatal mortality rate reported for 1970, i.e. 1.9, may not be accurate), 2.0 in 1975, 1.9 in 1977, and 1.8 in 1978 [calculated from data in (44, 37)].

Countries that differ in their postneonatal mortality rates also differ in the relative importance of certain causes of postneonatal deaths. In rural Bangladesh, postneonatal mortality comprised 44% of all infant mortality, with a rate of 71 per thousand compared with a neonatal mortality rate of 89 per thousand in 1976–1977 (19). More than four of five deaths (86%) were due to tetanus, pneumonia, malnutrition, diarrhea, "fever," and measles; if these were eliminated, postneonatal mortality would have comprised only 10% of all infant mortality, or a rate of 9.6 per thousand.

Rates of postneonatal death associated with congenital anomalies are similar internationally, at least for Denmark, England and Wales, Finland, Norway, Sweden (33), Japan, Switzerland, Australia, and the United States (37). The disparities in death rates from accidents have not changed substantially over time among the industrialized countries (at least for Netherlands, Sweden, Canada, United States, and the United Kingdom), except for Scotland, where deaths due to accidents rose progressively from 1958 to the early 1970s, greatly increasing the disparity between that and other counties. For example, the death rate due to accidents in the postneonatal period in the United States in the early 1970s was four times higher then those in Sweden at the same time; in 1964–1965, rates of death due to accidents were three times higher than in Sweden, and in 1958–1960 they were 3.5 times higher. Mortality associated with diseases of the respiratory system, infective and parasitic diseases, and

symptoms and ill-defined conditions, however, vary widely across the countries and over time (33, 37). For example, in the late 1960s and early 1970s postneonatal death rates from respiratory causes or influenza ranged from about 20–40 per 100,000 live births in Netherlands, Norway, Denmark, and Sweden, to 60–120 per 100,000 in Switzerland and Japan, and to 130–250 per 100,000 in the United States, Canada, Australia, New Zealand, and the United Kingdom. Postneonatal deaths due to infections and parasitic diseases ranged from 20–30 in Netherlands, Norway, Sweden, Switzerland, and Denmark to 35–70 in Canada, the United States, United Kingdom, Australia, Japan, and New Zealand. Disparities in the death rate attributed to pneumonia or influenza increased between the late 1950s (1958–1960) and mid-1960s (1964–1966) and between the mid 1960s and early 1970s among these countries, from the order of 4–5-fold in the late 1950s to 10–15-fold in the early 1970s [calculated from (37)]. That is, disparities in the postneonatal death rate associated with these causes of infection actually have widened in the most recent 30 years among the industrialized nations.

## CAUSES AND CORRELATES

Environmental factors have long been associated with deaths during the first year of life (33). William Farr, and before him Fredrick Engels, documented the concentration of deaths in working class districts. Engels attributed the excess mortality to conditions of work and poor living conditions (43). Historically, high infant mortality rates resulted from relatively high postneonatal mortality rates rather than from relatively high neonatal mortality rates.

Changes in the cause of death between 1920 and the present provide ample evidence of the importance of nonbiological factors in the genesis of postneonatal mortality. Table 1 indicates that, in the period 1918–1925, infections (including respiratory tract infections) were by far the most common cause of death in the United States, comprising over two-thirds of all deaths in the postneonatal period. By 1940, these conditions comprised less than half of the deaths (46%). In the early 1950s, the proportion of deaths accounted for by infections fell to 38%, a proportion that did not change, and perhaps even increased slightly by the end of the decade to 43%. It is important to recall that this latter period (the 1950s) was the same period during which overall postneonatal mortality rates were not declining in the country as a whole. Coincident with resumption of the decline in postneonatal mortality after 1965, the proportion of deaths associated with infections also fell: to 29% in 1973 and to 17% in 1978.

Although infants of low birth weight are at higher risk of dying in the postneonatal period as well as in the neonatal period, the vast majority of infants who die in the postneonatal period are of normal birthweight: 80% of

Table 1 Birth weight, race, and mortality, United States[a], singleton live births, 1974–1976[b]

| Birth weight | Neonatal mortality rate (per 1000 births) | | Postneonatal mortality rate (per 1000 births) | |
|---|---|---|---|---|
| | White | Nonwhite | White | Nonwhite |
| Low birth weight[c] | 107.8 | 93.5 | 15.2 | 19.4 |
| Normal birth weight[c] | 2.6 | 3.2 | 2.8 | 4.7 |

[a] Eight areas, accounting for about 6% of U.S. births
[b] Source: Adapted from Shapiro et al. (38)
[c] Low birth weight: Less than or equal to 2500 grams. Normal birth weight: More than 2500 grams

infants dying after the first month of life are of normal birth weight (2500 grams or more at birth) compared with the 28% of infants dying within the first month of life who are of normal birth weight (2).

If environmental factors have a profound effect on postneonatal mortality, then social factors that reflect environmental conditions also can be expected to be highly related to postneonatal mortality. Data on the sociodemographic correlates of postneonatal mortality require the linkage of birth and death certificates, since there is little sociodemographic information on infant death certificates, at least in the United States. As the United States, as yet, has no national birth-death certificate linkage system, much of the knowledge about the sociodemographic correlates of postneonatal deaths derive from state or local studies or from data from countries such as Great Britain [in which birth and death certificates have been matched since 1975 (33)]. In the United States, non-white infants (except for those of Asian descent) are at higher risk of death, but the relationship between race and postneonatal mortality differs from that in the neonatal period. Table 2 indicates that black low-birth-weight infants are at lower risk of dying in the neonatal period than white low-birth-weight infants, but that in the postneonatal period black low-birth-weight infants are at higher risk of dying than their white counterparts. Black infants of normal birth weight are also at higher risk of death than white infants, to an even greater degree in the postneonatal period than in the neonatal period (38). In 1978, the postneonatal death rate for white infants in the United States was 3.6, whereas for black infants it was 7.6. Two-thirds of the excess deaths among black infants was accounted for by three causes of death: "symptoms" (42%), respiratory infections (15%), and other infections (9%). Between 1965 and 1978, however, postneonatal mortality rates fell 50% among blacks as compared with 33% among whites (29, p. 112). This pattern is the reverse of that for neonatal mortality, where the decline among white infants (48%) was greater than for black infants (42%).

In 1964, the excess death rate among black infants (as compared with white infants) was 9.2 per 1000 births; in 1978 the excess was 4.0 per 1000 births.

Table 2 Postneonatal mortality rates[a] by selected causes, United States, 1918–1978[b]

| Cause | 1918–1925 | 1939–1941 | 1949–1951 | 1964 | 1973 | 1978 |
|---|---|---|---|---|---|---|
| Infections[c] | 21.45 | 2.22 | 0.70 | 0.29 | 0.30 | 0.25 |
| Neoplasms | NA[d] | NA | NA | 0.06 | 0.04 | 0.03 |
| Meningitis | NA | NA | NA | 0.18 | 0.10 | 0.11 |
| Respiratory | 10.59 | 6.21 | 2.69 | 2.61 | 1.07 | 0.50 |
| Gastro-intestinal | 0.82 | 3.81 | 1.45 | 0.61 | 0.09 | 0.08 |
| Congenital anomalies | 1.70 | 1.46 | 1.42 | 1.22 | 0.90 | 0.74 |
| Conditions of early infancy | 4.10 | 1.17 | 0.65 | 0.31 | 0.08 | 0.17 |
| Symptoms | NA | 0.99 | 0.45 | 0.44 | 1.16 | 1.52 |
| Accidents | NA | 0.86 | 0.82 | 0.74 | 0.49 | 0.34 |
| Homicide | NA | NA | 0.01 | 0.02 | 0.04 | 0.04 |
| Percentage of deaths accounted for by all causes | 82% | 92% | 91% | 94% | 89% | 88% |

[a] Per 1000 live births.
[b] Source: NCHS. *Vital Statistics of the United States*, for years 1964, 1973, 1978. Frankel (11) (for years 1918–1925); Shapiro et al 1968 (38) (for years 1939–1941, 1949–1951).
[c] Includes diarrhea, except of newborn, except 1939–1941, which includes diarrhea of newborn.
[d] NA, Not available.

Although death rates associated with almost all major causes in the postneonatal period are still greater among black infants, the disparities among black and white infants have narrowed markedly in the case of deaths due to gastrointestinal causes (including gastroenteritis), conditions related to early infancy, and causes associated with ill-defined symptoms. In all three instances, death rates associated with these causes were more than five times higher among black as compared with white infants in 1964; by 1978, the rates among black infants were double or slightly more than double those of white infants. The disparities were also reduced, although to a lesser extent, for deaths due to respiratory causes and meningitis (30).

Although the many sociodemographic factors associated with postneonatal deaths are highly inter-correlated, it is possible to determine their relative importance, at least to some extent. British studies show the independent effects of maternal age, parity, and social class. In univariate analyses, the relationship between maternal age and mortality is U-shaped, with higher mortality among infants of very young and very old mothers. The higher the parity, the greater the death rate; the higher the social class, the lower the mortality. In Great Britain, the mortality rate among infants of mothers under

age 25, of parity three or greater, and of social class IV or V was 15.1 in 1976 compared with a mortality rate of 2.0 among infants of mothers aged 25–29, without prior pregnancies, and within the highest two social classes (33). A follow-back survey of legitimate births in the United States in 1964–1966 showed both family income and maternal and paternal levels of education to be related to postneonatal mortality, independent of race. Among both black and white infants, the inverse relationship between each of the three factors and rates of postneonatal death was striking and increased as the age of death increased. That is, the differentials across social classes were greatest for deaths at ages 6–11 months, somewhat less so at ages 1–5 months, and least for deaths under one day of age (31). Gortmaker's (13) multivariate analyses of these data showed the independent effect of poverty, maternal education, and paternal education, as well as an independent effect of hospitalization at birth (a probable proxy for other medical care variables).

Bross & Shapiro (5) used a log-linear model to investigate the relationship between birthweight, maternal age, race, education, and poor obstetric experience and mortality (neonatal and postneonatal separately) among infants born in eight areas of the United States. These births comprised about 6% of all US births in 1974–1975. All of the factors except birth order had a direct component relating to postneonatal death. Infants born small had progressively higher risks of postneonatal death. Education showed a consistent trend, with a 62% increase in risk for women with less than a high school diploma and a 34% decrease in women with some college experience. Nonwhites were at higher risk except at ages under 18, when white infants were at higher risk. Increased maternal age (over 34 years) was associated with lower risks of death regardless of race.

Crawford et al (7) also used multivariate techniques to study the relationship among several social and environmental factors and the various components of infant mortality in England and Wales. A social factor score was derived from information on population density, overcrowding in housing, social class, education, unemployment history, income, households per car, percentage population under 15, and migration. Environmental factors included water hardness and latitude. These factors explained 62% of the variance in postneonatal mortality in 1950–1953 and 53% in 1958–1964. When the percentage of mothers of parity 3+ and the percentage of births to mothers age 30+ were added, the percentage of variance explained in 1958–1964 rose to 62. Although the social factor score was highly related to postneonatal mortality, even more so in the earlier period than in the later period, the relationship was attenuated when parity and maternal age were considered. The amount of calcium in the water supply was significantly related to lower postneonatal mortality rates, and the authors hypothesized that this might be due to the increased solubility of lead in water containing low concentrations of calcium.

The relative unavailability of data makes it difficult to examine trends in the relationship of these sociodemographic factors over time. In the absence of data in the United States, the experience in other countries is instructive. In Scotland and England, social class differentials narrowed starting in 1974 (9); France experienced a slight narrowing of differentials in the early 1970s (33). Social class differences narrowed after 1970 in western Australia (34). The absence of trend data on social class differentials in the United States makes it impossible to determine whether social class differentials in postneonatal mortality narrowed during the period of rapid decline in postneonatal mortality during the late 1960s, but the narrowing of the disparities between racial groups and indirect evidence cited below concerning the impact of medical care suggest that this may have occurred, though perhaps only temporarily. Data from eight large areas in the United States in 1974–1975 suggest either a continuation of the disparities or even a resurgence of the large gaps between the postneonatality rates of infants in various sociodemographic groupings during the 1970s. Marked and statistically significant differences in postneonatal mortality rates were found for births to mothers with different lengths of education. Infants born to mothers without a high school degree had much higher mortality than infants of mothers with more than a high school education, among both normal and low-birth-weight infants; the rate among infants of mothers with only a high school degree was intermediate. Low-birth-weight infants born to mothers with some college education were twice as likely to die in the postneonatal period as normal-birth-weight infants of mothers with less than a high school education, but low-birth-weight infants born to mothers with less than a high school education were almost 12 times as likely to die in the postneonatal period as normal-birth-weight offspring of mothers with more than a high school diploma. Thus the disadvantage resulting from the presence of a presumably biologic risk factor is greatly compounded in the presence of an important sociodemographic risk factor.

Clues as to the mechanisms by which social class exerts an adverse affect on survival in the postneonatal period are provided by analyses of differences in causes of death across the social classes. In 1964–1966, differences in the causes of infant (not only postneonatal) deaths associated with either maternal or paternal education were concentrated among the infectious diseases, including the International Classification categories of infective and parasitic diseases, respiratory tract infections, and digestive system diseases. The differences by parental education were even more striking among white infants than among nonwhite infants, with differentials at least twofold in these categories of conditions between the lowest and the highest educational groupings in white infants (31). Differences in rates of death attributed to congenital anomalies have been, at most, of the order of twofold across the social classes in a wide variety of countries and areas of the United States, but differences attributed to other causes in the postneonatal period are of the order of six- to

ninefold (1). Unfortunately, the lack of information on social class gradients in the Scandinavian countries makes it impossible to determine whether the low postneonatal mortality rates there, which are a result of lower death rates attributed to infectious diseases, are associated with narrower differentials across the social classes.

Although there are few studies of the relationship between parental occupation and childhood mortality, Morris & Heady (27) published data from 1911–1950 for neonatal and postneonatal death rates among offspring of fathers in different social classes and occupations. There were notable differences in postneonatal mortality by occupation, even between occupations normally classified as within the same social class. For example, the rate for infants of miners in Social Class III was greater than that for infants of clerks in Social Class III, and the rate for miners' infants was the same (and similar to the rates for infants in Social Class V) regardless of whether the fathers were skilled (Social Class III) or partly skilled (Social Class IV). Although the authors speculated on the potential role of selective mating between classes, they indicated that a general decline in mortality within each of the social classes suggests that such a mechanism would provide only a partial explanation, at best, for the relationships found. More intensive exploration of reasons for differences in mortality among infants of parents in different occupations could provide information about the relative impact of environmental hazards as well as those related to "maternal capacity" (27).

The nature of the relationship between low birth weight and mortality and morbidity provides additional clues concerning the possible mechanisms of action of social status and poor health. Infants who are small but appropriately small for gestation age (AGA) are more at risk of dying in the neonatal period than infants who are small for their gestation age (SGA). However, the vast majority of SGA infants, i.e those small for gestation age and weighing 2000–2500 grams, are at greater risk both for postneonatal mortality and for illness in the first year of life than are AGA infants of similar weight (41).

Further evidence comes from information from England and Wales. Here, differentials in postneonatal mortality across the social classes narrowed in the early 1970s, when they might have been hypothesized to rise because of a prevailing recession during that period. Continued progress in reducing the social disparities in a time of economic hardship is thought to be due to a decrease in smoking and alcohol intake among pregnant women in economically stressed families. (I am indebted to Dr. Harvey Brenner for this suggestion.) However, later in the recession (1975–1976), the differentials between families categorized as in "other" social classes, which include the unemployed, showed increases in postneonatal mortality, whereas mortality continued to decline in social class groups I–V (9). The adverse impact of unemployment and income loss on mortality, including postneonatal mortality, has been

demonstrated in a variety of countries. For example, Brenner (4) showed that economic down-swings have been associated with increases in postneonatal mortality since the 1920s, and significantly so since the 1940s, in contrast to the relationship between economic down-swings and neonatal mortality, which has been found only since the end of World War II. There is an apparent lag of three to five years, and the effect is greater among whites than among nonwhites. Brenner's hypothesis is that it takes time for the effect of unemployment to become manifest.

These diverse observations provide a basis for at least tentative inferences about the nature of the impact of sociodemographic factors on postneonatal mortality. Intrauterine growth retardation is a major risk factor for postneonatal mortality. To the extent that factors associated with intrauterine growth retardation (such as suboptimal prepregnancy nutritional status) (17) are more common among the socially less advantaged, postneonatal mortality will be higher in those groups. When medical care is compromised, such as is likely during times of economic hardship, infants in the lower social classes will be adversely affected to a greater degree. All of these influences increase the inherent disadvantage that accrues from being born into conditions long associated with increased mortality: poor working conditions of parents, the need of mothers to work and their decreased ability to choose employment that minimizes the conflict between job and family, poor housing, and living in geographic areas less conducive to good health.

## SUDDEN INFANT DEATH SYNDROME

The paucity of citations concerning postneonatal mortality is not matched by a similar dearth in the case of one particular "cause" of postneonatal death, i.e. sudden infant death syndrome (SIDS). From 1980 through 1983 there were 35 review articles alone in the English language literature. Interest in the subject derives from the fact that SIDS is the largest single "cause" of death in the postneonatal period in the United States, and because it generally comes without warning to unprepared families and hence is dramatic and particularly frightening.

SIDS, however, has been recognized since antiquity. Interpretation of secular trends is complicated by the fact that it is a diagnosis made by a process of exclusion; criteria for excluding other conditions have never been well standardized, so that increased attention to the diagnosis undoubtedly artificially increases the extent to which it is used. Just following the first international conference devoted to the subject, held in Seattle, Washington in 1963, the proportion of sudden death attributed to SIDS in the state of Washington rose markedly: from 1% in 1962 and 24% in 1963 to 50% in 1964 (32). Rates of

SIDS vary widely from one country to another, well over threefold in some instances (32).

Countries with low overall postneonatal mortality rates also have low SIDS rates. SIDS rates in Scandinavia are lower than elsewhere (32, 18). These differences cannot be only a matter of differences in the coding of cause of death, because categories that are possible alternatives for sudden infant deaths also occur less frequently in these same countries.

The correlates of SIDS are, in general, the same as the correlates of postneonatal mortality: prematurity, small-for-gestation age, greater incidence among twins and among male infants, an urban concentration (18), high parity (39), unwed status, short pregnancy interval (42), maternal smoking and alcohol intake, little prenatal care, and poverty. There are, however, several correlates that appear to be unique. The incidence of SIDS is generally highest in the late fall and winter (22), among the second of twins, and among mothers under the age of 20. This predilection for infants of young mothers is even greater than for postneonatal mortality as a whole; the U-shaped relationship wherein mortality rises again in older mothers is not found in the case of SIDS (39). [Babson & Clarke (2), however, found the same increased incidence among mothers under age 20 in postneonatal deaths due to infections.] An increased incidence of SIDS is found in families with a history of prior pregnancy loss, even when corrected for gravidity. Within the most recent few years, SIDS has been demonstrated to have a higher association in infants of mothers addicted to methadone (32). Infant botulism (which has the same age and seasonality patterns) is thought to account for 3–5% of SIDS. By far the most striking feature, however, is the concentration of SIDS early in the postneonatal period, months 1–3. Virtually all studies concur on these factors associated with increased risk; most of the associations were noticed very early in the recognition of the existence of the syndrome.

The large literature on physiological correlates of SIDS does not shed much light on its causes. There is widespread agreement that the evidence of asphyxia found at autopsy is an end-result of an underlying process rather than its cause, and there is a consensus that this chronic hypoxia precedes labor and delivery (15, 32, 21). Immunization such as for diphtheria, pertussis, and tetanus is not associated with an increased risk (42). No known method of prevention exists (except as is noted in the section on Medical Care, below); apnea monitors used at home, either for unselected infants or for infants thought to be at increased risk, are of unproven benefit, and their use is controversial. Ten percent of infants with recurrent apnea die, even when monitored (21).

Little progress has been made in learning the causes of SIDS, despite the large research effort devoted to its biological correlates. It appears to have multiple causation, with impact in a period of growth and development characterized by physiologic hypersusceptibility when the response to hypoxemia is

abnormal (21). Further progress in its understanding and prevention will undoubtedly require more attention to examination of the same factors that predispose to postneonatal deaths due to causes such as infection.

## THE IMPACT OF MEDICAL CARE

Although postneonatal mortality is heavily influenced by sociodemographic conditions, the extent to which medical care can overcome the disadvantages associated with sociodemographic risk is poorly explored. It is much more difficult to study the impact of various aspects of medical care on postnatal mortality because, in contrast to neonatal mortality, the deaths are more likely to occur in the community rather than the hospital and therefore not be noticed by physicians and medical researchers.

Postneonatal mortality declined abruptly after the legislation of the mid 1960s that provided access to medical care for those who previously had difficulty affording and obtaining appropriate services. This alone is evidence of the benefits of health services, although it is indirect evidence. Moreover, the narrowing of the gap between postneonatal mortality rates of white and nonwhite infants, the narrowing of the disparity in postneonatal mortality rates between states characterized according to the percentage of their populations living in poverty (8), and the narrowing of the disparities across areas of cities distinguished by their social status differences (23) during this period are further evidence of benefit, in the sense that those who had been relatively more deprived previously benefited more from the increased accessibility to health care resources.

Other studies provide evidence of benefit. A multivariate regression analysis using data from counties in the United States showed that the availability of federally supported community health centers was associated with decreases in postneonatal mortality rates and reductions in the white-nonwhite disparities in those areas (12). Another study (15) showed that higher federal expenditures for health services (as measured by a proxy variable consisting of Medicare expenditures per Medicare enrollee) and the presence of more pediatricians per 1000 live births were associated with declines in postneonatal mortality, which were even more striking among nonwhites than among whites.

In England and Wales, 23% of the factors associated with postneonatal deaths that were considered to be avoidable were related to medical care (the remainder were believed to be social or parental in origin) (33). Half of the deaths in Glasgow in the early 1970s occurred at home and many of the infants seen in the hospital were already fatally ill at the time of arrival (35). In New Zealand, an even smaller proportion (20%) of infants were in the hospital at the time of death (33). Although these studies suggest that absence of medical care made a critical difference, the evidence cannot be considered conclusive.

More direct evidence of benefit derives from a case-control study of infants over one week but less than one year of age in Sheffield, England in the early 1970s (26). Infants who died unexpectedly at home were paired with age-matched controls who were hospitalized with an acute illness but who had survived. The infants who died were found to have received less medical care during their illness than matched controls, even though the duration and nature of their symptoms had been comparable. There were few if any sociodemographic differences among the families in the two groups, and the findings were interpreted primarily as showing the importance of receipt of medical care. In another case-control study, conducted in Copenhagen between 1956 and 1971, each infant who died unexpectedly was matched with four living "control" infants having the same sex and birth date (3). This study showed that the infants who died were significantly less likely to have kept their previous appointments with the health visitor. In contrast to the study in England, however, the numerous sociodemographic dissimilarities between infants of the two groups make it impossible to be sure that it was receipt of medical care that made the critical difference.

Data from a study of infant deaths in 50 states in 1971–1972 and 1974–1975 (36) show significant decreases in mortality from non-vehicular accidental causes between these two periods. The effect was most marked in states with the fewest abortions before the 1973 Supreme Court decision concerning abortion and that had the greatest increase in the number of abortions following that decision. No other cause of death (with the possible exception of homicide) changed between the two periods. As non-vehicular accidental deaths are an important component of causes of death in the postneonatal period (in contrast to causes of death in neonatal period), it is possible that it was the availability of abortions and consequent reductions in the birth of unwanted children that accounted at least partially for the significant reduction in infant mortality.

The most striking evidence of benefit was provided by a study conducted in Sheffield, England (6). From 1973–1979, the rate of deaths considered to be "possibly preventable" dropped from 5.2 to 1.9 per 1000 births. During that period, all infants were scored, at birth, according to their risk of subsequent death. Until 1975, health visitors saw half of the high-risk infants every two weeks up to the age of 20 weeks, and the children attended a special clinic at 5 weeks of age. After 1975, care of all of the high-risk infants was the responsibility of the primary care team. Health visitors were to see the high risk infants more often than they saw other infants: every two weeks up to three months and thereafter every month up to six months, with additional visits as necessary. In 1976, case conferences were instituted for each death, and starting in 1978 these were held in the doctors' offices. Part (12%) of the decline in post-perinatal mortality (after one week but within the first year) was associated with a reduction in risk concerning maternal age and parity; 9% was associated with

a drop in precipitate deliveries (which would mainly influence deaths early in this period of life), and 24% of the reduction in deaths was associated with an increase in breastfeeding. Although 36% of the decline was associated with factors other than those examined (including some that may have been associated with aspects of the medical care intervention), almost one-fifth (18%) of the drop in death rate could be attributed to the medical care program. The death rate of infants who actually received the special intervention was lower than that of infants who did not receive the intervention, even when the analyses were controlled for initial risk score. Of particular interest was that the reduction in deaths was due primarily to reduction in possibly preventable deaths (a reduction of approximately 3.3 per thousand), both those occurring in the home and in the hospital, and not to reductions in deaths associated with congenital malformations or those that were birth-related.

Despite the methodologic difficulties in demonstrating the beneficial impact of medical care (40), the findings of these diverse studies strongly suggest that access to and use of medical care, particularly in the case of families at increased social and biological risk, is associated with reductions in postneonatal mortality. Although not yet studied, the differences in mortality across countries might well be considered at least partially a result of differences in the organization and financing of health services (16).

## THE ROLE OF PUBLIC HEALTH

Public Health has always been the leading edge at the frontier of knowledge concerning infant mortality. The greatest strides in understanding the determinants of high mortality in the first year of life and dealing with them effectively came about as a result of the activities of agencies such as the Division of Child Hygiene of the New York City Department of Health. These activities were rapidly taken up by other state and municipal departments of health and by the extension of public health nursing. The success of the efforts, which developed their momentum in the first two decades of this century, depended on the control of the distribution of infant feedings, i.e. the milk supply, by efforts to understand and improve sanitation, and by encouragement of the research and teaching of pediatrics (11). Frankel's address in 1927 to the American Public Health Association (from which the quotation at the beginning of this paper was taken) reviewed the progress that had been made up to that date in improving postneonatal survival.

Recognition of the existence and importance of sudden infant death syndrome was accomplished by astute medical examiners in local health departments; their activities in conjunction with those of bereaved and concerned parents led to a rapid response from the Children's Bureau and, much later, to

recognition of the problem of sudden infant death on the part of the National Institutes of Health and academic researchers (20).

With postneonatal mortality now increasing in relative importance, it is again appropriate to consider the role to be played by public health professionals in its understanding and control. New capacities and capabilities in data management now make it possible greatly to expand and improve knowledge about the distribution and correlates of infant death. There should be no obstacle to the routine linkage of birth and death certificates to provide information about the risk factors in particular population groups and in different geographic areas. Local efforts to map areas of high concentration of postneonatal deaths can focus the attention of researchers and academics on the study of the problem, and can galvanize public attention on issues of highest priority. The examination of infant deaths by month of age, with the routinely separate analysis of deaths and cause of deaths in the first month, in the early postneonatal period, and in the late postneonatal period, should shed light on the importance of different factors in the three periods, even if the accumulation and combination of several years of data are required to obtain sufficient numbers for analysis at the local level.

The wide disparities in postneonatal mortality rates among different countries cries for explanation and provides ample hypotheses for investigation. If postneonatal mortality is, even partly, a result of compromised intrauterine growth, international comparative studies should provide insight on possible determinants of retarded growth, and on the possible beneficial impact of certain types of public health and medical care interventions on both the proximate and underlying reasons for postneonatal deaths.

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A long-term, sustained public information program—similar to that waged on smoking and childhood immunization—could make an important contribution to the prevention of low birth weight. Multiple media would need to be employed to reach a variety of audiences—including the general public, health service providers, low-income women, teenagers and pregnant smokers. Messages could be tailored for media selected to get the best possible coverage of special target audiences. For example, radio music shows may be the best way to reach teenagers, while television soap operas may be more appropriate for housewives. The Healthy Mothers–Healthy Babies Coalition (including both the federal office and its state affiliates) is a logical organization to take the leadership in development and coordination of such a program. Both public and private funds would be necessary for the coalition to undertake this task.

## Conclusions

Although much remains to be learned about the causes of low birth weight and the means to prevent it, the Institute of Medicine committee believes firmly that there is enough knowledge and experience already in hand to reach the Surgeon General's 1990 goal for reducing low birth weight if there is sufficient determination on the part of the federal, state and local governments, and of the major health organizations and providers, to put that knowledge to work. A systematic, sustained approach, like that defined here, will require money as well as the political will to take action. The funds required, however, for one of the most important interventions—adequate prenatal care—would be more than made up by the savings in medical care of low-birth-weight babies.

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# The Need for Prenatal Care in the United States: Evidence from the 1980 National Natality Survey

*By Susheela Singh, Aida Torres and Jacqueline Darroch Forrest*

## Summary

Seventy-eight percent of U.S. mothers begin prenatal care during the first three months of pregnancy; 18 percent wait until the second three months; and five percent wait until the third trimester or receive no care at all. Patterns of prenatal care vary widely among population subgroups: Mothers younger than 18 and unmarried mothers are the least likely to obtain first-trimester care (49 percent and 56 percent, respectively), and the most likely to obtain care only in the third trimester or none at all (about 12 percent of each group). Women aged 18–19, blacks, Hispanics, poor women and women with little education also have disproportionately high levels of very late or no care (7–9 percent).

Married, white, nonpoor women, in contrast, obtain the most timely prenatal care: In 1980, only two percent initiated care in the third trimester or received no care. Compared with this subgroup of women, the population as a whole has two times the risk of obtaining inadequate care. Unmarried women run the highest relative risk (five times the risk for married, white, nonpoor women), followed by teenagers, Hispanic women, women with little education, poor women and blacks (who have from three to more than four times the risk of the comparison group).

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## Introduction

A substantial literature suggests that prenatal care plays an important role in preventing poor pregnancy outcomes—especially among low-income, minority and adolescent women, who are regarded as high-risk groups.[1] Complications of pregnancy are more likely to occur among women who receive no prenatal care until the third trimester or who receive no prenatal care at all.[2] Black women, who are less likely than white women to receive prenatal care, are more than three times as likely as white women to die as a result of childbirth.[3] Low birth weight is a major predictor of poor infant health and development; babies born to women who receive no prenatal care are at least three times as likely to be of low birth weight as are babies born to women who receive early care.[4]

In recognition of these relationships, national objectives have been formulated that emphasize the importance of making good prenatal care available to all women. The U.S. Surgeon General has called for an increase to at least 90 percent by 1990 in the proportion of women in each racial and ethnic group who receive care in the first trimester of pregnancy.[5] The standards of maternity care developed by the American College of Obstetricians and Gynecologists (ACOG), now widely accepted in medical practice, recommend that every woman have a comprehensive program of prenatal care, beginning as early in the first trimester as possible; for uncomplicated pregnancies, the standards say, that program should generally include return visits every four weeks for the first 28 weeks of pregnancy, one visit every two weeks for the next eight weeks, and one every week thereafter until delivery.[6]

Available data show that use of prenatal services in the United States is widespread, and has increased in recent years (though not to the level targeted by the Surgeon General). Three-quarters of the women who gave birth in 1980 received prenatal care during the first trimester of pregnancy, compared with two-thirds in 1970—and the increase was observed in all age and racial subgroups.[7] Among mothers who received prenatal care, the median number of visits per mother was 11.2 in 1980, up from 10.4 in 1972.[8] Some of the important reasons for the increase in prenatal care in the 1970s were greater awareness of the benefits of medical assessment and treatment early in pregnancy; a rise in public funding to provide maternal and infant health services (including prenatal care) to low-income women; and, as noted, the

development of national targets to improve pregnancy outcomes through early care.

Nevertheless, other trends raise concern about the prospects for achieving the national goals. Although the increase in early prenatal care during the 1970s affected all age and racial subgroups, the proportions of nonwhites and teenagers who received such care remained at lower-than-average levels. Between 1980 and 1982, moreover, a decline occurred among women aged 15–29—and especially those aged 15–19—in the proportions receiving first-trimester care; the decline was observed among all racial subgroups.[9] Tightened eligibility for Medicaid coverage and cutbacks in funding of maternal health services for the poor probably contributed to the change.[10]

Achievement of adequate prenatal care for women in all age, income and racial categories is complicated by the lack of basic information on the number of women who receive insufficient care or no care, and on their characteristics. There exists no single or optimal measure of the size of the population that receives adequate or inadequate care, because there are many aspects of prenatal care to consider—for example, duration of the pregnancy at the time care is initiated, number of visits, and content and quality of care. The number of visits and the content of care that is necessary for a particular woman depend on the woman's health before and during the pregnancy and on her exposure to such risk factors as previous cesarean delivery, use of alcohol, drugs or tobacco, and genetic disorders. Some women may also need services besides medical care (e.g., nutrition services and parent training).

The most fundamental definition of adequate prenatal care is based on timing of the first visit, but even when timing alone is considered, there are different ways of defining adequacy. For example, one measure that has been used, in monitoring trends and setting goals, is the proportion of women whose first visit is made in the first trimester. Another, narrower definition, which has wide support among health professionals, classifies care as inadequate if there are no prenatal visits at all, or if the visits do not begin until the third trimester of pregnancy. Care begun so late is considered deficient because it cannot include meaningful screening, and preventable health problems may already have developed. Some researchers use the ACOG standards, which specify both the number and the timing of prenatal visits, to classify care as inadequate, intermediate or adequate. None of these definitions incorporate quality or content of care. Research on the components of prenatal care, for which there is certainly a need, would address some of the questions concerning quality or content of care; but it is on these aspects of care that data are least available.

**Two main types of need exist: the need to educate women, to improve their knowledge of the importance of adequate prenatal care; and the need to publicly fund programs to help poor and other disadvantaged women obtain adequate care.**

The purpose of this article is to identify those women who receive inadequate prenatal care, based on the narrower definition mentioned above (no prenatal visits at all, or no visit until the third trimester). National data on timing of the first visit are available from birth certificates and from two nationally representative surveys. Using these data, we examine the proportions receiving inadequate care according to age, race, marital status, residence, education and poverty status—variables expected to be related to the level of inadequate care.[11] Since publicly funded programs are directed largely toward low-income women, we also examine poverty status in combination with other factors. The analysis is preliminary and limited to simple cross-tabulations and distributions. Subsequent multivariate analyses will examine factors related to inadequate prenatal care in greater depth. We view the analysis presented in this article as the first step in defining more precisely the size and characteristics of the population in need of subsidized prenatal care.

## Data and Methodology

The analysis draws upon data from three sources:

- published tables of vital statistics for 1980, based on information from birth certificates;[12]
- the National Natality Survey (NNS), which collected data from a representative sample of 9,941 birth certificates for 1980, from detailed interviews with most of the married mothers represented by those births, and from hospital/physician questionnaires;[13] and
- the 1982 National Survey of Family Growth (NSFG), which provides data from a nationally representative sample of 7,969 women aged 15–44 on births occurring between January 1979 and the date of interview.[14]

The main source for this article is the NNS, supplemented by the NSFG. The data on prenatal care available from the published vital statistics tables are very limited; we have used the tables as a check on the NNS estimated distributions of births by age, race and trimester in which prenatal care began. The table below compares the distribution of births by trimester based on each source, plus the percentage of women in each racial and ethnic category receiving third-trimester care or no care:

| Measure | Vital stats. | NNS |
|---|---|---|
| Trimester | 100.0 | 100.0 |
| 1st | 76.3 | 77.8 |
| 2nd | 18.6 | 17.5 |
| 3rd | 3.8 | 3.6 |
| No care | 1.3 | 1.0 |
| Race | 5.1 | 4.6 |
| Black (non-His.) | 8.8 | 7.1 |
| White (non-His.) | 4.3 | 4.2 |
| Hispanic | 12.0 | 9.1 |

The NNS estimates show a slightly lower level of inadequate prenatal care than do the published vital statistics—4.6 percent (about 169,000 women), compared with 5.1 percent (about 185,000). The NNS also indicates a greater degree of underreporting of inadequate care among blacks and Hispanics than among whites. The relative conservatism of the NNS in describing the level of inadequate care should be borne in mind.

We have used weighted and imputed data from the NNS birth certificates rather than from the survey of mothers, because the birth certificate results are closer to the national vital statistics distributions, and because it was deemed preferable to use the same source for both unmarried and married mothers (the former were not interviewed in the NNS). Data from the hospital/physician questionnaires have not been used for this analysis, since an evaluation of the 1972 NNS indicated that those questionnaires tended to omit care administered by other physicians before the woman became a patient of the responding physician or hospital.[15]

The NNS furnishes information on sociodemographic characteristics associated with each mother (marital status, metropolitan residential status, Hispanic background, educational attainment and poverty status). For married women, data on educational attainment and Hispanic ethnicity are supplied by the mothers' questionnaires; for unmarried women, the data come from the birth certificates (only 22 states recorded Hispanic origin on birth certificates, but these states covered approximately 90 percent of all Hispanic births[16]). We have estimated poverty status for married women by using 1980 official poverty thresholds[17] in

Table 1. Number and percentage distribution of U.S. births by selected demographic and socioeconomic subgroups; and for each subgroup, percentage distribution of births by trimester in which prenatal care was begun; 1980

| Subgroup | Births | | Trimester in which care was begun | | | | |
|---|---|---|---|---|---|---|---|
| | No. (in 000s) | % | 1st | 2nd | 3rd | No care | Total |
| Total | 3,612 | 100.0 | 77.8 | 17.5 | 3.6 | 1.0 | 100.0 |
| **Age-group** | | | | | | | |
| <18 | 208 | 5.7 | 48.5 | 38.9 | 10.3 | 2.4 | 100.0 |
| 18–19 | 355 | 9.8 | 64.1 | 27.8 | 6.2 | 1.9 | 100.0 |
| 20–24 | 1,226 | 33.9 | 76.6 | 18.5 | 3.9 | 1.0 | 100.0 |
| 25–29 | 1,107 | 30.6 | 85.6 | 11.7 | 2.1 | 0.6 | 100.0 |
| 30–34 | 561 | 15.5 | 84.7 | 12.2 | 2.2 | 1.0 | 100.0 |
| ≥35 | 156 | 4.3 | 78.1 | 18.3 | 2.8 | 0.8 | 100.0 |
| **Race/ethnicity** | | | | | | | |
| Black (non-Hispanic) | 553 | 15.3 | 64.9 | 27.9 | 5.2 | 1.9 | 100.0 |
| White (non-Hispanic)* | 2,778 | 76.9 | 81.4 | 14.9 | 3.0 | 0.7 | 100.0 |
| Hispanic† | 282 | 7.8 | 68.3 | 22.6 | 6.8 | 2.3 | 100.0 |
| **Marital status** | | | | | | | |
| Married | 2,945 | 81.5 | 82.8 | 14.2 | 2.5 | 0.5 | 100.0 |
| Unmarried | 668 | 18.5 | 56.0 | 32.2 | 8.5 | 3.3 | 100.0 |
| **Residence** | | | | | | | |
| Metropolitan | 2,406 | 66.6 | 79.0 | 16.5 | 3.4 | 1.2 | 100.0 |
| Nonmetropolitan | 1,206 | 33.4 | 75.4 | 19.5 | 4.2 | 0.8 | 100.0 |
| **Education (yrs.)** | | | | | | | |
| <12 | 839 | 23.2 | 61.6 | 29.1 | 7.0 | 2.3 | 100.0 |
| 12 | 1,617 | 44.8 | 80.1 | 15.9 | 3.2 | 0.9 | 100.0 |
| ≥13 | 1,156 | 32.0 | 86.5 | 11.2 | 1.9 | 0.4 | 100.0 |
| **Poverty status** | | | | | | | |
| <150% | 1,158 | 32.1 | 65.6 | 25.8 | 6.5 | 2.1 | 100.0 |
| 150–249% | 902 | 25.0 | 80.8 | 16.8 | 1.7 | 0.8 | 100.0 |
| ≥250% | 1,552 | 43.0 | 85.3 | 11.7 | 2.6 | 0.4 | 100.0 |

*In this and following tables, category includes Native Americans and women of Asian/Pacific origin.

†The proportion of Hispanic births from the NNS is an underestimate of the national total, which is expected to be about 8.5 percent (the 22 states with information on ethnic origin from birth certificates reported 307,163 mothers of Hispanic origin [see reference 16]). This higher estimate falls just outside the 95 percent confidence interval around the NNS figure of 7.8 percent—a result probably due to the fact that Hispanic origin was omitted from the factors (age, race, marital status, birth order and birth weight) on which the NNS weights for reproducing national totals were based.

combination with the family income and household size (the number of children living in the household, plus the parents) reported in the married mothers' questionnaires. Poverty status information for unmarried women has been derived from the 1982 NSFG, since the NNS lacks such data.

The 1982 NSFG, which included all women regardless of marital status, contains prenatal care data for all births that occurred between 1979 and 1981. We have used only the last birth of each respondent (if there was more than one birth during the period) in order to avoid a potential source of bias—namely, if women who had had more than one birth had a higher probability of earlier or later prenatal care than the average, inclusion of all of their births would bias estimates of prenatal care for a given year. Since the three-year observation period does center on 1980, the NSFG should provide reasonable estimates for women not married in that year. To estimate the distribution of births among unmarried women according to poverty status, we have applied the poverty status distribution of unmarried mothers in each prenatal care category from the NSFG to the number of births to unmarried women in that category from the NNS. Because of the small number of births on which they are based, the resultant estimates for unmarried women are reliable only within larger subgroups. Results for married women are much more stable.

Compared with the NNS, the NSFG shows a slightly higher proportion of married women who are poor (25.6 percent, as against 24.0 percent in the NNS). The difference may be due partly to a real increase in poverty between 1979 and 1981, and partly to other, unknown factors. If the slight overestimate for married women in the NSFG applies equally to unmarried women, then the overall proportion of births to poor women used in this analysis may be marginally overestimated.

The definition of marital status employed here is the same as that used in vital statistics reporting—married women are those who are currently married, even if separated; unmarried women are those who, at the time of the birth, had never been married, had been widowed or were divorced.*

## Need for Prenatal Care

In this analysis, we define the number of women needing prenatal care to be equal to the number who give birth in a given year.† Although the analysis is carried out for 1980 births, the results do provide a rough picture of the overall situation during the early 1980s: The total annual number of births remained relatively stable after 1980, rising each year by one percent or less between 1980 and 1982 (from 3,612,000 to 3,681,000); but the proportion of women receiving prenatal care in the first trimester declined somewhat during 1981–1982. Therefore, we believe that the 1980 results provide minimum estimates of inadequate prenatal care for the first years of the decade.

Table 1 shows, for each of 19 population subgroups, the percentage distribution of 1980 births by the trimester in which prenatal care was begun. Also presented are the number and proportion of total births that each subgroup contributed, since these data are needed to put any evaluation of the adequacy of prenatal care into perspective. Subgroups that might be expected to show higher rates of inadequate care account for substantial proportions of births—very poor women, for example, contributed 32 percent of all births in 1980; the least-educated women, 23 percent; unmarried women, 19 percent; teenagers, 16 percent; and black women, 15 percent. Elevated rates of inadequate care among these subgroups would, therefore, have an important effect on the national rate.

*Eleven states did not record marital status on the birth certificate; for those states, the National Center for Health Statistics followed its standard practice of imputing marital status by matching surnames (see: NCHS, *Vital Statistics of the United States, 1980: Vol. 1—Natality*, 1981 addendum to technical appendix [mimeo]).

†More comprehensive estimates of the total number of women needing prenatal care during a given year could be computed by including pregnancies that result in miscarriages and stillbirths as well as pregnancies that end in live births during the following year. The National Fetal Mortality Survey, carried out in conjunction with the NNS, has data on prenatal care for women whose pregnancies ended in stillbirths, but stillbirths constitute a very small proportion of all involuntary fetal losses (about 0.5 percent of all live births).

Overall, four percent of mothers in 1980 did not visit their doctor until the third trimester of pregnancy (about 131,000 women), and one percent did not visit the doctor at all before giving birth (about 38,000 women). In addition, 18 percent of mothers made their first visit only during the second trimester (632,000 women). Seventy-eight percent of mothers received care in the first trimester—a proportion 12 points short of the national objective, but still representative of the large majority of women. Patterns of care, however, vary widely among subgroups. Only 49 percent of mothers younger than 18 received care in the first trimester, as did only 56 percent of unmarried mothers, 62 percent of the least-educated women, and 64–68 percent of older teenagers, blacks, very poor women and Hispanic women. Among these women, levels of inadequate care (third trimester only, or none at all) ranged from seven percent to 13 percent. Other subgroups in contrast, had above-average rates of care in the first trimester—for example, women aged 25–34 (about 85 percent), married women (83 percent), highly educated women (87 percent), the most affluent (85 percent) and whites (81 percent).

The disadvantage of adolescents with respect to prenatal care appears within racial, residential and educational subgroups (see Table 2). The proportion obtaining very late care or no care is often twice as high among teenagers as it is among 20–24-year-olds, and three times as high as among those aged 25 and older. Two interesting exceptions occur, however: Among Hispanic mothers and the least-educated mothers, the incidence of inadequate care is nearly as high among 20–24-year-olds (11 percent and nine percent, respectively) as it is among teenagers (12 percent and 11 percent); and even among those 25 and older, the proportions with inadequate care are greater than average (6–7 percent, compared with 2–4 percent for older women in other subgroups). Practically all of the differences across ages within subgroups, and several of the differences across subgroups within age categories, are highly statistically significant.

As was seen in Table 1, unmarried mothers had the second-worst prenatal care record in 1980—only 56 percent had first-trimester care, and 12 percent had very late or no care. Table 3 shows, in greater detail, the association of marital status with the likelihood of receiving inadequate care. The "total" columns indicate the very large differences that exist between married and unmarried women in each racial, residential and educational subgroup. Unmarried women typically have almost four times the level of inadequate care found in the corresponding subgroup of married women. However, for two subgroups, black mothers and the least-educated mothers, there is a smaller relative difference between married and unmarried members—the ratio is closer to 2:1. The differences between all married and all unmarried women within each subgroup are statistically significant.

Table 2. Percentage of mothers receiving inadequate prenatal care (third trimester only, or no care), by age-group, according to race/ethnicity, residence and education

| Subgroup | Age-group | | |
|---|---|---|---|
| | <20 | 20–24 | ≥25 |
| Total | 9.8 | 4.9 | 2.9 |
| Race/ethnicity | | | |
| Black (non-His.) | 12.8 | 6.4 | 3.6 |
| White (non-His.) | 8.3 | 3.9 | 2.5 |
| Hispanic | 11.9 | 11.4 | 6.4 |
| Residence | | | |
| Metropolitan | 10.3 | 4.8 | 2.7 |
| Nonmetropolitan | 8.9 | 5.3 | 3.4 |
| Education (yrs.) | | | |
| <12 | 11.4 | 8.7 | 6.6 |
| 12 | 7.1 | 4.0 | 3.2 |
| ≥13 | (9.9)* | 3.5 | 1.7 |

*In this and following tables, unstable estimates (based on fewer than eight women in the cell, using unweighted numbers) are indicated by parentheses.

Note: Most of the differences between age-groups are statistically significant at $p<0.05$ using the two-tailed t-test (exceptions—20/20–24 comparison: Hispanic women, women with <12 years of education and women with ≥13 years of education; 20–24/≥25 comparison: women with <12 years of education and women with 12 years of education). Most of the differences between subgroups within each age-group are not significant (exceptions—<20: blacks vs. whites, and <12 vs. 12 years of education; 20–24: whites vs. Hispanics and <12 vs. 12 years of education; ≥25: whites vs. Hispanics, <12 vs. 12 years of education, and 12 vs. ≥13 years of education).

Significant differences are also found between married and unmarried women within each of the three age-groups, especially the younger groups. Unexpectedly, in the 20–24 age-group, the difference between the married and the unmarried is about as large as it is in the teenage group—even though 20–24-year-olds as a group are half as likely as teenagers to receive inadequate care. Even among mothers 25 and older, the proportion receiving inadequate care is significantly higher among the unmarried than among the married. Clearly, although increasing age brings some improvement in the adequacy of care received by each marital status group, unmarried women are much more likely to obtain inadequate care, at all ages.

This pattern of age and marital status differences characterizes all of the subgroups shown in the table except blacks 25 and older. Nearly all of the differentials are statistically significant; and the few that are not are in the expected direction. Among teenagers, only blacks fail to show significantly different levels of inadequate care among the married and the unmarried (eight and 14 percent, respectively); the small number of married black teenagers, and the large proportion of their births that are conceived premaritally, may account for the lack of significance. However, among 20–24-year-olds, the marital status differentials are significant in all subgroups, with the unmarried typically having 2–4 times as high a probability of obtaining inadequate care as the married. Even at ages 25 and older, all but three subgroups (blacks, and women with the least and the most education) show significant differences between their married and unmarried members; among Hispanics and nonmetropolitan

Table 3. Percentage of mothers receiving inadequate prenatal care, by marital status and age-group, according to race/ethnicity, residence and education

| Subgroup | Married | | | | Unmarried | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | <20 | 20–24 | ≥25 | Total | <20 | 20–24 | ≥25 |
| Total | 3.1 | 5.0 | 3.4 | 2.5 | 11.8 | 14.8 | 11.4 | 7.0 |
| Race/ethnicity | | | | | | | | |
| Black (non-His.) | 3.8 | 7.8 | 3.0 | 3.6 | 9.6 | 13.6 | 8.8 | 3.7 |
| White (non-His.) | 2.8 | 4.6 | 3.0 | 2.3 | 12.5 | 15.3 | 12.6 | [illegible] |
| Hispanic | 5.9 | 6.5 | 8.8 | 3.9 | 18.5 | 20.3 | 17.9 | [illegible] |
| Residence | | | | | | | | |
| Metropolitan | 2.8 | 5.1 | 3.1 | 2.4 | 11.1 | 14.6 | 10.8 | 5.9 |
| Nonmetropolitan | 3.5 | 5.0 | 4.0 | 2.8 | 13.7 | 15.5 | 13.0 | 10.8 |
| Education (yrs.) | | | | | | | | |
| <12 | 6.5 | 6.7 | 6.9 | 6.0 | 13.8 | 15.4 | 12.5 | 9.4 |
| 12 | 2.7 | 3.0 | 2.7 | 2.7 | 10.4 | 13.0 | 10.4 | 7.5 |
| ≥13 | 1.8 | 3.4 | 2.3 | 1.6 | 8.8 | (23.7) | 11.6 | 3.8 |

Note: The differences between all married and all unmarried women within each subgroup are statistically significant at $p<0.05$ using the two-tailed t-test. Differences between married and unmarried women in each age-group are significant except among the following subgroups: <20: blacks; ≥25: blacks, women with <12 years of education and women with ≥13 years.

Table 4. Percentage of mothers receiving inadequate prenatal care, by poverty and marital status,* according to age-group, race/ethnicity, residence and education

| Subgroup | Poor (<150%) | | Nonpoor (≥150%) | |
|---|---|---|---|---|
| | Married | Unmarried | Married | Unmarried |
| Total | 5.4 | 13.6 | 2.3 | 7.9 |
| Age-group | | | | |
| <20 | 5.7 | 16.4 | 4.6 | 11.4 |
| 20–24 | 5.9 | 11.3 | 2.5 | 6.4 |
| ≥25 | 4.9 | | 2.0 | |
| Race/ethnicity | | | | |
| Black (non-His.) | 4.9 | 12.3 | 2.9 | 3.8 |
| White (non-His. | 5.1 | (12.0) | 2.2 | (12.8) |
| Hispanic | 8.3 | (25.4) | 4.5 | (3.4) |
| Residence | | | | |
| Metropolitan | 5.5 | 12.5 | 2.1 | 8.4 |
| Nonmetropolitan | 5.3 | (16.7) | 2.8 | (6.4) |
| Education (yrs.) | | | | |
| <12 | 8.6 | 16.5 | 4.9 | 3.9 |
| 12 | 4.9 | (9.9) | 2.0 | (9.6) |
| ≥13 | 0.8 | | 1.9 | |

*Data for married women are from the NNS. For unmarried women, estimates have been computed by applying poverty status distributions from the NSFG (among women grouped by trimester of care) to the numbers of unmarried women in the NNS receiving adequate and inadequate care. Because the NSFG sample of births to unmarried women is small, and the numbers of unmarried women in the NNS within subgroups is often extremely small, the resulting estimates for poor unmarried women are sometimes unstable. Some subgroups have been combined because of the very small numbers of cases.

Note: Differences between poor and nonpoor woman are statistically significant at $p<0.05$ using the two-tailed t-test except among the following subgroups: married women; teenagers, blacks, Hispanics and women with ≥13 years of education; unmarried women; whites and women with ≥12 years of education.

women, the differentials are large. The persistence of the difference between married and unmarried mothers suggests that certain basic characteristics of unmarried women, cutting across all other characteristics, affect their chance of obtaining prenatal care early in pregnancy. Unmarried women, for example, may be more likely to have unintended pregnancies, to be poor (since they have one income only) and to receive limited support from their families.

One unexpected finding in Table 3 is the higher level of inadequate care among unmarried whites than among unmarried blacks. The difference between these groups as a whole is statistically significant; while it is not significant for the three age-groups, the difference in each case is in the same direction. The unmarried constitute a much smaller proportion of all white mothers than of all black mothers (11 percent vs. 57 percent—not shown). As a "minority" group, unmarried white mothers may well be selected for particular characteristics, and this greater selectivity could partly account for the disadvantaged position of unmarried whites. The "minority" status of unmarried white mothers may also imply that less social and familial support is given to them, since being an unmarried mother represents relatively more deviant, and therefore less accepted, behavior among whites.

The women with the poorest pattern of care are unmarried Hispanic mothers, who are twice as likely as unmarried blacks and 1.5 times as likely as comparable whites to receive only third-trimester care or no care. (Both differences are statistically significant.) The differentials are smaller among teenagers, but larger among mothers 25 and older (only the results for the older women are significant, however). Among married women, Hispanics are once again more likely to obtain inadequate care than are either blacks or whites (although only the latter comparison is significant). The greater disadvantage of Hispanic women relative to other subgroups may stem from high levels of poverty, relatively low levels of education and, possibly, problems in adapting to the medical care system of a country with a different culture and language.

As Table 1 illustrated, low income is also associated with a greater likelihood of receiving inadequate prenatal care. Poor women (those with family incomes below 150 percent of the federal poverty level) contributed one-third of all births in 1980; only 66 percent of those women received prenatal care during the first trimester of pregnancy, while nine percent received very late care or no care at all. Among nonpoor women, in contrast, the proportions were 84 percent and three percent, respectively. (Because of the extremely low level of income represented by the poverty line itself—$8,385 in 1980—150 percent of poverty has been used in this analysis as the cutoff point to distinguish the poor from the nonpoor.[18]) Within each poverty status category, the patterns of prenatal care differ according to marital status:

| Poverty and marital status | Trimester in which care was begun | | | |
|---|---|---|---|---|
| | 1st | 2nd | 3rd | No care |
| <150% poverty | | | | |
| Married | 72 | 23 | 5 | 1 |
| Unmarried | 56 | 31 | 10 | 4 |
| ≥150% poverty | | | | |
| Married | 86 | 11 | 2 | 1 |
| Unmarried | 57 | 36 | 7 | 1 |

Poor mothers are more likely than the nonpoor to receive inadequate care whether they are married or unmarried—among the married, six percent compared with three percent, and among the unmarried, 14 percent compared with eight percent. These results suggest that being poor and being an unmarried mother are both strong determinants of inadequate care.

Table 5. Number and percentage distribution of mothers receiving inadequate prenatal care, according to subgroup

| Subgroup | Care in 3rd trimester only, or no care | | Care in 2nd trimester or later, or no care | |
|---|---|---|---|---|
| | No. (in 000s) | % | No. (in 000s) | % |
| Total | 169 | 100.0 | 801 | 100.0 |
| Age-group | | | | |
| <20 | 55 | 32.5 | 234 | 29.2 |
| 20–24 | 61 | 36.1 | 287 | 35.8 |
| ≥25 | 53 | 31.4 | 280 | 35.0 |
| Race/ethnicity | | | | |
| Black (non-His.) | 39 | 23.1 | 194 | 24.2 |
| White (non-His.) | 104 | 61.5 | 518 | 64.7 |
| Hispanic | 26 | 15.4 | 89 | 11.1 |
| Marital status | | | | |
| Married | 90 | 53.3 | 507 | 63.3 |
| Unmarried | 79 | 46.7 | 294 | 36.7 |
| Residence | | | | |
| Metropolitan | 108 | 63.9 | 504 | 62.9 |
| Nonmetropolitan | 61 | 36.1 | 296 | 37.0 |
| Education (yrs.) | | | | |
| <12 | 77 | 45.6 | 322 | 40.2 |
| 12 | 65 | 38.5 | 322 | 40.2 |
| ≥13 | 27 | 16.0 | 157 | 19.6 |
| Poverty status | | | | |
| <150% | 100 | 59.2 | 399 | 49.8 |
| 150–249% | 22 | 13.0 | 173 | 21.6 |
| ≥250% | 47 | 27.8 | 229 | 28.6 |

Among subgroups that have higher overall levels of inadequate care—blacks, Hispanics, nonmetropolitan women and the least-educated women (but not adolescents)—poverty makes a greater difference for unmarried women than for married women (see Table 4). In the black subgroup, for example, the level of inadequate care is nearly twice as high among the married poor as among the married nonpoor; but among unmarried mothers, the poor are more than three times as likely as the nonpoor to receive deficient prenatal care. Income makes much less of a difference for unmarried women in the white, metropolitan and better-educated subgroups. Although these conclusions are based on small samples, the pattern of results suggests that among unmarried women, the effect of poverty on prenatal care varies across subgroups—being greater in the groups with poorer levels of care, and smaller in those with better care—whereas among married women, poverty has a small but consistent effect on adequacy of care in all subgroups.

## Unmet Need for Prenatal Care

As the preceding tables have shown, the women who are most likely to obtain inadequate prenatal care are not distributed evenly across population subgroups. Two sources of unevenness exist—the absolute size of these subgroups (and thus the number of births they have) and their relative risk of receiving inadequate care; both deserve attention. Table 5 shows the number and percentage distribution of mothers in 1980 who obtained inadequate care, according to subgroup. Two sets of data are presented, which represent minimum and maximum estimates derived from the use of two definitions of inadequate care: the narrower measure used thus far (care begun in third trimester, or no care) and a broader measure (care begun in second trimester or later, or no care). Under these definitions, the number of mothers receiving inadequate care in 1980 ranged from 169,000 (five percent of all mothers) to 801,000 (22 percent). Regardless of the measure used, the data show that in sheer numbers, the women who make up the majority of those receiving inadequate prenatal care are younger than 25, white, married, located in metropolitan areas, less educated and poor. Although the white, married and metropolitan subgroups are less likely than other groups to receive inadequate care, the larger absolute size of each outweighs its lower risk, and thus results in its accounting for a substantial proportion of all mothers who obtain inadequate prenatal care (53–64 percent under the narrower measure, and 63–65 percent under the broader one).

The distributions in Table 5 do not accurately represent the relative risks of inadequate care among subgroups, however. One way of measuring relative risk is to compare each subgroup's share of total births (see Table 1) with its share of births preceded by inadequate prenatal care (see Table 5). The following subgroups are found in this manner to have disproportionately high risks of inadequate care (third trimester only, or none):

| Subgroup | % of all births | % with inadequate care |
|---|---|---|
| Aged <20 | 16 | 33 |
| Unmarried | 19 | 47 |
| Black (non-His.) | 15 | 23 |
| Hispanic | 8 | 15 |
| <12 years ed. | 23 | 46 |
| <150% poverty | 32 | 59 |

These groups make about twice as large a contribution to births with poor prenatal care as they do to total births. (A similar but slightly weaker disproportionate relationship is observed when the broader definition of inadequate care is used—not shown.) The logical corollary to this conclusion is that corresponding subgroups (older, married, white, better-educated, nonpoor) have lower-than-expected levels of inadequate care.

A more straightforward way of expressing differences in relative risk is to compare all other subgroups with the group that is considered to have the best level of care at the current time. Married, white, nonpoor women have one of the lowest levels of inadequate care, although the pattern they exhibit is by no means ideal: In 1980, two percent of this group initiated prenatal care in the third trimester or received no care; 13 percent started care in the second trimester or later, or received no care. The risks of inadequate care for all other subgroups relative to this "standard" group are shown in Table 6. As in Table 5, minimum and maximum risks are presented. The population as a whole has 1.7–2.0 times the risk of obtaining deficient prenatal care as married, white, nonpoor women. However, the disadvantage of certain subgroups is much more extreme. Unmarried women run the highest relative risk; they have a level of late or no care that is 5.1 and 3.3 times the standard group's, depending on the definition used for "inadequate." Compared with the reference group, teenagers, blacks, Hispanic women, those with little education, and poor women exhibit relative risks ranging from 3.1 to 4.3 (narrower definition) and from 2.4 to 3.1 (broader definition). The subgroups closest to the standard, best-off group are highly educated women, the most affluent women, women 25 and older and married women.

Table 6. Risk of inadequate prenatal care for the total population and for each subgroup, relative to the risk for married, white, nonpoor women

| Subgroup | Care in 3rd trimester, or no care | Care in 2nd trimester or later, or no care |
|---|---|---|
| Married, white, nonpoor (≥150% pov.) | 1.0* | 1.0* |
| Total population | 2.0 | 1.7 |
| **Age-group** | | |
| <20 | 4.3 | 3.1 |
| 20–24 | 2.0 | 1.8 |
| ≥25 | 1.3 | 1.2 |
| **Race/ethnicity** | | |
| Black (non-His.) | 3.1 | 2.6 |
| White (non-His.) | 1.6 | 1.4 |
| Hispanic | 4.0 | 2.4 |
| **Marital status** | | |
| Married | 1.4 | 1.3 |
| Unmarried | 5.1 | 3.3 |
| **Residence** | | |
| Metropolitan | 2.0 | 1.6 |
| Nonmetropolitan | 2.2 | 1.9 |
| **Education (yrs.)** | | |
| <12 | 4.0 | 2.9 |
| 12 | 1.7 | 1.5 |
| ≥13 | 1.0 | 1.0 |
| **Poverty status** | | |
| <150% | 3.7 | 2.6 |
| 150–249% | 1.1 | 1.5 |
| ≥250% | 1.3 | 1.1 |

*Risk of 1.0 for standard group represents a level of inadequate care of two percent (narrower measure) and 13 percent (broader measure). For each other subgroup, risk is computed by dividing proportion in that subgroup receiving inadequate care by proportion in standard group receiving comparable care.

## Implications

This brief review of current levels of and differentials in prenatal care has implications for policy. It should be emphasized that although the data in this article are for 1980, the conclusions drawn from them apply as well to subsequent years, since the most recent national estimates of prenatal care show a decline in early care in most subgroups between 1980 and 1982. The data presented here reveal that in 1980, 18 percent of all mothers did not initiate prenatal care until the second trimester of pregnancy, and another five percent either waited until the third trimester or received no care at all. This finding suggests that unless some direct action is taken to upgrade the current pattern of care, the nation will probably not achieve the objective of ensuring that by 1990, at least 90 percent of mothers in every population subgroup visit the doctor within the first trimester of pregnancy. That standard, enunciated by the Surgeon General, reflects widespread acceptance of the argument that early prenatal care is associated with better health outcomes for mother and child. Although studies carried out so far have not conclusively proved the association to be a causal one (because of problems with the data available),[19] the argument is intuitively reasonable.

Beyond this basic implication, the data suggest that two main types of need exist:

- The need to educate women, in order to improve their knowledge of the purpose and importance of adequate care during pregnancy. This need is especially salient in the case of women who presumably can afford adequate care but nevertheless do not obtain it. Such women, in fact, constitute a substantial proportion of those who receive inadequate care. Of the 169,000 women who obtained only third-trimester care or no care in 1980, about 40 percent had family incomes at or above 150 percent of the poverty level; of the 801,000 women who initiated care in the second trimester or later or who had no care, about 50 percent were above 150 percent of

poverty, it should also be noted that nonpoor mothers are more likely to be married, 25 or older, white and better educated (not shown). The need for education is relevant to poor women as well as to the nonpoor. Although poverty may be a barrier to the receipt of early prenatal care, poor women may also be insufficiently aware of the benefits of utilizing such care, should it be made available.

• The need to publicly fund programs to help poor women and other disadvantaged groups obtain adequate care during pregnancy. The strongest case may be argued for women who have family incomes below 150 percent of the poverty level—in 1980, nine percent of mothers in this group (about 100,000 women) received no care until the third trimester or no care at all, and 35 percent (about 400,000 women) received no care until the second trimester or later. Poor mothers are more likely to be unmarried, younger than 25, black or Hispanic, and less educated (not shown). Indeed, this article has shown that of all subgroups, teenage mothers and unmarried mothers have the highest levels of inadequate prenatal care—higher even than the level among poor women as a whole. For example, 44 percent each of teenage mothers and of unmarried mothers did not visit the doctor until the second trimester or later, compared with 35 percent of poor mothers. The need among teenage and unmarried mothers for public assistance, in the form of education and service provision, is evidently as strong as the need among poor mothers.

The benefits accruing to society as a whole from good prenatal care cannot be denied. The fact that only a few states will achieve the national goal for 1990 deserves serious consideration and action by policy-makers.[20] However, the complexity of the issue of need must be acknowledged. It is possible, for instance, that women who initiate early prenatal care also take other steps, independently of a physician's advice, that improve their pregnancy outcomes. The reverse may also be true—women who delay obtaining prenatal care until late in their pregnancy may make other health and behavioral decisions that are detrimental to pregnancy outcomes. It would seem that the twin objectives of improving the use of prenatal care among disadvantaged groups and expanding our understanding of the causes and consequences of inadequate care should be pursued simultaneously.

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# Background Paper on Universal Maternity Care

COUNCIL ON MATERNAL AND CHILD HEALTH,
NATIONAL ASSOCIATION FOR
PUBLIC HEALTH POLICY

## PREFACE

IT has been known for years that comprehensive prenatal care can yield healthier babies, prevent human suffering, and save money by greatly reducing the need for costly hospitalization for sick babies. The 1985 Institute of Medicine report, *Preventing Low Birthweight*, states, " . . . the overwhelming weight of evidence is that prenatal care reduces low birthweight. This finding is strong enough to support a broad, national commitment to ensuring that all pregnant women in the United States, especially those at medical or socioeconomic risk, receive high quality prenatal care" (1).

Timely access to prenatal care has deteriorated in this country for two consecutive years (2). According to the Institute of Medicine, the underlying cause of the problem of inadequate access to prenatal care is "the nation's patchwork, nonsystematic approach to making prenatal services available . . . Without a structure of accountability, gaps in care will remain and efforts to expand prenatal services will continue to face major organizational and administrative difficulties" (3).

Yet, according to the University of Pennsylvania's Dr. Marie McCormick, if this country is to experience further improvement in infant mortality, it must do so through reducing the low birthweight rate (4). Acknowledging 1) that America's infant mortality rate remains unacceptably high compared to other developed countries (5), 2) that to further reduce infant mortality we must first reduce low birthweight, and that 3) this may be accomplished, in part, through improving access to high quality prenatal care, it follows that a national program of universal maternity care has great potential for improving both infant health and infant survival. In addition, numerous reports from states and the Institute



Carolyn



of Medicine report have documented that investment in high quality health care for pregnant women will also save wasted expenditures in the first year of a sick newborn's life and later on (6). Such care should be comprehensive in scope, from early pregnancy testing through the postpartum and newborn infant visits. This care should be accessible to all pregnant women, without regard to personal or financial considerations.

The Institute of Medicine's Committee on Low Birthweight recommends that Federal and state governments take specific actions to assume responsibility for making such services available (7). Taking the Institute of Medicine's recommendations a step further, the National Association for Public Health Policy's Council on Maternal and Child Health has concluded that universal maternity care, mandated by the Federal government and administered by state health departments, would be the most effective and efficient way to improve the health of our mothers and babies. The following background paper discusses the need for such a program and suggests a number of recommendations for making universal maternity care a reality.

## THE GOAL: COMPREHENSIVE MATERNITY CARE FOR ALL

### *What is Comprehensive Maternity Care?*

Comprehensive maternity care includes care from the time pregnancy is first diagnosed through the postpartum visit. Comprehensive maternity care encompasses a broad spectrum of services that should be readily available so that a unique prescription for care can be developed to meet the individual needs of each expectant mother. Providers of comprehensive maternity care services should be prepared to offer:

- pregnancy testing
- early registration with labor and delivery services
- clinical assessment
- laboratory testing
- identification of high risk patients and referral for appropriate care
- nutritional assessment, counseling, and referral to appropriate feeding programs such as the Special Supplemental Feeding Program for Women, Infants, and Children (WIC) and Food Stamps
- health education and counseling
- social services
- labor and delivery services
- postpartum care, including family planning services (8).

Health in pregnancy depends on the mother's general prepregnancy health, personal health habits (e.g., tobacco and/or alcohol use), nutrition, stress, and other considerations in addition to the quantity and quality of prenatal care. Therefore, this broad approach to services is needed to maximize the potential of each pregnancy.

## THE POTENTIAL: HEALTHIER BABIES

### *Can Comprehensive Maternity Care Make a Difference?*

Research and experience have shown that comprehensive prenatal care can make a critical difference in the health of mothers and the survival of infants. Comprehensive prenatal care can eliminate or reduce the effects of specific diseases or disorders in the pregnant woman—for example, diabetes, anemia, hypertension in pregnancy, blood incompatabilities, venereal disease, and urinary tract infections—all of which can lead to grave consequences for the infant unless properly treated (9).

Comprehensive prenatal care can also decrease the likelihood of a baby being born too small—less than five pounds, eight ounces—a problem called "low birthweight" (LBW). Low birthweight is the single most important factor associated with infant mortality. In the U.S., low birthweight infants account for two-thirds of neonatal deaths (under 28 days) (10) and 50% of deaths in the first year of life (11). Low birthweight infants are also far more likely to suffer from permanent handicapping conditions such as mental retardation, birth defects, growth and development problems, blindness, autism, cerebral palsy, epilepsy, and respiratory distress syndrome (12). Babies born at low birthweight, including one out of every three weighing less than 1500 grams at birth (about three and a third pounds), continue to experience significant illness requiring hospitalization or extended care throughout the first year of life (13).

The low birthweight rate among infants born to women who received no prenatal care was almost three times that of the general population. The National Center for Health Statistics reports that in 1982 the low birthweight rate was 19.6% among infants born to women with no prenatal care. In contrast, the overall incidence of low birthweight births in the U.S. was 6.8% (14).

The March of Dimes Birth Defects Foundation has documented nationally that if a woman has 13 to 14 prenatal visits, she would have only a 2% chance of having a low birthweight baby. If she has no prenatal visits, however, her risk of having a small baby would be over 9% (15).



Evaluations of maternity care programs throughout the country have consistently shown that comprehensive prenatal care can bring dramatic improvements in pregnancy outcome.

- In the late 1970s, women who received comprehensive maternity care from the Cleveland, Ohio, Maternity and Infant Care (MIC) Project experienced 60% less perinatal mortality and 25% fewer preterm deliveries than comparable women not enrolled in the project (16).
- Within a two-year period, the Providence, Rhode Island, MIC Project experienced a 25% decrease in infant mortality rates in the areas it served (17).
- The Obstetrical Access Project in California provided comprehensive prenatal, delivery, and postpartum care to women in 13 underserved counties. Participants in the program had a 33% lower incidence of low birthweight compared to a matched group of nonparticipating Medi-Cal patients. The incidence of very low birthweight babies (less than about three and a third pounds) was 61% lower (18).
- Su Clinica Familiar, a migrant primary health care clinic, was established in 1972 in the Texas Rio Grande Valley. The clinic offers culturally-sensitive, comprehensive maternity services to its predominantly Mexican-American clientele. The incidence of low birthweight among clinic deliveries was only 4.4%. The rate of premature births was 3.5%. At the same time, the prematurity rate for all births was 7.6% in Texas, and 7.4% for the U.S. (19).

While the largest difference in newborn health is between those infants born to mothers who received *any* prenatal care versus those born to women who have had *no* prenatal care, the number of prenatal visits also makes a difference, with the risk of poor health decreasing with more and earlier visits during the pregnancy (20).

- In the California OB Access Project, LBW rates were substantially lower (2.8%) for women who began prenatal care in the first trimester, as well as for those who received the full package of comprehensive services, as compared to those who only had a partial package (7.2%) (21).
- In Oakland, California, an evaluation of the Oakland Perinatal Health Project (OPHP)—a comprehensive care project providing clinical, outreach, and support services for low income pregnant women and their infants—showed that between 1978 and 1981, for OPHP patients who

had ten or more prenatal visits, the LBW rate was 3%; for those with 5–9 visits, 10%; and for less than 5 visits, the LBW rate was 12.4%. Each prenatal visit was associated with a 13.6 gram increase in birthweight (22).
- In an Oregon prepaid health care program in 1983, "with maternal risk held constant, low birthweight, neonatal mortality, and infant mortality were 1.5 to 5 times greater with late, less frequent prenatal care than with early, more frequent prenatal care" (23).

Only Federal leadership can reduce inequities that exist in the utilization of maternity care and in the health status of different groups of women and infants in the U.S. Recent evidence suggests that while the association between receipt of prenatal care and improved pregnancy outcome holds for all sociodemographic groups, the relative impact of this association varies. The greatest improvement in maternal and infant health can be expected if programs are designed to meet the needs of the most socially disadvantaged groups, namely, the low income, the poorly educated, and minority women (24,25,26).

### *Recommendations*

*In order to further reduce infant mortality, public and private efforts must focus on reducing low birthweight through making available appropriate comprehensive maternity services to all pregnant women.*

*The successful strategies of state and Federal demonstration projects should be disseminated to all populations in need of such services.*

## THE POTENTIAL: COST SAVINGS

### *Can Comprehensive Maternity Care Save Money?*

Comprehensive prenatal care is not only effective in reducing death and illness among newborns; it can also help contain costs by preventing perinatal conditions which require expensive treatment.

According to the United States Office of Technology Assessment, the annual cost of neonatal intensive care in the U.S. exceeds $1.5 billion (27). Since most of these hospitalizations are for premature and low birthweight babies, prevention of prematurity and low birthweight would eliminate the need for much of the neonatal intensive care being utilized in the U.S. today.

The cost of neonatal intensive care is staggering. Estimates of the average cost to "graduate" a low birthweight, sick, and/or disabled infant from a neonatal intensive care unit range from $13,616 for all low birthweight



babies (28) to nearly $100,000 per infant weighing 1000 grams (about 2 pounds, 3 ounces) or less (29), compared with only $400 for prenatal care (excluding labor and delivery services) (30). For the low birthweight infant who survives with severe physical or mental handicaps, the cost of lifetime care (20 years) is estimated to be $359,000 (31).

Providing comprehensive, prevention-oriented perinatal care is approximately five times more cost-effective than providing treatment-oriented medical services (32). Put another way, the American Academy of Pediatrics reported in 1984 that cost benefit estimates range from 2 to 10 dollars saved for every dollar spent on prenatal care (33).

The following estimates indicate the savings that states might have enjoyed had they implemented comprehensive prenatal care:

- Michigan state officials found that over six dollars could have been saved for every dollar spent by the state to provide prenatal care to 14,000 uninsured women. Without prenatal care, 6000 of the babies born to these women would need neonatal intensive care hospitalization. With prenatal care, at least 1500 of these babies would not need this costly hospital care, saving over $30 million (34).
- The Virginia State Perinatal Services Advisory Council concluded that the state could save $49.8 million in state expenditures for long-term institutional care for the mentally retarded through the provision of better prenatal care (35).
- The California Department of Health Services estimates that $6–7 million in neonatal intensive care costs for 3700 low birthweight infants could have been saved if their mothers had received prenatal care. Costs of prenatal care for those women would have been only $2.8 million (36).
- Oregon officials studying women receiving inadequate prenatal care in the state estimate that for the cost of caring for five high-risk premature infants, 149 women could have received comprehensive prenatal care (37).

### *What About the Uncompensated Cost of Maternity Care for the Uninsured?*

Universal maternity care would not require the investment of huge amounts of new dollars. The public is already paying indirectly for the cost of care for sick mothers and babies without health insurance coverage through cost-shifting—higher hospital bills and insurance premiums for all—and through tax-supported health services for the indigent.

Uncompensated care, which includes both bad debts and charity care, is

becoming an increasingly significant part of the rising health care costs that public programs, private employers, and individuals must face. According to an American Hospital Association study, uncompensated care increased from $4.5 billion to $6.2 billion between 1978 and 1982 (38). Maternity and maternity-related cost is the single most important contributor to the burden of unpaid hospital bills in the U.S. today.

- Normal delivery, cesarean sections and newborn discharges combined account for 61% of all self-pay/no charge discharges (39).
- In 1981, 40% of all self-pay discharges were maternity patients, and hospitals received only 72% of charges billed to self-pay patients. Normal delivery was the single most common self-pay discharge diagnosis (40).
- According to the 1980 National Hospital Discharge Survey, 12.8% of discharges for deliveries were "self-pay" (41).
- Although only 5% of all discharges with costs considered "catastrophic" were self-pay, 16.5% of all catastrophic newborn discharges (of which 85% were for prematurity) were self-pay (42).

A number of states have studied the problem of uncompensated care. These are some of their findings:

- A South Carolina study found that, in 1983, hospitals shifted $69 million from those who could not afford to pay for care to the costs paid by paying patients. Forty three percent of indigent admissions at the hospital were obstetric/gynecology, pediatric, or newborn patients (43).
- In May 1983, the Virginia Perinatal Services Advisory Council found that in that state an estimated 23% of total hospital costs for neonatal intensive care is not reimbursed, and that total write-offs for neonatal intensive care were estimated to be $12 million a year (44).
- A study of 30 hospitals in Massachusetts found that three-fifths of bad debts were attributable to those without third party payment. The largest category of uncollected costs were for maternity and maternity-related care (45).
- A 1982–83 study of uncompensated care at Vanderbilt Hospital in Tennessee found that recipients of uncompensated care often had entered the health care system late (i.e., with late or no prenatal care), and that almost half of the high-cost uncompensated care patients were newborns (46).

While there is a significant need to decrease health care costs for newborn infants, present methods deal only with the consequences and not the



causes of the problem. Universal maternity care would cut health care costs by preventing many pregnancies from resulting in low birthweight babies and by eliminating the related hidden costs of uncompensated care. We are already paying for the most expensive side of the health cost equation—hospital costs for the sick. In the long run, putting resources instead into the prevention side will result in significant savings in both dollars and in human potential.

### *Recommendations*

*Adequate Federal financial support must be available to make access to prenatal and labor and delivery services a reality for all who need them.*

*A unified financing mechanism should be developed in each state to meet both prenatal and labor and delivery costs for all.*

## THE NEED: REDUCING BARRIERS TO MATERNITY CARE

### *Has the Utilization of Prenatal Care Changed in the Last Few Years?*

Recently, some preliminary reports indicate that improvements in access to prenatal care have halted or even reversed. Dr. Edward N. Brandt, Jr., former Assistant Secretary for Health of the U.S. Department of Health and Human Services, recently explained that provisional 1983 and 1984 data reveal that the rate of decline in infant mortality has been relatively small in comparison with previous years. This general slowdown in the decline in the infant mortality rate is the first in 20 years. Brandt also expressed concern over the "apparent reduction in the timely provision of prenatal care" (47).

- A survey in Lexington/Fayette County, Kentucky, found that the number of pregnant women who did not receive prenatal care in 1982 was nearly 75% greater than the number in 1980 (48).
- A study of prenatal care in Oregon by the State Health Department found that in the 18-month period after 1980 the percent of mothers with inadequate care increased by one sixth to a total of 7.0% of all births. For the first half of 1982, 1.0% were without any care, and an additional 1.9% had four or fewer visits (49).
- For four consecutive years beginning in 1979, participation in early prenatal care by all pregnant women in the U.S. has remained virtually unchanged after a decade of steady improvement. Between 1981 and 1982, however, the participation rate in early prenatal care actually declined

for black women and for women of all ages up to age 29 ,while the proportion of both black and white women receiving late or no prenatal care actually increased (50).

Great disparities exist between who gets care and who does not, and between who gets care early in pregnancy and who starts late.

- Nationally, in 1982 one out of every 25 pregnant women received no prenatal care until the last trimester, and one in 67 received none at all. One out of 17 black pregnant women received no prenatal care until the last trimester and one in 30 received none at all, a statistic indicating a continuing gap in access to care since 1981. The fact that participation in early prenatal care has remained constant for white women while it has declined for black women indicates that, according to this measure, the difference in access to prenatal care between white and black women has gotten worse (51).
- In the three largest metropolitan countries in Washington State, both the proportion of women receiving late or no prenatal care and the proportion of low birthweight infants increased in low-income census tracts between 1980 and 1982, a period characterized by increasing unemployment and decreasing Medicaid eligibility (52).

State reports highlight the groups most at risk of inadequate prenatal care:

- In Oregon in 1982, nearly half of pregnant teens were considered to have had less than adequate care and 3% had no prenatal care at all (53).
- In Ohio in 1981, nonwhite pregnant women were twice as likely as white pregnant women to have received no prenatal care or to have received it only in the last trimester of pregnancy (54).
- In Florida in 1982, there were an estimated 65,000 low income pregnant women but only 25,000 were receiving comprehensive care (55).

### *Why Don't Pregnant Women Get Early, Comprehensive Prenatal Care?*

Too often, comprehensive prenatal care is either not available or not accessible. The Institute of Medicine's report concluded that the major barriers to early receipt of prenatal care fall into the following six categories:

1. financial constr[illegible]
2. limited availabi[illegible] of maternity care providers



3. insufficient prenatal services in some sites routinely used by high-risk populations
4. experiences, attitudes, and beliefs among women that make them disinclined to seek prenatal care
5. poor or absent transportation and child care services
6. inadequate systems to recruit hard-to-reach women into care (56).

The financial burden of medical care during pregnancy is especially difficult for the uninsured, three quarters of whom are workers and their dependents. Despite their need for care, lack of insurance is associated both with lower utilization of health services and higher out-of-pocket costs (57).

- The 1977 National Health Care Expenditure Study showed that 16.6% of the non-institutionalized civilian population of the United States has no health insurance coverage, either public or private, for maternity care. Almost 30% of the privately insured population under age 65 has no maternity care coverage, and the coverage for those with non-group private policies is even worse, leaving 35% uncovered for any medical expenses connected with pregnancy (58).
- Even women with private insurance coverage have to pay for part or all of their prenatal and postpartum care. Kovar and Klerman have documented that 41.5% of women with insurance coverage had to pay out-of-pocket for prenatal and postpartum care. The percentage of prenatal and postpartum care charges that women have to pay themselves increases as their ability to pay, as determined by income, decreases (59).

Many publicly funded prenatal care programs are filled beyond capacity and must turn away pregnant women seeking prenatal care. There are many counties, especially in rural areas, where there are no obstetricians willing to accept low income patients, even those with Medicaid coverage (60). Additionally, high risk mothers are refused care because they may be seen as malpractice insurance risks (61).

- University of New Mexico researchers found that 87% of women without prenatal care stated they did not get care because they could not afford it (62).
- In 1982 the University of Kentucky Medical Center refused care to 387 indigent women (63).
- A 1978 study in New York City found that financing maternity care was a major impediment to obtaining adequate maternity care among non-registered patients. Nearly one-fourth of all non-registered patients had

actually gone to an institution to register for prenatal care and were turned away due to failure to meet financial requirements of the hospital. Over 50% of these women gave lack of money or medical insurance as the reason for non-registration (64).

*Recommendations*

*Comprehensive, culturally sensitive prenatal care, supported by public funds, must be readily available in every county and metropolitan area in the country.*

*Federal leadership is necessary to reverse the barriers which prevent reimbursement of recognized alternative maternity care providers.*

*Federal, state and local officials must work with private providers to assure adequate Medicaid reimbursement for maternity care.*

## THE FIRST RESPONSE: CURRENT ACTIVITIES

### *Is Anything Being Done to Reverse the Decline in Utilization of Prenatal Care?*

At the national level, the Child Health Assurance Program (CHAP), passed last year by the 98th Congress, extended Medicaid benefits to first-time pregnant women who would be eligible when the child is born and to pregnant women in intact families where the principal wage-earner is unemployed, and gave states the option of extending these benefits to families meeting income eligibility criteria even if the husband is employed. However, the income eligibility criteria remain at the discretion of states, meaning that women eligible in one state would not be eligible in others, and that in many states women need to be far below the poverty line to qualify for Medicaid. For example, the average income eligibility level in the Southeast, $4,137 for a family of four, is less than half of the federal poverty level (65).

Many states have undertaken specific actions in the area of improving access to prenatal care.

- According to a survey conducted by the Massachusetts Department of Public Health, 10 states out of 25 responding indicated that improving availability and accessibility of prenatal care, including outreach services, health promotion, nutrition care, case-coordination and follow-up, was a strategy to improve pregnancy outcome or more specifically to reduce low birthweight (66).
- Michigan has begun a two-year phase-in of its program making prenatal care a basic health service for all citizens. Eligibility is expected to extend



to 9,500 previously unserved pregnant women in families with incomes below 185% of the poverty level (67).
- Florida and Texas have included as Medicaid eligibles those optional categories of pregnant women permitted by Federal statute (68).
- Georgia, South Carolina, and Virginia have enacted legislation providing Medicaid benefits to medically needy pregnant women regardless of marital status (69).
- Virginia, Tennessee, and Mississippi have adopted optional categorically needy programs extending Medicaid benefits to pregnant women who would be financially eligible once their child is born regardless of marital status (70).
- The State of Texas has appropriated $22.75 million for the current biennium to fill in the gaps in maternal and infant health care, including making prenatal care more accessible (71).

A few states have also implemented new programs to deal with health care for the indigent. The experience with these systems may inform future efforts to fund universal maternity care.

- Oklahoma and South Dakota have created revenue pools from state and county funds to reimburse providers of indigent care (72).
- Florida has created a Public Medical Trust Fund from a 1% tax on hospital revenue to pay for expanding Medicaid eligibility, establishing primary care management programs for indigents, and eventually compensating hospitals providing an inordinate share of charity care (73).
- Maryland and New Jersey have all-payer hospital rate setting systems which include an allowance for charity care in each payment made to hospitals (74).
- Arkansas and West Virginia have recently passed legislation to fund indigent care, financed in Arkansas by the Medicaid rebate received under the 1981 Federal Budget Act, and in West Virginia by state appropriation and a hospital assessment (75).

## THE FUTURE: SIGNS OF HOPE

### *What's Being Done Now to Make Universal Maternity Care a Reality?*

A number of initiatives and activities are currently under way to both study and improve access to prenatal care:

- Congressmen Waxman and Hyde have introduced legislation (HR 3101)

in the 95th Congress to require states to provide Medicaid to all pregnant women meeting financial eligibility criteria regardless of the presence or employment status of the spouse.

- The Southern Regional Task Force on Infant Mortality, formed by the Southern Governors' Association in July, 1984, with the support of the Southern Legislative Conference on Children and Youth, is the first policymaking body to address the issue of infant mortality and low birthweight on a regional level, providing a focus for activities in that part of the country where 10 of the 11 states with the worst infant mortality rates can be found (76).
- The Alan Guttmacher Institute, which has, for a number of years, reported on access to family planning services on a county by county basis, has obtained initial foundation funding to develop procedures for reporting on access to prenatal care as well.
- The Center for Population and Family Health, School of Public Health, Columbia University, and the Child Health Outcomes Project of the University of North Carolina at Chapel Hill, in conjunction with the Council on Maternal and Child Health of the National Association for Public Health Policy, are completing a national survey of innovative state models to improve access to maternity care.
- The Prenatal Care Impact Group of the Bush Foundation Centers for Child and Family Policy will sponsor a series of papers and a national meeting to consider policy alternatives to improve access to prenatal care.
- The Children's Defense Fund has launched a five-year Prenatal Care Campaign aimed at improving the availability and accessibility of prenatal care for poor and minority women.

These efforts, while important, are not sufficient. Medicaid still only reaches the poorest of the poor. Most of the medically uninsured (almost 75%, according to National Center for Health Services Research data) are workers and their dependents, nearly half of whom are poor, near-poor, or low-income (77). Most of the self-pay and charity deliveries are to neither teenagers nor other typically disadvantaged groups. In fact, only 18% are under age 19, only 24% are unmarried, and only 14% are black (78).

The piecemeal approach to expanding access to maternity care has, until recently, improved early entry into prenatal care and utilization of hospital labor and delivery services. However, the trends of the last two years suggest that this strategy has approached the point of diminishing returns. New entitlements for special populations create their own bureaucratic and financial barriers. Medicaid solutions continue to ignore the working poor, the more than 40% of the privately insured who have to pay for prenatal care out-of-pocket, and the 16.6% who do not have any coverage for any maternity care.



There is practically no pregnant woman or newborn infant who would not realize some benefit were prenatal and labor and delivery care made more accessible, more systematic, and more comprehensive. We have the knowledge and the skill to make significant improvements in low birthweight and to reduce other causes of infant mortality and morbidity. Universal maternity care would benefit all of us.

*Recommendation*

*The Federal government must assume ultimate responsibility for guaranteeing that high quality maternity care be available and accessible to all pregnant women in the United States.*

GLOSSARY OF TERMS

*Comprehensive care*–"a broad range and scope of services . . . which may include both direct, personal health care services and indirect or supportive services."*

*Infant mortality*–death of an infant before one year of age.

*Infant mortality rate*–$\frac{\#\text{ of infant deaths} \times 1000}{\#\text{ of live births}}$

*Low birthweight* (LBW) – weight at birth of 2500 grams (5 pounds, 8 ounces) or less. LBW is associated with a 40-fold increased risk of death in first month of life.**

*Morbidity* – physical or mental illness or disability

*Perinatal period* – the period between 20 weeks of gestation and 28 days of age.

*Pregnancy outcome* – result of a pregnancy (i.e., healthy baby, low birthweight baby, fetal or infant death, etc.)

*Prenatal* – occurring before the birth of the baby

*Postpartum* – occurring after the birth of the baby

*Very low birthweight* (VLBW) – weight at birth of 1500 grams (3 pounds, 5 ounces) or less. VLBW is associated with a 200-fold increased risk of death before one month of age.**

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# Cuts can mean high-risk babes

WASHINGTON (AP) — Limiting government aid for low-income pregnant women is bad economics as well as bad medicine, a federal advisory panel said Monday in the face of hold-the-line Reagan administration budget plans.

In fact, for a target population of 1.4 million women considered at risk of giving birth to seriously underweight babies, each new dollar spent on prenatal care could save as much as $3.38 in specialized treatment later on, the panel said.

The Institute of Medicine's Committee to Study the Prevention of Low Birthweight said that many in that high-risk group — tending to be poor, black, young and unmarried — are unable to get proper care early in their pregnancies and give birth prematurely to seriously underweight infants.

Then, after the babies are born, said panel chairman Richard E. Behrman, "the high cost of caring for low-birthweight infants is paid not just by parents but also by taxpayers through increased Medicaid expenditures and by everyone who buys private health insurance through increased premiums."

The institute committee, part of the National Academy of Sciences, presented its report to the House Energy and Commerce Committee in a hearing at Washington's Children's Hospital.

Dramatizing the issue, hospital personnel wheeled in an incubator bearing a premature 3½-pound infant at the start of the hearing as Dr. Gordon Avery, chairman of the hospital's Department of Neonatology, estimated the child's care would come to more than $60,000. Such huge bills are frequently paid by the government, by private insurance companies or end up being absorbed by the hospital and perhaps being passed on in the form of higher bills for other patients, institute committee members said.

Their study said that in 1982 — the latest year for which national data are available — about 248,000 U.S. infants were born weighing less than five and one-half pounds.

Babies below that mark are nearly 40 times more likely to die in their first month and also are much more likely to suffer from serious diseases.

What's needed, the authors said, are greater efforts to make sure fewer infants are born prematurely or otherwise underweight and in need of expensive care.

One barrier, they said, is that many young women are not eligible for Medicaid money to pay for prenatal visits to doctors — although the program might well have to pay for their babies' treatment later on.

The Reagan administration is asking Congress to cap total spending for Medicaid — the nation's health-care program for the poor — at about $22 billion in fiscal 1986, increasing that amount in future years only to adjust for inflation.

The report estimated that providing sufficient prenatal care for high-risk women could cost as much as $12.1 billion in a single year but that the eventual savings could be as much as $40.9 billion in foregone medical treatment.

Newborn Intensive Care Unit...Providence Hospital

## HISTORICAL BACKGROUND

The Newborn Intensive Care Unit was opened in 1972 as a 6 bed "Newborn Special Care Nursery" and was designated as Alaska's referral center for critically ill newborns. The nursery was organized, opened, and funded through cooperative efforts and monies from Federal and State agencies; Emergency Medical Systems; Alaska Native Health Services; Private Pediatricians; and Providence Hospital. Throughout the 1970s Providence assumed increasing financial responsibility for the Newborn Intensive Care Nursery and today Providence accepts full financial liability for the operation of this complex 38 bed NICU.

## CURRENT EFFORTS

Cooperation and work with other systems continues demonstrating the ongoing spirit of the venture begun in 1972. A partial list of Providence Perinatal programs follows:

---Providence provides intensive care for newborns in the Military & Alaska Native Health systems as well as those in the private sector

---LifeGuard, Providence's medical transport team provides transport for critical mothers and babies from any place or facility in the state to their health care facility of choice assisting families and physicians in the provision of needed care

---When the parents and physicians so desire, infants originating at other facilities are transferred back to that facility when their condition improves and they are able to receive the needed level of care at that facility.

---Extensive training for health workers throughout the state is provided in Providence sponsored programs. These programs take place both in Providence (with classroom and "hands-on" teaching) and in other health care facilities. The goals of the educational programs include

***PREVENTION of high risk pregnancies
***PREVENTION of low birthweight babies
***PREVENTION of complications of pregnancy and delivery
***EARLY assessment for, recognition of, and appropriate intervention & referral for high risk/physically distressed patients

---The Newborn ICU and the Maternity Center Nursing Units provide 24 hour a day formal and informal consultative services to health care workers from other facilities and maintain telephone "HOTLINES" for physicians to consult with specialists in maternal and infant care. There is no charge for these services.

The Newborn Intensive Care Nursery has been expanded 4 times since 1972. In July, 1985 this entirely new 38 bed unit was dedicated as part of the High Risk Maternity Center. This facility is expected to provide adequate space for Newborn Intensive Care needs of Alaska's population through the mid-1990s.

TODAY, OCTOBER 23, 1987...

***We have 28 patients. Our lowest census in 1987 was 14 babies...our highest was 42. Our "average" daily census in 1987 to date is 26.

---20 of our current patients were born at Providence
---8 of our current patients were born elsewhere and transferred here for special services and care.

***18 infants are from the Anchorage Bowl area
***9 infants are from other parts of Alaska

---24 of our infants are here because they require care for problems related to being born prematurely.
---4 of our infants were not born prematurely but were distressed at or shortly after birth for a variety of reasons. We generally have a larger proportion of infants in this group (10-40%).

***7 of our infants are from Military service personnel. This is a bigger proportion of our total than is usual.
***5 of our infants are from the Alaska Native Health System. This is a bit less than our "usual" mix. Most of the time 25-35% of our infants are ANMC patients.

***4 of our infants are recipients of Medicaid (this includes 3 of our 5 ANMC patients.
***9 of our infants are covered in some degree by private insurance.
***8 of our infants have no insurance coverage, have been denied public assistance, and/or are awaiting determination of eligibility for specific program funds.
***7 of our infants are covered through Military health care contracts.

TODAY we are staffed with 15 Registered Nurses, 1 Neonatal Nurse Practitioner, 1 Clinical Nurse Specialist, 1 Unit Clerk, 1 Equipment Technician, 2 Respiratory Care Therapists, 1 Perinatal Social Worker, 1 Manager, and receive numerous services from other departments such as Laboratory, Radiology, Special Diagnostic Services, Administration, etc. We also have 5 RNs in classroom orientation. Staffing is adjusted up or down every 4-8 hours depending on the number of infants in the unit AND the level of care they require.

Daily charges vary from depending on the level of care required and the amount of technological support needed. The daily charges are higher for more severely ill babies and are lowered as the infant improves and requires less care and support.

The majority of the families of our patients are hard working Alaskans. We serve families of the very affluent and influential, white and blue collar workers. and the poor. Without exception, they all love their infants, experience guilt feelings about their babies problems, and worry about how to provide the nurturing necessary for their newborn. Some parents express and deal with their feelings and anxieties in a more constructive manner than others. We individualize our health care interventions to each family's need and strive to empower them to do for themselves rather than fostering dependency.

While the costs of providing this care are very high the "outcome" of the financial expenditure is very positive. The majority of infants cared for in NICUs are functioning at age appropriate developmental levels at or shortly after discharge. A number of NICU "graduates" experience relatively minor deviations from developmental norms as do many children who did not require NICU care at birth. The number of NICU graduates with major developmental and/or functional deficits is very small. National follow up studies have demonstrated that although the absolute number of severly impaired children has increased over the years, the <u>percentage</u> of children with severe impairment HAS NOT INCREASED SINCE THE ADVENT OF NEWBORN INTENSIVE CARE.

Decreased funding of Newborn Intensive Care in this state threatens the safety and welfare of our future population. Premature birth, birth defects (major and minor), and complications of delivery will not go away if funding does. If care becomes less accessible, the problems resulting from these conditions will be intensified. Some infants will die. Some will live but have residual problems which are worse than or may not have occured at all if treated promptly in an NICU setting. This can lead to higher costs in human suffering and grief AND in health care expenditures in the future. The goal of Newborn Intensive Care is to literally put ourselves out of business. This goal will be a long time in coming and requires the continues commitment and support of public and private entities.

June 10, 1987

Ms. Lisa McClaren
c/o Representative Nilo Koponen
P.O. Box V
Juneau, AK 99811

Dear Ms. McClaren:

Enclosed is a copy of H. J. Resolution 192, nearly identicial to the Senate Joint Resolution 99. In my telephone conversation I may have incorrectly stated that Senator Murkowski had not co-sponsored the resolution; he has.

On the national level, WIC serves only 42% of those who are eligible. In fiscal year 1987 the WIC program is funded at $1.663 billion, and serves 3.4 of the 8 million eligible women, infants and children. Five million people qualify for WIC assistance but are unable to receive benefits because of inadequate government funding. This resolution is important to expand the impact of the federal program in Alaska.

Another source for statistical information on WIC is the Center on Budget and Policy Priorities. The Center analyzes the federal budget and policies and assesses their impact on domestic food programs in clear language. Stefan Harvey at (202) 544-0591 can answer questions, or write the Center at 236 Massachusetts Ave. N.E., Suite 305, Washington,D.C. 20002.

Again, I urge Represntative Koponen to contact Ted Stevens as a member of the Senate Appropriations Committee in mid summer when they will be marking up the FY '88 Labor, HHS, Education and Related Agencies appropriations bill.

Thank you for assistance and support for this important program.

Very truly yours,

Barbara L. Franklin

Barbara L. Franklin
P.O. Box 2765
Fairbanks, AK 99707

Enclosure

100TH CONGRESS
1ST SESSION

# H. J. RES. 192

To express the sense of the Congress that the Special Supplemental Food Program for Women, Infants, and Children should receive increasing amounts of appropriations in fiscal year 1988 and succeeding fiscal years.

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IN THE HOUSE OF REPRESENTATIVES

MARCH 18, 1987

Mr. MILLER of California (for himself, Mr. HAWKINS, Mr. JEFFORDS, Mr. SLATTERY, Mr. LELAND, Mr. PANETTA, Mr. WOLPE, Mr. MACKAY, Mr. MCHUGH, Mr. TRAXLER, Mr. HALL of Ohio, Mr. GILMAN, and Mr. CONTE) introduced the following joint resolution; which was referred to the Committee on Education and Labor

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# JOINT RESOLUTION

To express the sense of the Congress that the Special Supplemental Food Program for Women, Infants, and Children should receive increasing amounts of appropriations in fiscal year 1988 and succeeding fiscal years.

Whereas the 100th Congress wishes to assure a healthy, productive citizenry;

Whereas children are especially vulnerable to the effects of malnutrition;

Whereas 13 million children live in poverty;

Whereas children have been the fastest growing component of the poverty population;



Whereas the number of young children living in poverty has increased 41.2 percent between 1979 and 1985;

Whereas at no time in life is the need for good nutrition and adequate health care as critical as during pregnancy when the fetus is developing and during the initial years of the life of a child;

Whereas malnutrition causes a body to be more prone to illness and a mind to be less able to develop to its capacity;

Whereas malnutrition in early childhood may lead in the extreme to death or mental and physical retardation;

Whereas the infant mortality rate of the United States is unacceptably high;

Whereas 16 other industrialized countries have a lower infant mortality rate than that of the United States;

Whereas the Special Supplemental Food Program for Women, Infants, and Children (WIC) has been proven to have a major impact in reducing the incidence of low-weight births and late fetal deaths;

Whereas the WIC program decreases the rate of premature births, increases the proportion of poor pregnant women seeking prenatal care, increases head circumference of infants born to women who receive benefits under the WIC program during their pregnancies, improves diets for women, infants, and children, and reduces the incidence of anemia among women, infants, and children who are nutritionally at risk because of poverty;

Whereas the WIC program was proven to be cost-effective by a Harvard University School of Public Health study which indicated that every one dollar spent on the prenatal component of the WIC program potentially saves three dollars in later health care costs;

Whereas benefits afforded to participants under the WIC program result in significantly reduced health care costs and related costs incurred at the Federal, State, and local levels; and

Whereas over half of the women, infants, and children eligible for benefits under the WIC program cannot now be served because of insufficient funds: Now, therefore, be it

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE.

This resolution may be cited as the "WIC Food For Life Resolution".

SEC. 2. SENSE OF CONGRESS WITH RESPECT TO WIC APPROPRIATIONS.

It is the sense of Congress that—

(1) the WIC program should receive appropriations—

(A) for fiscal year 1988 in an amount sufficient to enable not less than 300,000 more eligible women, infants, and children to be served each month than were served in fiscal year 1987;

(B) for fiscal year 1989 in an amount sufficient to enable not less than 55 percent of eligible women, infants, and children to be served;

(C) for fiscal year 1990 in an amount sufficient to enable not less than 60 percent of eligible women, infants, and children to be served;





(D) for fiscal year 1991 in an amount sufficient to enable not less than 65 percent of eligible women, infants, and children to be served; and

(2) that appropriations for the WIC program should continue to be increased for each succeeding fiscal year until all eligible persons are being served;

(3) that the budget resolution for fiscal year 1988 should assume the appropriation of the amounts necessary to meet the goals described in paragraph (1); and

(4) that an effective outreach program should be conducted to identify women, infants, and children that are eligible for benefits under the WIC program.

O

(1)

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

October 21, 1987

MEMORANDUM

TO: Representatives Niilo Koponen and Johnny Ellis

ATTN: Lisa McLaren

FROM: Mary Jennings MJ
Legislative Analyst

RE: Location of Prenatal Care Providers in Alaska (Supplemental Information)
Research Request 88.032

You requested that we provide a table showing the ratio of women of childbearing age to the number of prenatal care providers for each census area of the state.

Table 1 provides the Alaska Department of Labor 1985 estimates of the number of women of childbearing age (i.e., women between the ages 15 and 44) in each census area of the state.[1] The number of prenatal care providers by type (e.g., private practice, public health nurse) is also given by census area. Dividing the number of women of child bearing age within a census area by the total number of providers with a census area gives the ratio of women to providers. The table indicates that the statewide ratio is 482 women to one provider, with a range from 43 (Bristol Bay) to over 1,400 (Dillingham) women per provider. The following section of this memorandum discusses problems with using a ratio method as an indication of the level of prenatal care service received throughout the state.

Population Discussions with various health officials indicated that population was not a factor preventing pregnant women from receiving prenatal care in relatively populous/rural communities without a provider based in the community. Most officials agreed that the frequency of

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[1]Estimates of the number of women of childbearing age by community were not available. The Alaska Department of Labor plans to provide these data in the near future.

(2)



visits of providers was the most important determinant of the quality of prenatal care in rural communities. Therefore, a relatively high ratio of women to providers--as in the Dillingham (1,461 to 1) and Matanuska-Susitna Borough (1,420 to 1) census areas--does not necessarily indicate a lesser degree of service.

**Itinerant Providers.** The ratios do not account for women who are served by providers based outside census area boundaries. For example, the Skagway-Yakatat-Angoon census area receives service from providers based in the Juneau Borough and Haines Borough census areas, but this is not indicated by the ratio. Additionally, the ratios do not reflect areas that have many communities served by relatively few itinerant providers. For example, the table indicates that the the ratio for the Prince of Wales-Outer Ketchikan census area is 296 women to one provider--relatively low. This ratio is misleading because several non-Native communities--which have been identified by the Alaska Department of Health and Social Services as receiving minimal service--are served by only one itinerant nurse. (The other providers in the area are two U.S. Public Health employees working in Metlakatla and a public health nurse serving the City of Craig).

**Military Providers.** The Aleutian Island, Anchorage Borough, Fairbanks Northstar Borough and South East Fairbanks ratios include military providers. Although these providers serve the significant military population, their services are not available to the general population of the census areas. Because we are not able to separate female members of the military population, the military providers are significant to the ratio.

I hope you find this information useful. Please call if you have any questions.

Attachment

TABLE 1

PRENATAL CARE PROVIDERS BY CENSUS AREA

| CENSUS AREA | WOMEN OF CHILDBEARING AGE | TOTAL PRENATAL CARE PROVIDERS | RATIO OF WOMEN OF CHILDBEARING AGE TO PRENATAL CARE PROVIDERS | PROVIDER TYPE | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | PRIVATE PRACTICE | PUBLIC HEALTH NURSE | U.S. PUBLIC HEALTH SERVICE | MILITARY | LAY MIDWIFE |
| Aleutian Island | 2,104 | 3 | 701 | | 1 | | 2 | |
| Anchorage Borough | 68,555 | 94 | 729 | 64 | 2 | 13 | 8 | 7 |
| Bethel | 3,152 | 24 | 131 | | 10 | 14 | | |
| Bristol Bay | 256 | 6 | 43 | | 1 | 5 | | |
| Dillingham | 1,461 | 1 | 1,461 | | 1 | | | |
| Fairbanks N.S. Bor. | 19,465 | 38 | 512 | 13 | 10 | 5 | 8 | 2 |
| Haines Borough | 506 | 1 | 506 | | 1 | | | |
| Juneau Borough | 7,453 | 18 | 414 | 8 | 5 | 4 | | 1 |
| Kenai Pen. Borough | 10,234 | 23 | 445 | 18 | 5 | | | |
| Ketchikan Gateway Bor. | 3,034 | 16 | 190 | 6 | 5 | 5 | | |
| Kodiak Island Bor. | 3,285 | 9 | 365 | 6 | 2 | | | 1 |
| Mat-Su Borough | 9,938 | 7 | 1,420 | 3 | 4 | | | |
| Nome | 1,801 | 10 | 180 | 6 | 4 | | | |
| North Slope Bor. | 1,209 | 7 | 173 | | 3 | 4 | | |
| Northwest Artic Bor. | 1,300 | 6 | 217 | | 2 | 4 | | |
| Prince of Wales-Outer Ketchikan | 1,182 | 4 | 296 | | 2 | 2 | | |
| Sitka Borough | 2,034 | 15 | 136 | 3 | 2 | 10 | | |
| Skgwy-Yakutat-Angoon | 876 | 0 | - | | | | | |
| S.E. Fairbanks | 1,656 | 2 | 828 | | | | 2 | |
| Valdez-Cordova | 2,217 | 10 | 222 | 8 | 2 | | | |
| Wade Hampton | 1,266 | 0 | - | | | | | |
| Wrangell-Petersberg | 1,634 | 6 | 272 | 4 | 2 | | | |
| Yukon-Koyuk | 1,946 | 4 | 487 | | 4 | | | |
| STATE TOTAL | 146,564 | 304 | 482 | 139 | 68 | 66 | 20 | 11 |

Prepared by the House Research Agency, October 1987 (88.032C; 080387-03).

1.

Infant Mortality 1984 mrd 3/9/07

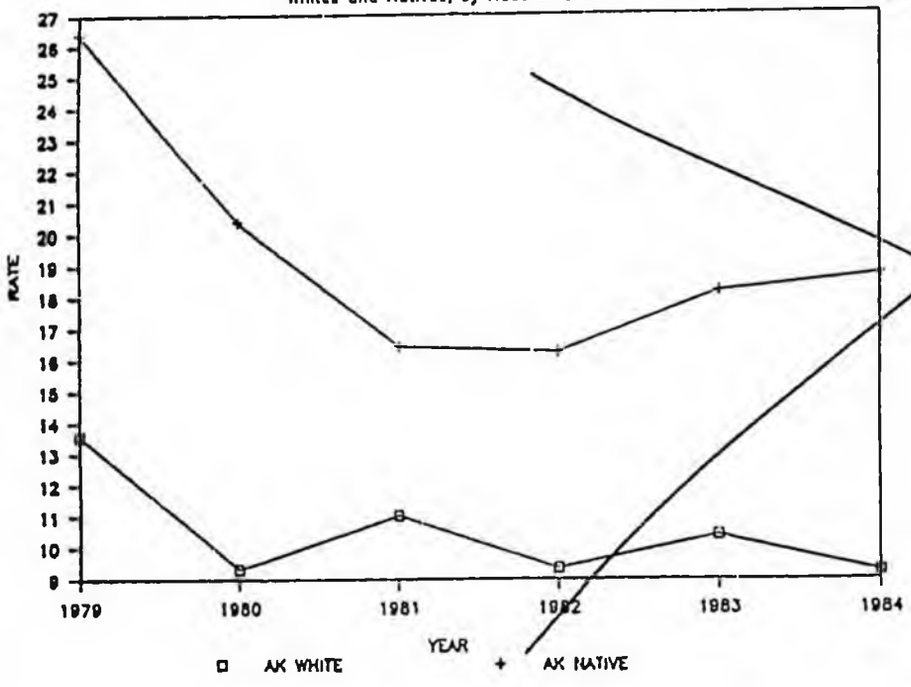
| | Alaska | Whites | Natives | U.S. |
|---|---|---|---|---|
| Neonatal | 6.1 | 4.7 | 9.6 | 7.0 |
| Postneonatal | 5.6 | 4.5 | 9.2 | 3.8 |
| Infant Mor. | 11.7 | 9.2 | 18.8 | 10.8 |

This one must be retyped!

Figure 1.05

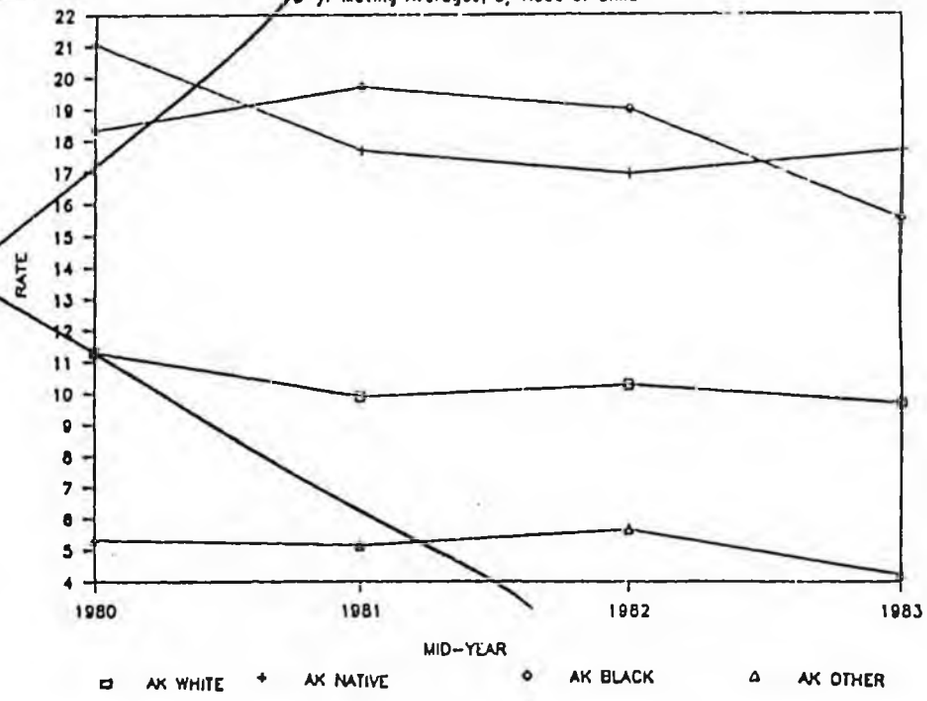
Infant Mortality Rates, 1979-1984

Whites and Natives, by Race of Child




Infant Mortality Rates, 1980-1983

3-yr Moving Averages, by Race of Child



POSTNEONATAL MORTALITY, ALASKA, 1979-1985
RATES CALCULATED AS DEATHS/BIRTHS * 1000

| | RACE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WHITE | | | NATIVE | | | BLACK | | | OTHER | | |
| REGION | RATE | BIRTHS | DEATHS | RATE | BIRTHS | DEATHS | RATE | BIRTHS | DEATHS | RATE | BIRTHS | DEATHS |
| ANCHORAGE/MATANUSKA-SUSITNA | 4.00 | 29505 | 118 | 6.44 | 3262 | 21 | 4.92 | 2441 | 12 | 3.51 | 1423 | 5 |
| GULF COAST | 4.45 | 6966 | 31 | 5.79 | 1209 | 7 | 25.00 | 40 | 1 | . | 310 | . |
| INTERIOR | 5.40 | 10368 | 56 | 9.06 | 2208 | 20 | 7.14 | 840 | 6 | . | 299 | . |
| NORTHERN | 2.68 | 373 | 1 | 12.74 | 3218 | 41 | . | 21 | . | . | 45 | . |
| SOUTHEAST | 3.96 | 6064 | 24 | 11.56 | 2423 | 28 | 14.49 | 69 | 1 | . | 333 | . |
| SOUTHWEST | 6.02 | 1162 | 7 | 9.98 | 4607 | 46 | . | 48 | . | . | 103 | . |
| TOTAL | 4.35 | 54438 | 237 | 9.63 | 16927 | 163 | 5.78 | 3459 | 20 | 1.99 | 2513 | 5 |

HERE IS DATA=BINALL
.PA
TABLE 3.24A *********1985 PROVISIONAL DATA**********
POSTNEONATAL DEATHS AND MORTALITY RATES BY REGION AND YEAR, ALASKA, 1981-1985
RATES ARE 3 YEAR MOVING AVERAGES

| | YEAR | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1981 | | | 1982 | | | 1983 | | | 1984 | | | 1985 | | |
| | POST-NEO DEATHS | TOTAL BIRTHS | RATE | POST-NEO DEATHS | TOTAL BIRTHS | RATE | POST-NEO DEATHS | TOTAL BIRTHS | RATE | POST-NEO DEATHS | TOTAL BIRTHS | RATE | POST-NEO DEATHS | TOTAL BIRTHS | RATE |
| | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM | SUM |
| REGION | | | | | | | | | | | | | | | |
| ANCHORAGE/MATA-NUSKA-SUSITNA | 21 | 4699 | 3.9 | 17 | 5268 | 3.8 | 22 | 5770 | 3.9 | 28 | 6117 | 4.5 | 32 | 6362 | 4.8 |
| GULF COAST | 5 | 1177 | 5.1 | 7 | 1266 | 4.0 | 3 | 1343 | 4.6 | 8 | 1294 | 4.7 | 8 | 1395 | 6.0 |
| INTERIOR | 8 | 1837 | 5.1 | 11 | 2077 | 6.7 | 21 | 2037 | 7.1 | 13 | 2209 | 6.9 | 11 | 2235 | 5.4 |
| NORTHERN | 3 | 486 | 12.1 | 8 | 522 | 10.6 | 6 | 597 | 9.8 | 3 | 617 | 9.4 | 8 | 587 | 9.1 |
| SOUTHEAST | 5 | 1222 | 5.0 | 4 | 1330 | 4.3 | 8 | 1387 | 4.2 | 5 | 1373 | 5.6 | 10 | 1337 | 5.5 |
| SOUTHWEST | 6 | 785 | 6.6 | 6 | 892 | 8.3 | 10 | 959 | 10.1 | 12 | 923 | 10.1 | 7 | 920 | 10.0 |
| TOTAL | 48 | 10206 | 5.0 | 53 | 11355 | 5.1 | 70 | 12093 | 5.3 | 69 | 12533 | 5.7 | 76 | 12896 | 5.7 |

ALASKA RESIDENT INFANT DEATHS, 1979-1985
BY BIRTHWEIGHT AND RACE OF CHILD

ALL

| | TYPE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BIRTHS | | INFANT DEATHS | | NEONATAL DEATHS | | POSTNEONATAL DEATHS | | PN (28 DAYS 5 MONTHS) | | PN (6 MONTHS-1 YEAR) | |
| BWT | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN |
| <1000 | 316 | 0.41 | 208 | 23.16 | 191 | 38.28 | 17 | 4.26 | 15 | 4.72 | 2 | 2.47 |
| 1000-1499 | 335 | 0.43 | 80 | 8.91 | 67 | 13.43 | 13 | 3.26 | 11 | 3.46 | 2 | 2.47 |
| 1500-1999 | 751 | 0.96 | 55 | 6.12 | 35 | 7.01 | 20 | 5.01 | 16 | 5.03 | 4 | 4.94 |
| 2000-2499 | 2478 | 3.18 | 83 | 9.24 | 44 | 8.82 | 39 | 9.77 | 33 | 10.38 | 6 | 7.41 |
| 2500-3999 | 62137 | 79.79 | 407 | 45.32 | 124 | 24.85 | 283 | 70.93 | 221 | 69.50 | 62 | 76.54 |
| 4000+ | 11315 | 14.53 | 38 | 4.23 | 13 | 2.61 | 25 | 6.27 | 21 | 6.60 | 4 | 4.94 |
| UNK | 545 | 0.70 | 27 | 3.01 | 25 | 5.01 | 2 | 0.50 | 1 | 0.31 | 1 | 1.23 |
| ALL | 77877 | 100 | 898 | 100 | 499 | 100 | 399 | 100 | 318 | 100 | 81 | 100 |

item 1

LASKA RESIDENT INFANT DEATHS, 1979-1985
Y BIRTHWEIGHT AND RACE OF CHILD

ACE WHITE

| | TYPE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | INFANT DEATHS | | NEONATAL DEATHS | | POSTNEONATAL DEATHS | | PN (28 DAYS 5 MONTHS) | | PN (6 MONTHS-1 YEAR) | |
| | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN |
| BWT | | | | | | | | | | |
| <1000 | 136 | 26.00 | 124 | 40.39 | 12 | 5.56 | 11 | 6.55 | 1 | 2.08 |
| 1000-1499 | 44 | 8.41 | 35 | 11.40 | 9 | 4.17 | 8 | 4.76 | 1 | 2.08 |
| 1500-1999 | 30 | 5.74 | 18 | 5.86 | 12 | 5.56 | 9 | 5.36 | 3 | 6.25 |
| 2000-2499 | 45 | 8.60 | 27 | 8.79 | 18 | 8.33 | 15 | 8.93 | 3 | 6.25 |
| 2500-3999 | 234 | 44.74 | 82 | 26.71 | 152 | 70.37 | 113 | 67.26 | 39 | 81.25 |
| 4000+ | 23 | 4.40 | 10 | 3.26 | 13 | 6.02 | 12 | 7.14 | 1 | 2.08 |
| UNK | 11 | 2.10 | 11 | 3.58 | . | . | . | . | . | . |
| ALL | 523 | 100 | 307 | 100 | 216 | 100 | 168 | 100 | 48 | 100 |

ALASKA RESIDENT INFANT DEATHS, 1979-1985
BY BIRTHWEIGHT AND RACE OF CHILD

RACE NATIVE

| | TYPE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | INFANT DEATHS | | NEONATAL DEATHS | | POSTNEONATAL DEATHS | | PN (28 DAYS-5 MONTHS) | | PN (6 MONTHS-1 YEAR) | |
| | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN |
| BWT | | | | | | | | | | |
| <1000 | 41 | 13.95 | 37 | 27.01 | 4 | 2.55 | 3 | 2.36 | 1 | 3.33 |
| 1000-1499 | 30 | 10.20 | 27 | 19.71 | 3 | 1.91 | 2 | 1.57 | 1 | 3.33 |
| 1500-1999 | 23 | 7.82 | 16 | 11.68 | 7 | 4.46 | 6 | 4.72 | 1 | 3.33 |
| 2000-2499 | 33 | 11.22 | 14 | 10.22 | 19 | 12.10 | 16 | 12.60 | 3 | 10.00 |
| 2500-3999 | 146 | 49.66 | 34 | 24.82 | 112 | 71.34 | 91 | 71.65 | 21 | 70.00 |
| 4000+ | 12 | 4.08 | 2 | 1.46 | 10 | 6.37 | 8 | 6.30 | 2 | 6.67 |
| UNK | 9 | 3.06 | 7 | 5.11 | 2 | 1.27 | 1 | 0.79 | 1 | 3.33 |
| ALL | 294 | 100 | 137 | 100 | 157 | 100 | 127 | 100 | 30 | 100 |

#6.

ALASKA RESIDENT DATA, 1979-1985

TABLE OF APGAR5 BY TYPE

APGAR5 TYPE

| FREQUENCY / PERCENT / ROW PCT / COL PCT | BIRTHS | INFANT DEATHS | NEONATAL DEATHS | POSTNEONATAL DEA | PN (28 DAYS-5 MO | PN (6 MONTHS-1 Y | TOTAL |
|---|---|---|---|---|---|---|---|
| OTHER | 7857<br>9.81<br>88.11<br>10.09 | 487<br>0.61<br>5.46<br>54.23 | 401<br>0.50<br>4.50<br>80.36 | 86<br>0.11<br>0.96<br>21.55 | 69<br>0.09<br>0.77<br>21.70 | 17<br>0.02<br>0.19<br>20.99 | 8917<br>11.14 |
| 8-10 | 70020<br>87.45<br>98.40<br>89.91 | 411<br>0.51<br>0.58<br>45.77 | 98<br>0.12<br>0.14<br>19.64 | 313<br>0.39<br>0.44<br>78.45 | 249<br>0.31<br>0.35<br>78.30 | 64<br>0.08<br>0.09<br>79.01 | 71155<br>88.86 |
| TOTAL | 77877<br>97.26 | 898<br>1.12 | 499<br>0.62 | 399<br>0.50 | 318<br>0.40 | 81<br>0.10 | 80072<br>100.00 |

This could be retyped per:

| Apgar | Births N | Births % | Inf. Deaths N | Inf. Deaths % |
|---|---|---|---|---|
| 1-7 | 7857 | 10.09 | 487 | 54.23 |
| 8-10 | 70020 | 89.91 | 411 | 45.77 |

etc.

ALASKA RESIDENT BIRTHS AND INFANT DEATHS, 1984-1985
BY AGE OF MOTHER

7.

Mother's Age Tables

1984-85 only

| | TYPE | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BIRTHS | | INFANT DEATHS | | NEONATAL DEATHS | | POSTNEONATAL DEATHS | | PN (28 DAYS-5 MONTHS) | | PN (6 MONTHS-1 YEAR) | |
| | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN |
| MOMAGE | | | | | | | | | | | | |
| UNK | 8 | 0.03 | 1 | 0.37 | 1 | 0.76 | . | . | . | . | . | . |
| <15 | 21 | 0.08 | . | . | . | . | . | . | . | . | . | . |
| 15-17 | 632 | 2.49 | 9 | 3.37 | 8 | 6.11 | 1 | 0.74 | 1 | 0.93 | . | . |
| 18-19 | 1672 | 6.58 | 28 | 10.49 | 14 | 10.69 | 14 | 10.29 | 9 | 8.41 | 5 | 17.24 |
| 20-24 | 8072 | 31.74 | 102 | 38.20 | 41 | 31.30 | 61 | 44.85 | 51 | 47.66 | 10 | 34.48 |
| 25-29 | 8198 | 32.24 | 67 | 25.09 | 39 | 29.77 | 28 | 20.59 | 20 | 18.69 | 8 | 27.59 |
| 30-34 | 5105 | 20.08 | 46 | 17.23 | 22 | 16.79 | 24 | 17.65 | 21 | 19.63 | 3 | 10.34 |
| 35-39 | 1540 | 6.06 | 13 | 4.87 | 5 | 3.82 | 8 | 5.88 | 5 | 4.67 | 3 | 10.34 |
| 40+ | 181 | 0.71 | 1 | 0.37 | 1 | 0.76 | . | . | . | . | . | . |
| ALL | 25E3 | 100 | 267 | 100 | 131 | 100 | 136 | 100 | 107 | 100 | 29 | 100 |

ALASKA RESIDENT DATA, 1984-1985

TABLE OF MOMAGE BY TYPE

MOMAGE TYPE

| FREQUENCY / PERCENT / ROW PCT / COL PCT | BIRTHS | INFANT DEATHS | NEONATAL DEATHS | POSTNEONATAL DEA | PN (28 DAYS-5 MO | PN (6 MONTHS-1 Y | TOTAL |
|---|---|---|---|---|---|---|---|
| OTHER | 23104<br>88.52<br>97.55<br>90.86 | 230<br>0.88<br>0.97<br>86.14 | 109<br>0.42<br>0.46<br>83.21 | 121<br>0.46<br>0.51<br>88.97 | 97<br>0.37<br>0.41<br>90.65 | 24<br>0.09<br>0.10<br>82.76 | 23685<br>90.75 |
| TEEN | 2325<br>8.91<br>96.31<br>9.14 | 37<br>0.14<br>1.53<br>13.86 | 22<br>0.08<br>0.91<br>16.79 | 15<br>0.06<br>0.62<br>11.03 | 10<br>0.04<br>0.41<br>9.35 | 5<br>0.02<br>0.21<br>17.24 | 2414<br>9.25 |
| TOTAL | 25429<br>97.43 | 267<br>1.02 | 131<br>0.50 | 136<br>0.52 | 107<br>0.41 | 29<br>0.11 | 26099<br>100.00 |

Could be retyped ~~[illegible]~~

see # 6.

"Other" here means 20 or over

S. 8.

ALASKA RESIDENT DATA, 1979-1985

TABLE OF MOMMS BY TYPE

MOMMS TYPE

| FREQUENCY / PERCENT / ROW PCT / COL PCT | BIRTHS | INFANT DEATHS | NEONATAL DEATHS | POSTNEONATAL DEA | PN (28 DAYS-5 MO | PN (6 MONTHS-1 Y | TOTAL |
|---|---|---|---|---|---|---|---|
| OTHER | 65129<br>81.34<br>97.65<br>83.63 | 648<br>0.81<br>0.97<br>72.16 | 379<br>0.47<br>0.57<br>75.95 | 269<br>0.34<br>0.40<br>67.42 | 212<br>0.26<br>0.32<br>66.67 | 57<br>0.07<br>0.09<br>70.37 | 66694<br>83.29 |
| SINGLE | 12748<br>15.92<br>95.29<br>16.37 | 250<br>0.31<br>1.87<br>27.84 | 120<br>0.15<br>0.90<br>24.05 | 130<br>0.16<br>0.97<br>32.58 | 106<br>0.13<br>0.79<br>33.33 | 24<br>0.03<br>0.18<br>29.63 | 13378<br>16.71 |
| TOTAL | 77877<br>97.26 | 898<br>1.12 | 499<br>0.62 | 399<br>0.50 | 318<br>0.40 | 81<br>0.10 | 80072<br>100.00 |

momms =

Mother's Marital Status

Could be retyped —

See #6

ALASKA RESIDENT DATA, 1979-1985

TABLE OF RACE BY TYPE

RACE TYPE

| FREQUENCY / PERCENT / ROW PCT / COL PCT | BIRTHS | INFANT DEATHS | NEONATAL DEATHS | POSTNEONATAL DEA | PN (28 DAYS-5 MO | PN (6 MONTHS-1 Y | TOTAL |
|---|---|---|---|---|---|---|---|
| OTHER | 62598<br>78.18<br>97.76<br>80.38 | 601<br>0.75<br>0.94<br>66.93 | 368<br>0.46<br>0.57<br>73.75 | 233<br>0.29<br>0.36<br>58.40 | 183<br>0.23<br>0.29<br>57.55 | 50<br>0.06<br>0.08<br>61.73 | 64033<br>79.97 |
| NATIVE | 15279<br>19.08<br>95.26<br>19.62 | 297<br>0.37<br>1.85<br>33.07 | 131<br>0.16<br>0.82<br>26.25 | 166<br>0.21<br>1.03<br>41.60 | 135<br>0.17<br>0.84<br>42.45 | 31<br>0.04<br>0.19<br>38.27 | 16039<br>20.03 |
| TOTAL | 77877<br>97.26 | 898<br>1.12 | 499<br>0.62 | 399<br>0.50 | 318<br>0.40 | 81<br>0.10 | 80072<br>100.00 |

1.

9.

"Other" : Non-Native

Could be retyped —

see #6

ALASKA RESIDENT DATA, 1979-1985

10

10.

TABLE OF CENSUS BY TYPE

CENSUS TYPE

| FREQUENCY / PERCENT / ROW PCT / COL PCT | BIRTHS | INFANT DEATHS | NEONATAL DEATHS | POSTNEONATAL DEA | PN (28 DAYS-5 MO | PN (6 MONTHS-1 Y | TOTAL |
|---|---|---|---|---|---|---|---|
| BUSH | 11095<br>13.86<br>95.74<br>14.25 | 195<br>0.24<br>1.68<br>21.71 | 91<br>0.11<br>0.79<br>18.24 | 104<br>0.13<br>0.90<br>26.07 | 82<br>0.10<br>0.71<br>25.79 | 22<br>0.03<br>0.19<br>27.16 | 11589<br>14.47 |
| OTHER | 66782<br>83.40<br>97.52<br>85.75 | 703<br>0.88<br>1.03<br>78.29 | 408<br>0.51<br>0.60<br>81.76 | 295<br>0.37<br>0.43<br>73.93 | 236<br>0.29<br>0.34<br>74.21 | 59<br>0.07<br>0.09<br>72.84 | 68483<br>85.53 |
| TOTAL | 77877<br>97.26 | 898<br>1.12 | 499<br>0.62 | 399<br>0.50 | 318<br>0.40 | 81<br>0.10 | 80072<br>100.00 |

Cannot be retyped — see #6

"Bush" equals these Census Areas

Nome
N. Slope
NW Arctic (Kobuk)
Aleutian Is
Bethel
Bristol Bay
Dillingham
Wade Hampton
Yukon Koyukuk

LASKA RESIDENT BIRTHS AND INFANT DEATHS, 1979-1985
Y LEVEL OF PRENATAL CARE

| | PRENATAL | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ADEQUATE | | INADEQUATE | | NOT STATED | | ALL | |
| | N | PCTN | N | PCTN | N | PCTN | N | PCTN |
| TYPE | | | | | | | | |
| BIRTHS | 65946 | 84.68 | 1498 | 1.92 | 10433 | 13.40 | 77877 | 100 |
| INFANT DEATHS | 562 | 62.58 | 33 | 3.67 | 303 | 33.74 | 898 | 100 |
| NEONATAL DEATHS | 266 | 53.31 | 15 | 3.01 | 218 | 43.69 | 499 | 100 |
| POSTNEONATAL DEATHS | 296 | 74.19 | 18 | 4.51 | 85 | 21.30 | 399 | 100 |
| PN (28 DAYS-5 MONTHS) | 238 | 74.84 | 15 | 4.72 | 65 | 20.44 | 318 | 100 |
| PN (6 MONTHS-1 YEAR) | 58 | 71.60 | 3 | 3.70 | 20 | 24.69 | 81 | 100 |

SAS

12

NEONATAL AND POSTNEONATAL DEATHS DEATHS FROM SELECTED CAUSES BY RACE OF INFANT, ALASKA, 1979-85

| CAUSE OF INFANTS'S DEATH | AGE AT DEATH | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NEONATAL | | | | | | | | | | POSTNEONATAL | | | | | | | | | |
| | RACE OF CHILD | | | | | | | | | | RACE OF CHILD | | | | | | | | | |
| | WHITE | | NATIVE | | BLACK | | OTHER | | UNKNN | | WHITE | | NATIVE | | BLACK | | OTHER | | UNKNN | |
| | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN | N | PCTN |
| CAUSE | | | | | | | | | | | | | | | | | | | | |
| CERTAIN GASTROINTESTINAL DISEASES | . | . | . | . | . | . | . | . | . | . | 2 | 0.84 | . | . | . | . | . | . | . | . |
| PNEUMONIA AND INFLUENZA | 3 | 0.94 | 3 | 2.03 | . | . | . | . | . | . | 3 | 1.26 | 18 | 11.04 | . | . | 1 | 16.67 | . | . |
| CONGENITAL ANOMALIES | 94 | 29.47 | 33 | 22.30 | 7 | 17.50 | 2 | 22.22 | 2 | 22.22 | 32 | 13.45 | 13 | 7.98 | . | . | 1 | 16.67 | . | . |
| DISORDERS RELATING TO SHORT GESTATION | 24 | 7.52 | 18 | 12.16 | 3 | 7.50 | 2 | 22.22 | 2 | 22.22 | . | . | . | . | . | . | . | . | . | . |
| BIRTH TRAUMA | 9 | 2.82 | 9 | 6.08 | . | . | . | . | 1 | 11.11 | . | . | . | . | . | . | . | . | . | . |
| INTRAUTERINE HYPOXIA AND BIRTH ASPHYXIA | 19 | 5.96 | 1 | 0.68 | 1 | 2.50 | . | . | . | . | 3 | 1.26 | . | . | . | . | . | . | . | . |
| RESPIRATORY DISTRESS SYNDROME | 50 | 15.67 | 24 | 16.22 | 6 | 15.00 | 2 | 22.22 | 2 | 22.22 | 3 | 1.26 | 2 | 1.23 | . | . | . | . | . | . |
| OTHER CONDITIONS OF PERINATAL ORIGIN | 96 | 30.09 | 46 | 31.08 | 17 | 42.50 | 3 | 33.33 | 2 | 22.22 | 4 | 1.68 | 2 | 1.23 | . | . | . | . | . | . |
| SUDDEN INFANT DEATH SYNDROME | 4 | 1.25 | 4 | 2.70 | 1 | 2.50 | . | . | . | . | 129 | 54.20 | 72 | 44.17 | 13 | 61.90 | 2 | 33.33 | 1 | 33.33 |
| UNINTENTIONAL INJURY | 2 | 0.63 | . | . | . | . | . | . | . | . | 20 | 8.40 | 12 | 7.36 | 1 | 4.76 | . | . | . | . |
| ALL OTHER CAUSES | 18 | 5.64 | 10 | 6.76 | 5 | 12.50 | . | . | . | . | 42 | 17.65 | 44 | 26.99 | 7 | 33.33 | 2 | 33.33 | 2 | 66.67 |
| TOTAL | 319 | 100 | 148 | 100 | 40 | 100 | 9 | 100 | 9 | 100 | 238 | 100 | 163 | 100 | 21 | 100 | 6 | 100 | 3 | 100 |

# OPTIONS FOR INCREASING PRENATAL SERVICES

I. Increase the number of women and children who qualify for medicaid

II. Provide a prenatal care program that would pay a portion of the cost of the medical prenatal care of the eligible women. Each woman would have a participation amount that would be dependent on her income and family size.

Eligibility

-- **low income**, but not eligible for medicaid

-- **high risk pregnancy** due to a medical condition or lack of access to prenatal care because of geographic location.

III. Enhancement of Services

-- case management

-- nutritional services

-- presumptive eligibility

-- no resource limit

-- one time eligibility

Solutions can be limited to one of these three choices or be combination of the three - see schematic.

Marty

# POSTNEONATAL MORTALITY IN ALASKA

Definitions:

**Infant Mortality (IM)** - death of an infant during its first year of life

**Neonatal Mortality (NM)** - death of an infant during its first 28 days of life

**Postneonatal Mortality (PNM)** - death of an infant between 28 days and one year of age

Facts: *(based on Alaska data for 1979-85)*

1. Alaska's PNM rate is the **highest** of any state in the union.
   - AK's 1984 PNM rate: 5.5
   - U.S. 1984 PNM rate: 3.8

2. In Alaska, the PNM rate for Natives is twice as high as that for Whites..

   84 1985
   4.3 4.9

   1984
   - Natives - 9.2
   - Whites - 4.5

   1979-85
   - Natives - 9.6
   - Whites - 4.3

3. The Native's PNM rate is higher than the rate for Whites in each of the 6 geographical regions in the state.

4. The PNM rate (for all races) is highest in these 2 regions:

| | 1985 Rate |
|---|---|
| • Southwest AK | 10.0 |
| • Northern AK | 9.1 |

5. Low Birth Weight (LBW) is more common among Neonatal deaths than among Postneonatal deaths.

2/3 of neonatal deaths are LBW

1/4 of postneonatal deaths are LBW

This is true for both Whites and Natives.

6. 3/4 of all Postneonatal deaths are Normal Birth Weight (NBW).

7. Teens account for:

(1984 - 85 data )

9% of births

17% of Neonatal deaths

17% of PN deaths (between 6 mos. and 1 year)

8. Single mothers account for:

16% of births

24% of Neonatal deaths

33% of all PN deaths

9. Natives account for:

20% of births

26% of Neonatal deaths

42% of all PN deaths

10. The bush accounts for:

14% of births

18% of Neonatal deaths

26% of all PN deaths

11. Inadequate Prenatal Care was characteristic of 3-4% of infant deaths compared to < 2 % of all births.

Higher percentage of Inadequate Prenatal Care was found among teens and among Natives.

(Adequacy of Care could not be determined for 1/3 of all infant deaths)

12. Causes of Death

- Neonatal: (of Whites and Natives respectively)

  Congenital Anomalies (29% and 22%)

  Respiratory Distress Syndrome (16% and 16%)

  Other Conditions of Perinatal Origin (30% and 31%)

- Postneonatal: (of Whites and Natives respectively)

  Sudden Infant Death Syndrome (SIDS) - (54% and 44%)

  (90% of PN SIDS occurred before the age of 6 months ).

  For Whites, Congenital Anomalies (13%)

  For Natives, Pneumonia and Influenza (11%)

All other causes (18% and 27%). More detailed information is needed here.

Further Detail:

(1) **Low Birth Weight** (LBW) - less than 2500 grams (5.5 lbs)

**Normal Birth Weight** (NBW) - 2500 grams (5.5 lbs.) or more

(2) **PNM rate** = # postneonatal deaths in a year/# live births in a year X 1,000

(3) The 6 geographical regions of the state (with census areas included in each):

- Anchorage/Matanuska - Susitna Region

  Anchorage Borough

  Matanuska-Susitna Borough

- Gulf Coast Region

  Kenai Peninsula Borough

  Kodiak Island Borough

  Valdez-Cordova Census Area

- Interior Region

  Fairbanks North Star Borough

  Southeast Fairbanks Census Area

  Yukon-Koyukuk Census Area

- Northern Region
  - Nome Census Area
  - North Slope Borough
  - Northwest Arctic Borough (Kobuk C.A.)

- Southeast Region
  - Haines Borough
  - Juneau Borough
  - Ketchikan Gateway Borough
  - Prince of Wales-Outer Ketchikan C.A.
  - Sitka Borough
  - Skagway-Yakutat-Angoon Census Area
  - Wrangell-Petersburg Census Area
- Southwest Region
  - Aleutian Islands Census Area
  - Bethel Census Area
  - Dillingham Census Area
  - Wade Hampton Census Area

(4) The bush: Census Areas

Nome, North Slope, Northwest Arctic (Kobuk), Aleutian Islands, Bethel, Bristol Bay, Dillingham, Wade Hampton, Yukon-Koyukuk

(5) Inadequate Prenatal Care: Initial visit was in the third trimester of pregnancy or fewer than five prenatal visits.

# NUMBER OF WOMEN OF CHILD BEARING AGE IN ALASKA

BY AGE AND RACE

1984 Alaska Vital Statistics Annual Report

| Age | White | Native | Other | Total |
|---|---|---|---|---|
| 15-19 | 13,605 | 4,051 | 1,684 | 19,340 |
| 20-24 | 14,455 | 3,980 | 2,139 | 20,574 |
| 25-29 | 23,497 | 3,338 | 3,902 | 30,737 |
| 30-34 | 24,205 | 2,939 | 1,785 | 21,248 |
| 35-39 | 17,192 | 2,271 | 1,083 | 14,459 |
| | 104,604 | 18,305 | 13,873 | 136,782 |

## 1984 LIVE BIRTHS BY AGE AND RACE OF MOTHER

| Age | White | Native | Black | Other | Unknown | Total |
|---|---|---|---|---|---|---|
| < 15 | 4 | 4 | 0 | 0 | 0 | 8 |
| 15-17 | 158 | 136 | 17 | 3 | 0 | 314 |
| 18-19 | 531 | 294 | 41 | 11 | 6 | 883 |
| 20-24 | 2,929 | 848 | 160 | 82 | 30 | 4,049 |
| 25-29 | 3,163 | 628 | 126 | 119 | 25 | 4,061 |
| 30-34 | 1,911 | 328 | 51 | 77 | 23 | 2,390 |
| 35-39 | 567 | 117 | 5 | 39 | 0 | 733 |
| 40-44 | 55 | 22 | 0 | 4 | 0 | 81 |
| 45 + | 1 | 1 | 0 | 1 | 0 | 3 |
| Unknown | 1 | 2 | 0 | 0 | 0 | 3 |
| | 9,320 | 2,380 | 400 | 336 | 89 | 12,525 |

Infant mortality consists of neonatal and postneonatal mortality. In southern states, where infant mortality rates are among the highest in the country, infant mortality in 1984 was most heavily affected by high neonatal mortality rates. Western states ranked among the highest for postneonatal mortality.

TABLE 2.1A

## Infant Mortality Rate, Total, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 8.1 |
| 2 | Maine | 8.4 |
| 3 | Vermont | 8.7 |
| 4 | Iowa | 8.8 |
| 5 | Montana | 8.8 |
| 6 | Minnesota | 8.9 |
| 7 | Massachusetts | 9.0 |
| 8 | Utah | 9.1 |
| 9 | California | 9.4 |
| 10 | Arizona | 9.5 |
| 11 | New Mexico | 9.6 |
| 12 | Nebraska | 9.6 |
| 13 | Idaho | 9.8 |
| 14 | Oregon | 9.9 |
| 15 | Rhode Island | 9.9 |
| 16 | Hawaii | 9.9 |
| 17 | Wisconsin | 9.9 |
| 18 | South Dakota | 10.0 |
| 19 | Kansas | 10.1 |
| 20 | Colorado | 10.2 |
| 21 | New Hampshire | 10.2 |
| 22 | Washington | 10.2 |
| 23 | Connecticut | 10.4 |
| 24 | Missouri | 10.4 |
| 25 | Pennsylvania | 10.4 |
| 26 | Ohio | 10.4 |
| 27 | Texas | 10.5 |
| 28 | Nevada | 10.5 |
| 29 | Delaware | 10.8 |
| 30 | Florida | 10.8 |
| 31 | Arkansas | 10.9 |
| 32 | New Jersey | 10.9 |
| 33 | Oklahoma | 11.0 |
| 34 | West Virginia | 11.0 |
| 35 | New York | 11.0 |
| 36 | Wyoming | 11.1 |
| 37 | Indiana | 11.1 |
| 38 | Alaska | 11.2 |
| 39 | Kentucky | 11.5 |
| 40 | Michigan | 11.7 |
| 41 | Maryland | 11.8 |
| 42 | Tennessee | 11.8 |
| 43 | Louisiana | 12.1 |
| 44 | Illinois | 12.1 |
| 45 | Virginia | 12.1 |
| 46 | North Carolina | 12.4 |
| 47 | Georgia | 12.9 |
| 48 | Alabama | 12.9 |
| 49 | Mississippi | 14.4 |
| 50 | South Carolina | 14.7 |
| 51 | District of Columbia | 21.0 |
| | United States | 10.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.1B

## Neonatal Mortality Rate, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Montana | 4.5 |
| 2 | North Dakota | 4.5 |
| 3 | Oregon | 4.8 |
| 4 | Idaho | 5.0 |
| 5 | Maine | 5.1 |
| 6 | Washington | 5.4 |
| 7 | South Dakota | 5.5 |
| 8 | Vermont | 5.5 |
| 9 | Minnesota | 5.5 |
| 10 | Utah | 5.6 |
| 11 | Arizona | 5.7 |
| 12 | Alaska | 5.7 |
| 13 | Colorado | 5.8 |
| 14 | Iowa | 5.9 |
| 15 | California | 6.0 |
| 16 | New Mexico | 6.0 |
| 17 | Nevada | 6.0 |
| 18 | Massachusetts | 6.1 |
| 19 | Nebraska | 6.2 |
| 20 | Wisconsin | 6.3 |
| 21 | Missouri | 6.4 |
| 22 | Kansas | 6.5 |
| 23 | Hawaii | 6.5 |
| 24 | Texas | 6.6 |
| 25 | Ohio | 6.8 |
| 26 | Arkansas | 6.9 |
| 27 | Florida | 6.9 |
| 28 | Rhode Island | 7.0 |
| 29 | Oklahoma | 7.0 |
| 30 | Wyoming | 7.1 |
| 31 | New Hampshire | 7.1 |
| 32 | West Virginia | 7.1 |
| 33 | Indiana | 7.1 |
| 34 | Pennsylvania | 7.2 |
| 35 | Kentucky | 7.4 |
| 36 | Connecticut | 7.5 |
| 37 | New York | 7.5 |
| 38 | New Jersey | 7.5 |
| 39 | Delaware | 7.6 |
| 40 | Tennessee | 8.0 |
| 41 | Louisiana | 8.0 |
| 42 | Illinois | 8.1 |
| 43 | Michigan | 8.1 |
| 44 | North Carolina | 8.1 |
| 45 | Maryland | 8.1 |
| 46 | Virginia | 8.7 |
| 47 | Georgia | 8.7 |
| 48 | Alabama | 8.7 |
| 49 | Mississippi | 9.0 |
| 50 | South Carolina | 9.8 |
| 51 | District of Columbia | 16.0 |
| | United States | 7.0 |

TABLE 2.1C

## Postneonatal Mortality Rate, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 2.9 |
| 2 | Connecticut | 2.9 |
| 3 | Rhode Island | 2.9 |
| 4 | Iowa | 2.9 |
| 5 | New Hampshire | 3.1 |
| 6 | Pennsylvania | 3.2 |
| 7 | Delaware | 3.2 |
| 8 | Maine | 3.3 |
| 9 | Hawaii | 3.4 |
| 10 | Minnesota | 3.4 |
| 11 | New Jersey | 3.4 |
| 12 | California | 3.5 |
| 13 | Nebraska | 3.5 |
| 14 | Virginia | 3.5 |
| 15 | New York | 3.5 |
| 16 | Utah | 3.6 |
| 17 | Kansas | 3.6 |
| 18 | New Mexico | 3.6 |
| 19 | North Dakota | 3.6 |
| 20 | Wisconsin | 3.6 |
| 21 | Michigan | 3.7 |
| 22 | Ohio | 3.7 |
| 23 | Maryland | 3.7 |
| 24 | Oklahoma | 3.9 |
| 25 | West Virginia | 3.9 |
| 26 | Arizona | 3.9 |
| 27 | Tennessee | 3.9 |
| 28 | Texas | 3.9 |
| 29 | Florida | 3.9 |
| 30 | Illinois | 4.0 |
| 31 | Indiana | 4.0 |
| 32 | Missouri | 4.0 |
| 33 | Wyoming | 4.0 |
| 34 | Louisiana | 4.0 |
| 35 | Arkansas | 4.0 |
| 36 | Kentucky | 4.2 |
| 37 | Alabama | 4.2 |
| 38 | Georgia | 4.2 |
| 39 | North Carolina | 4.3 |
| 40 | Colorado | 4.3 |
| 41 | Montana | 4.4 |
| 42 | South Dakota | 4.5 |
| 43 | Nevada | 4.5 |
| 44 | Idaho | 4.7 |
| 45 | Washington | 4.8 |
| 46 | South Carolina | 4.9 |
| 47 | District of Columbia | 5.0 |
| 48 | Oregon | 5.1 |
| 49 | Mississippi | 5.4 |
| 50 | Alaska | 5.5 |
| | United States | 3.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Low birthweight is the single largest cause of neonatal death. Ten of fourteen states with the highest incidence of low birthweight also had the highest neonatal mortality rates in 1984.

As might be expected, the states in which higher proportions of pregnant women fail to receive early prenatal care are the same states in which greater proportions of pregnant women receive no prenatal care or none until the last three months of pregnancy. For example, in New Mexico, two in every five infants born in 1984 were born to women who had no prenatal care in the first three months of pregnancy. One in eight New Mexico infants was born to a mother who had received late or no care.

TABLE 2.5A

## Percent of Births that Were Low Birthweight, Total, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 4.8 |
| 2 | Alaska | 4.8 |
| 3 | Iowa | 4.9 |
| 4 | Minnesota | 4.9 |
| 5 | New Hampshire | 5.0 |
| 6 | South Dakota | 5.1 |
| 7 | Washington | 5.1 |
| 8 | Idaho | 5.1 |
| 9 | Wisconsin | 5.1 |
| 10 | Oregon | 5.2 |
| 11 | Nebraska | 5.4 |
| 12 | Maine | 5.5 |
| 13 | Utah | 5.6 |
| 14 | Montana | 5.8 |
| 15 | California | 5.9 |
| 16 | Massachusetts | 5.9 |
| 17 | Rhode Island | 6.0 |
| 18 | Kansas | 6.1 |
| 19 | Vermont | 6.1 |
| 20 | Arizona | 6.1 |
| 21 | Indiana | 6.3 |
| 22 | Oklahoma | 6.3 |
| 23 | Ohio | 6.4 |
| 24 | Connecticut | 6.6 |
| 25 | Pennsylvania | 6.6 |
| 26 | Missouri | 6.7 |
| 27 | Nevada | 6.7 |
| 28 | Texas | 6.8 |
| 29 | West Virginia | 6.9 |
| 30 | Kentucky | 6.9 |
| 31 | Michigan | 7.0 |
| 32 | New Jersey | 7.0 |
| 33 | New York | 7.0 |
| 34 | Wyoming | 7.1 |
| 35 | Illinois | 7.1 |
| 36 | Virginia | 7.2 |
| 37 | Hawaii | 7.2 |
| 38 | Delaware | 7.4 |
| 39 | Florida | 7.4 |
| 40 | Maryland | 7.4 |
| 41 | Arkansas | 7.5 |
| 42 | New Mexico | 7.6 |
| 43 | Colorado | 7.6 |
| 44 | North Carolina | 7.8 |
| 45 | Alabama | 7.9 |
| 46 | Tennessee | 7.9 |
| 47 | Georgia | 8.3 |
| 48 | Louisiana | 8.5 |
| 49 | Mississippi | 8.7 |
| 50 | South Carolina | 8.8 |
| 51 | District of Columbia | 12.5 |
| | United States | 6.7 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

## International Infant Mortality Rates 1980-1985

| *Rank* | *Country* | *Rate* |
|---|---|---|
| 1 | Finland | 6 |
| 1 | Iceland | 6 |
| 1 | Japan | 6 |
| 4 | Sweden | 7 |
| 5 | Denmark | 8 |
| 5 | Netherlands | 8 |
| 5 | Norway | 8 |
| 5 | Switzerland | 8 |
| 9 | Canada | 9 |
| 9 | France | 9 |
| 9 | Luxembourg | 9 |
| 12 | Australia | 10 |
| 12 | Hong Kong | 10 |
| 12 | Ireland | 10 |
| 12 | Spain | 10 |
| 12 | United Kingdom | 10 |
| 17 | Belgium | 11 |
| 17 | German Dem. Republic | 11 |
| 17 | Germany, Fed. Republic | 11 |
| 17 | United States | 11 |

among cities located in the same state. The nonwhite infant mortality rate in the District of Columbia was nearly three times greater than the nonwhite rate in San Francisco. A black infant born in Cleveland, Ohio, was 1.7 times more likely to die in the first year of life than one born in Columbus, Ohio.

**7.** *In 1984, for the fifth consecutive year, there was no progress in reducing the percentage of infants born to women who received late or no prenatal care.* The ten worst states for women receiving late or no prenatal care were: New Mexico, Texas, District of Columbia, New York, Florida, Oklahoma, Arizona, Arkansas, South Carolina, and South Dakota. A black infant born to a woman in New York was three times more likely than a black Mississippi infant and four times more likely than a black Massachusetts infant to have a mother who received late or no prenatal care during pregnancy.

In 1986, families in thirty-two states received AFDC payments that were less than 50 percent of the federal poverty level.

**8.** *At the current rate of progress, the nation and the states will fail to meet nearly all of the Surgeon General's 1990 Objectives for reducing infant mortality, the number of low-birthweight births, and the number of women who receive late or no prenatal care.* Babies whose mothers receive no prenatal care are three times more likely to suffer low birthweight with commensurately greater risks of birth defects and death. As a result of the nation's slow progress in providing access to early prenatal care and in reducing the incidence of low birthweight, more than 300,000 excess low-birthweight births will occur between 1978 and 1990. These babies will cost the nation more than $2 billion during this period just for the medical care required during their first year of life.

# PRENATAL CARE COSTS

Adequate Prenatal Care - for uncomplicated pregnancies must begin in the first trimester

-- visits should be every 4 weeks for first 28 weeks
-- one visit every 2 weeks for next 8 weeks
-- one visit every week thereafter until delivery
-- total number of prenatal visits = 14 to 15 visits
-- prenatal care provider - obstetrician/gynecologist, certified nurse midwife, or advanced nurse practitioner

Alaska Women's Health Service - Prenatal Care

| | |
|---|---|
| 1st Prenatal Visit | $ 200 |
| Each Subsequent Visit @ $45 x 13 visits | $ 585 |

Since the recommended prenatal visit schedule for prenatal care totals 14 visits for a low risk full term gestation, I multiplied the $45 per visit rate by 13 visits.

Delivery Fees

| | |
|---|---|
| Vaginal delivery | $ 700 |
| Cesarean Section | $ 1,400 |

| Cost of Vaginal Delivery | | Cost of a C-Section Delivery | |
|---|---|---|---|
| Prenatal Care | $ 785 | Prenatal Care | $ 785 |
| Delivery-Physician Chg. | 700 | C-Section Del. | $ 1,400 |
| Total Fees | $1,485 | Total Fees | $ 2,185 |
| Providence Hospital Fees | 1,950 | Providence Fees | $ 5,000 |
| **Grand Total** | **$3,435** | **Grand Total** | **$ 7,185** |

Neighborhood Health Center

Fee includes all prenatal visits plus delivery charges

| 0 Fee | 25% Fee | 50% Fee | 75% Fee | Full Fee |
|---|---|---|---|---|
| Medicaid | 125% Poverty | 150% Poverty | 175% Poverty | 200% Poverty |
| $0.00 | $300 | $600 | $900 | $1,200 |

# EXAMPLES OF GAPS IN PRENATAL CARE

Women earning over 78% of poverty are not eligible for medicaid; these women must pay cash out of pocket for prenatal care unless insured.

-- *uncomplicated pregnancy = 25% of her income must go toward prenatal care*

The 1984 Vital Statistics Report states that 25% (605) of Native women had inadequate prenatal care and 13% of White Alaskan women received inadequate prenatal care.

Four to five deliveries occur monthly in Anchorage emergency rooms because these women have had no prenatal care.

Alaska Women's Health Clinic in Anchorage reports 27% of their patients are not eligible for any third party reimbursement.

Providence Hospital reported that in 1986, 667 of the 2,480 births there occurred to women who had no third party reimbursement for their birth; 555 of these women have established some sort of payment plan for their birth, but 112 of these have not been able to establish a payment plan.

The state demographer estimates that 11% of the Alaska population has incomes above the Alaska poverty line, but below $18,000.

# PROBLEMS TO BE DISCUSSED

Access to Care

Teen Pregnancies

Nutrition for Pregnant Women

Sudden Infant Death Syndrome

Data Related to Infant Births and Deaths

# The Health of America's Children

## MATERNAL AND CHILD HEALTH DATA BOOK

By
Dana Hughes
Kay Johnson
Sara Rosenbaum
Janet Simons
Elizabeth Butler

Adolescent Pregnancy Prevention: Prenatal Care Campaign •
Children's Defense Fund

*PART 1*

# The Health of America's Children: Overview of Findings

TABLE 1.1

# UNITED STATES TOTAL

## Fact Sheet, 1984

| | White | Nonwhite | | Total |
|---|---|---|---|---|
| **Births** | | Black | Total | |
| To all women | 2,923,502 | 592,745 | 745,639 | 3,669,141 |
| To all women age 19 and under | 324,912 | 140,112 | 154,735 | 479,647 |
| To women under age 15 | 3,959 | 5,720 | 6,006 | 9,965 |
| **Teen Births** | | | | |
| *(As percentage of all births)* | | | | |
| To women age 19 and under | 11.1% | 23.6% | 20.8% | 13.1% |
| To women under age 15 | 0.1 | 1.0 | 0.8 | 0.3 |
| **Low-Birthweight Births** | | | | |
| *Percentage of births that are low birthweight:* | | | | |
| To all women | 5.6% | 12.4% | 11.1% | 6.7% |
| To women age 19 and under | 7.7 | 13.6 | 13.1 | 9.4 |
| *Percentage of all low-birthweight births:* | | | | |
| To women age 19 and under | 15.3% | 26.0% | 24.4% | 18.4% |
| **Prenatal Care** | | | | |
| *Percentage of babies born to women who began prenatal care in the first trimester:* | | | | |
| To all women | 79.6% | 62.2% | 64.1% | 76.5% |
| To women age 19 and under | 56.7 | 47.0 | 47.3 | 53.7 |
| *Percentage of babies born to women who began prenatal care in the third trimester or not at all:* | | | | |
| To all women | 4.7% | 9.6% | 9.3% | 5.6% |
| To women age 19 and under | 10.9 | 14.0 | 14.1 | 11.9 |
| **Infant Mortality** | | | | |
| *Infant deaths per 1,000 live births* | | | | |
| Total infant deaths | 9.4 | 18.4 | 16.1 | 10.8 |
| Neonatal deaths | 6.2 | 11.8 | 10.2 | 7.0 |
| Postneonatal deaths | 3.3 | 6.5 | 5.8 | 3.8 |

The nation will meet the Surgeon General's 1990 goals for infant mortality for all races, whites, and nonwhites if its current rate of progress continues. However, the nation will have to increase progress to meet the infant mortality goal for blacks. The U.S. will meet the goal for neonatal mortality, but to meet the goal for postneonatal mortality the nation will have to nearly triple its rate of progress. To meet the goals for low-birthweight births, the nation will have to improve at 4 times the rate of progress for all races, 2 times the rate for whites, 2.5 times the rate for nonwhites, and 7 times the rate for blacks. To meet the goal for prenatal care, the country will have to improve at 8 times the rate of progress of the past six years.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# The Health of America's Children: Overview of Findings

## National and International Findings

### National Findings

*A virtual stagnation in key maternal and infant health indicators in 1984 accompanied deeply entrenched childhood poverty and a major increase in the number of children without private health insurance.* Stagnation in the U. S. infant mortality rate in the 1980s is the result of numerous factors, including: persistently high postneonatal mortality; the lack of an appreciable decline in the proportion of infants born at low birthweight (which is exacerbated by high rates of teenage childbearing); failure to increase the proportion of pregnant women who have access to early and continuous prenatal care; the ongoing erosion of major public health programs in the face of high poverty rates; and the more than one-third increase since 1978 in the number of Americans without health insurance, one-third of whom are children younger than 18 (Figure 1.5).

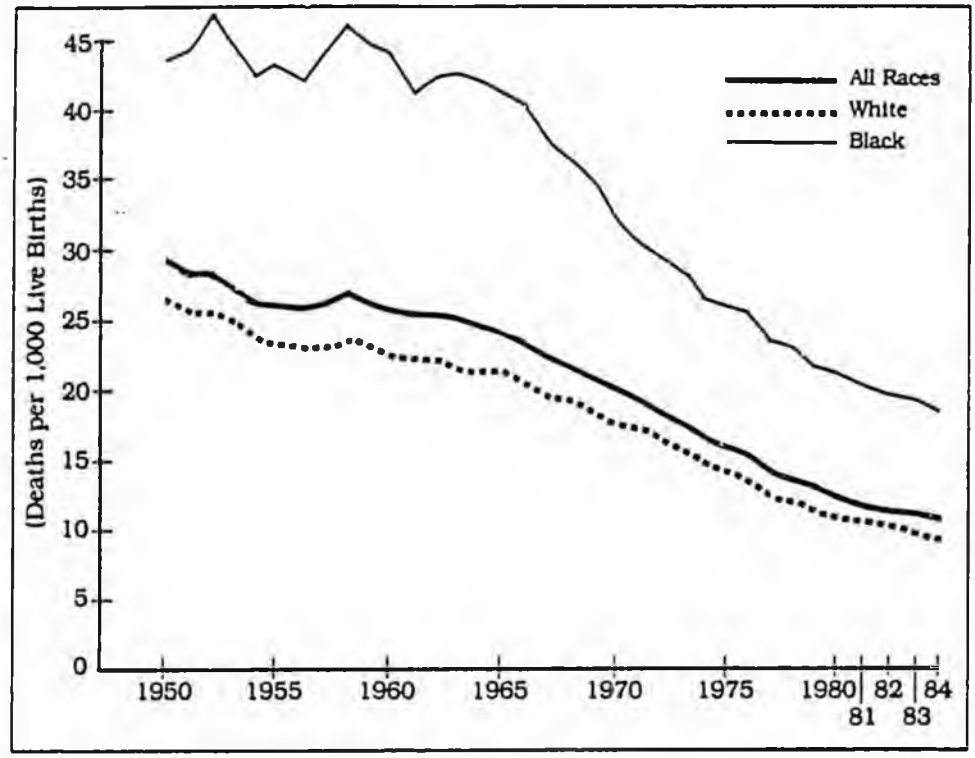
***Infant mortality:*** Nearly 40,000 of the 3,669,141 children who were born in the United States in 1984 died before their first birthday, a rate of 10.8 infant deaths per 1,000 live births (Table 1.1). This infant mortality rate represents a 4 percent decline compared to the 11.2 rate that prevailed in 1983. This is a modest improvement over the 3 percent annual rate of decline of the previous two years (Figure 1.1, Table 3.1). Mortality rates among black and nonwhite infants also declined by 4 percent between 1983 and 1984 from rates of 19.2 and 16.8 to rates of 18.4 and 16.1, respectively. The infant mortality rate among whites declined by 3 percent, from 9.7 to 9.4.

- Despite their declining infant mortality, black children remained nearly twice (1.96 times) as likely as white infants to die in the first year of life. Only three times since 1940 has the disparity in black and white infant mortality been as wide (Table 3.1).
- While modest gains were made in 1984, experts anticipate no similar improvements for 1985. According to the National Center for Health Statistics (NCHS), an examination of preliminary data indicates that "there was no statistically significant difference between the estimated infant mortality rate for 1985 of 10.6 deaths per 1,000 live births and the 1984 revised provisional estimate of 10.7. * The absence of a statistically significant change in the provisional infant mortality rate between 1984 and 1985 is consistent with the slowing in the rate of decline in infant mortality since 1981, following two decades of sustained decline."[1]
- The slowing rate of decline can be seen by comparing the annual rate of decline during the 1981-1984 period (a 3.7 percent change) to the average annual rate of decline during the preceding ten years (a 4.5 percent change).

*Provisional estimates of annual infant mortality rates are calculated by NCHS prior to its receipt of all states' final statistics. For consistency, NCHS compares provisional rates to provisional rates.

FIGURE 1.1

Infant Mortality, by Race, 1950-1984




***Neonatal mortality:*** The 1984 national neonatal mortality rate (deaths from birth to twenty-eight days of life) was 7.0 deaths per 1,000 live births. This was 4.10 percent lower than the 1983 rate of 7.3.

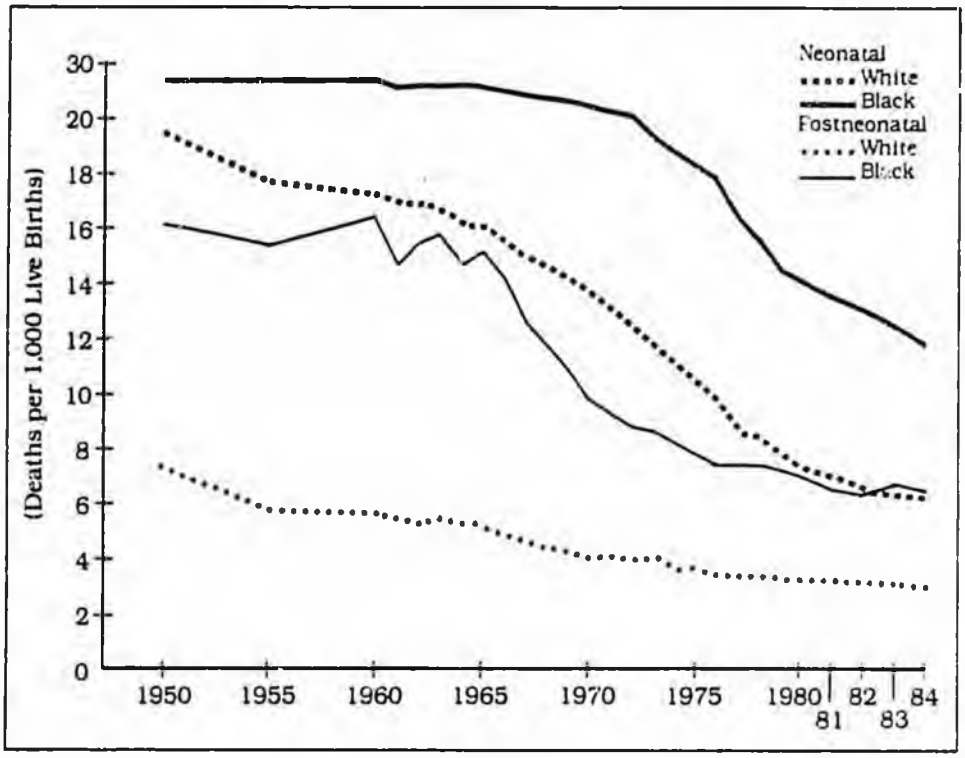
***Postneonatal mortality:*** The 1984 national postneonatal mortality rate (deaths between twenty-eight days and one year of life) was 3.8 deaths per 1,000 live births. This represented only a 2.56 percent decline from the 1983 rate. This decline simply returned the nation's postneonatal mortality rate to its 1982 level, since in 1983 there was a nationwide increase in postneonatal mortality (Table 3.3). Thus, the nation made no progresss in reducing the rate of postneonatal mortality between 1982 and 1984.

■ Postneonatal mortality in the United States has remained persistently high, even during the great infant mortality decline that occurred between 1966 and 1979 (Figure 1.2). Postneonatal mortality is particularly disturbing in a country as wealthy as the United States. While the neonatal mortality rate is largely a function of maternal health status and access to medical and supportive services during pregnancy and labor, postneonatal mortality is a more sensitive indicator of the basic environment in which an infant lives. During the postneonatal period, infants need decent housing, food, sanitation, and primary medical care, yet poor children frequently lack these supports. Experts estimate that 80 percent of all infants who die during the postneonatal period were born at normal birthweight.[2]

***Low birthweight:*** The incidence of low birthweight in 1984 remained virtually unchanged from earlier years. Contributing to the national low birthweight problem is the high rate of teenage childbearing in the United States. In 1984, 13 percent of all births were to teens and these infants were 1.4 times more likely than all infants to be born at low birthweight. Even when births to only older women are considered, however, America has a serious low birthweight problem.

FIGURE 1.2

Neonatal and Postneonatal Mortality, 1950-1984




■ Between 1983 and 1984 the percentage of low-birthweight babies (weighing less than 5.5 pounds at birth) declined only .1 percentage point, from 6.8 percent to 6.7 percent. The wide disparity in low birthweight among racial groups also persisted. While 5.6 percent of white infants were born at low birthweight in 1984, the figures for black and nonwhite infants were 12.4 percent and 11.1 percent, respectively. Black infants in 1984 thus were 2.21 times more likely than white infants to be born at low birthweight. Only twice since 1970—in 1982 and 1983—has the disparity in black and white low birthweight percentages been as great (Tables 1.1 and 3.4).

Numerous studies have examined the persistent problem of low birthweight in this country. Several of these demonstrate a link between low birthweight and access to medical and nutritional services as well as environmental factors such as exposure to critical levels of lead during pregnancy.[3] Yet in 1986, the Supplemental Food Program for Women, Infants, and Children (WIC) served only 40 percent of all financially eligible women, infants, and children nationally (Table 2.21D).

Similarly, in 1986 critical public health programs such as Community and Migrant Health Centers, the Title V Maternal and Child Health Block Grant, and the Federal Immunization Program suffered funding reductions as a result of the across-the-board cuts required by the Gramm-Rudman-Hollings provision of the Balanced Budget Act of 1985. Finally, contributing to the one-third increase in the number of uninsured Americans between 1978 and 1984, the Medicaid program in 1984 served 3.5 percent fewer children than were served in 1978 (Figure 1.6).

***Prematurity:*** In 1984, 9.4 percent of all births were premature (occurring prior to the thirty-seventh week of pregnancy). Infants born prematurely are more than three times more likely to be born at low birthweight than those born at full term.[4] Prematurity can occur for

many reasons, including poor maternal nutrition, inadequate prenatal care, and untreated maternal infections.

***Prenatal care:*** Between 1983 and 1984, the percentage of pregnant women receiving prenatal care early in pregnancy (during the first trimester) increased only .3 percentage point, from 76.2 percent to 76.5 percent (Tables 1.1 and 3.6). The percentage of women who received either no prenatal care or none until the seventh month or later did not decline at all from the 1983 figure of 5.6 percent. Indeed, 1984 was the fifth consecutive year during which the percentage of babies born to mothers who received late or no care worsened or failed to improve. By comparison, between 1969 and 1979 the percentage of pregnant women receiving late or no care in pregnancy improved by 37.03 percent (Tables 1.1 and 3.7).

Inadequate prenatal care can have serious implications for infant health. For example, between 1978 and 1985 the number of infants infected from birth by their mothers' syphilis rose by 150 percent nationally.[5] According to the U. S. Centers for Disease Control (CDC), this increase in the rate of congenital syphilis resulted from, among other things, the lack of adequate prenatal care experienced by pregnant women, which could have detected and treated the disease. CDC estimates that, had adequate prenatal care been received, at least 60 percent of the cases could have been prevented.[6]

## International Findings

As a result of stagnating maternal and infant health indicators, *the United States' international ranking on infant mortality has deteriorated substantially during the past thirty years.*

- Infant mortality in the United States has declined steadily since the turn of the century, as it has in other countries. Several factors have contributed to the decline both here and in other industrialized nations, including the introduction of public health sanitation measures, immunizations, improved access to basic health services (such as prenatal care and primary pediatric health care), and reduction in the incidence of low-birthweight births.[7]
- In this book we compare the rate of decline in U. S. infant mortality to that of nineteen other nations. We selected these other nations for three reasons. First, they have reliable vital statistics reporting systems. Second, they have comparable economic structures. Third, their standards of living are comparable to that of the United States.
- During the 1950-1955 period, the United States ranked sixth best among twenty industrialized countries. By the 1980-1985 period, the nation had fallen to a tie for last place among the same countries (Table 1.2). The U. S. position has deteriorated not because infant mortality rates in this country have worsened, but because the nation has failed to reduce infant mortality as rapidly as have these other countries.
- Between the 1950-1955 and 1980-1985 time periods, the U. S. infant mortality rate declined by 61 percent. The other nineteen countries had greater rates of improvement during this period, with the sole exception of Australia* (Table 1.2). Even countries with 1950-1955 infant mortality rates substantially lower than ours (such as Iceland, Norway, Sweden, and the Netherlands), as well as countries with comparable rates (such as Denmark and the United Kingdom), improved more rapidly than the United States. Many of the nations that experienced more rapid improvements and have reached lower rates were substantially poorer than the United States.
- Experts point to numerous factors that account for the United

During the 1950-1955 period, the United States ranked sixth best on infant mortality among twenty industrialized countries. By the 1980-1985 period, the nation had fallen to a tie for last place among the same countries.

*While Australia experienced a slightly lower rate of improvement than the United States during this period, its actual infant mortality rates were in fact lower than those of the United States.

TABLE 1.2

## Infant Mortality Rates
1950-1985
Selected Countries

| Country | 1950-1955 | | 1955-1960 | | 1960-1965 | | 1965-1970 | | 1970-1975 | | 1975-1980 | | 1980-1985 | | % Change 1950-55 to 1980-85 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rate | Rank | Rate | Rank | Rate | Rank | Rate | Rank | Rate | Rank | Rate | Rank | Rate | Rank | |
| Australia | 24 | (4) | 21 | (5) | 20 | (6) | 18 | (9) | 17 | (14) | 12 | (10) | 10 | (12) | -58 |
| Belgium | 45 | (14) | 35 | (14) | 27 | (14) | 23 | (16) | 19 | (18) | 13 | (12) | 11 | (17) | -76 |
| Canada | 36 | (11) | 30 | (11) | 26 | (13) | 21 | (11) | 16 | (9) | 12 | (10) | 9 | (9) | -75 |
| Denmark | 28 | (8) | 23 | (6) | 20 | (6) | 16 | (6) | 12 | (2) | 9 | (2) | 8 | (5) | -71 |
| Finland | 34 | (10) | 25 | (9) | 19 | (5) | 15 | (5) | 12 | (2) | 9 | (2) | 6 | (1) | -82 |
| France | 45 | (14) | 33 | (12) | 25 | (11) | 21 | (11) | 16 | (9) | 11 | (9) | 9 | (9) | -80 |
| German Dem. Rep. | 58 | (18) | 44 | (18) | 31 | (18) | 21 | (11) | 17 | (12) | 13 | (12) | 11 | (17) | -81 |
| Germany, Fed. Rep. | 48 | (16) | 37 | (15) | 28 | (16) | 23 | (11) | 22 | (20) | 15 | (8) | 11 | (17) | -77 |
| Hong Kong | 79 | (20) | 54 | (20) | 33 | (19) | 23 | (16) | 17 | (12) | 13 | (12) | 10 | (12) | -87 |
| Iceland | 21 | (2) | 17 | (1) | 17 | (3) | 13 | (1) | 12 | (2) | 9 | (2) | 6 | (1) | -71 |
| Ireland | 41 | (12) | 34 | (13) | 28 | (15) | 23 | (16) | 18 | (16) | 15 | (18) | 10 | (12) | -76 |
| Japan | 51 | (17) | 37 | (15) | 24 | (10) | 16 | (6) | 12 | (2) | 9 | (2) | 6 | (1) | -88 |
| Luxembourg | 43 | (13) | 37 | (15) | 29 | (17) | 21 | (11) | 16 | (9) | 13 | (12) | 9 | (9) | -79 |
| Netherlands | 24 | (4) | 19 | (3) | 16 | (2) | 14 | (3) | 12 | (2) | 10 | (7) | 8 | (5) | -67 |
| Norway | 23 | (3) | 20 | (4) | 17 | (3) | 14 | (3) | 12 | (2) | 9 | (2) | 8 | (5) | -65 |
| Spain | 62 | (19) | 51 | (19) | 42 | (20) | 33 | (20) | 21 | (19) | 16 | (20) | 10 | (12) | -84 |
| Sweden | 20 | (1) | 17 | (1) | 15 | (1) | 13 | (1) | 10 | (1) | 8 | (1) | 7 | (4) | -65 |
| Switzerland | 29 | (9) | 23 | (6) | 20 | (6) | 17 | (8) | 13 | (8) | 10 | (7) | 8 | (5) | -72 |
| United Kingdom | 28 | (6) | 24 | (8) | 22 | (9) | 19 | (10) | 17 | (14) | 14 | (16) | 10 | (12) | -64 |
| United States | 28 | (6) | 26 | (10) | 25 | (11) | 22 | (16) | 18 | (16) | 14 | (16) | 11 | (17) | -61 |

*(Rates are rounded to the nearest whole number)*
*Source: United Nation's Children's Fund*

States' failure to reduce infant mortality as rapidly as other countries. The first is a relatively high incidence of low birthweight, which is exacerbated (but by no means caused solely) by our high rate of teenage childbearing. Other countries have managed to reduce both low birthweight and infant mortality. They have done so both by promoting much lower rates of teenage childbearing and by ensuring access by pregnant women and infants to maternity care and family supports.

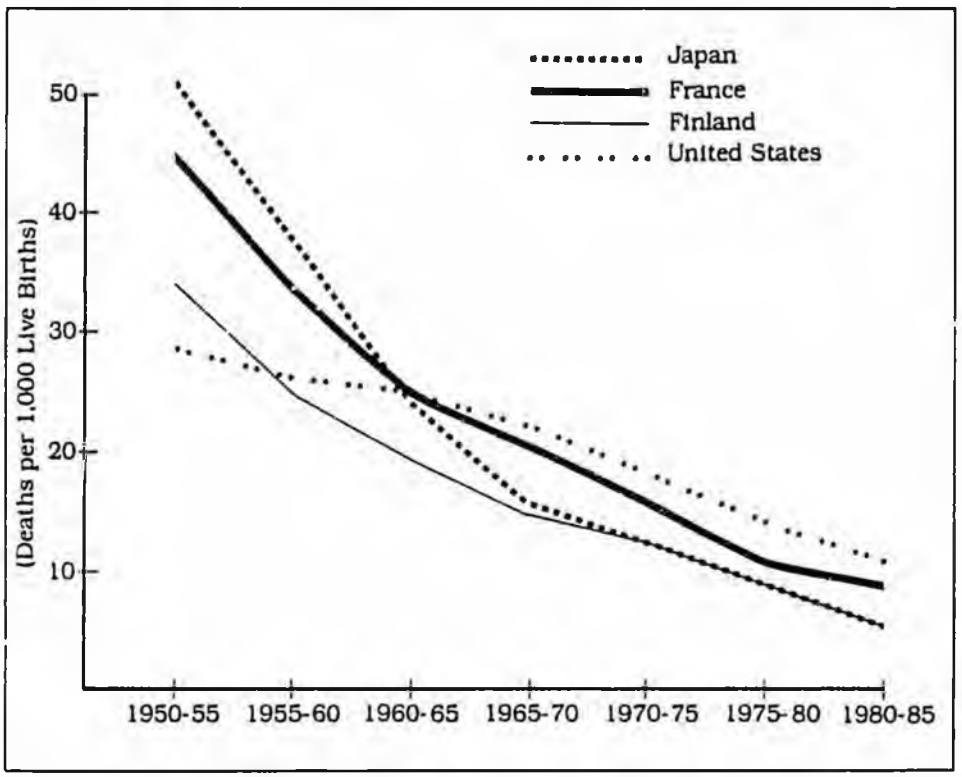
The percentage of babies born at low birthweight in the United States has declined only slightly since 1950 (Table 3.4). Indeed, the U. S. Department of Health and Human Services recently reported that declines in low birthweight in the United States have been so slight that such reductions are responsible for only 10 percent of the decrease in infant mortality that has occurred since 1960.[8] As a result, the incidence of low birthweight in the United States is substantially higher than in other industrialized countries.

A key major factor that distinguishes the United States from countries that have reduced infant mortality rates more rapidly is the provision of maternity services. Of all industrialized countries, the United States stands alone in its failure to assure pregnant women access to prenatal care *and* delivery services through either a public health service or universal health insurance.[9] While 23.5 percent of all mothers, more than 20 percent of white mothers, and nearly 40 percent of all black mothers in the United States did not receive early prenatal care in 1980, fewer than 1 percent of all mothers in Sweden received inadequate care that year.[10] In France, ensuring early and continuous prenatal care is regarded as so important that pregnant women are provided with cash payments as part of their prenatal care program in order to encourage their use of services and to ensure them an adequate standard of living.

The United States also has other social policies that affect infant

FIGURE 1.3

Infant Mortality Rates, Selected Countries, 1950-1985



mortality and differ significantly from those of countries with better records. A study of maternity policies for working women in seventy-five countries (including all industrialized countries and some developing nations) found that the United States was the only nation that failed to ensure provision of certain basic health services and social supports needed during pregnancy, childbirth, and infancy. Those services and supports include necessities such as medical and nutritional care, and some form of income support or protection (such as a family allowance or a parental leave policy).[11]

The powerful influence that a nation's social policies can have on the health of infants is evident when one examines the experience of immigrants now living in Sweden who came from Southeastern European and other countries with heavily depressed economies and high rates of infant mortality. As in many countries, the immigrants (who came to Sweden in the late 1960s and early 1970s) generally had lower incomes than native Swedes and experienced lower standards of living. However, their mothers were provided with comprehensive health and social services. As a result, babies born to these immigrant mothers in recent years experienced slightly lower infant mortality rates than infants born to native Swedes, despite their higher social risk and relative economic disadvantage.[12]

# State and City Findings

*National maternal and infant health problems, already serious when compared to those of other countries, mask particularly severe problems in many states and cities.*

## State Findings

***Infant mortality:*** Clear regional patterns in infant mortality rates can be discerned.

- In 1984, the states with the highest rates of infant mortality tended to be concentrated in the South. With the exception of Illinois, the ten states with the highest 1984 overall infant mortality rates were all southern (Table 2.1A).
- Southern states also exhibit the highest rates of neonatal mortality. With the exception of Illinois, the ten states with the highest overall neonatal mortality rates in 1984 were all in the South (Table 2.1B). In contrast, it is the western states that experienced the most serious postneonatal mortality problems in 1984. Of the ten states with the greatest overall postneonatal mortality rates in 1984, seven were western (Table 2.1C).

These region-specific neonatal and postneonatal mortality patterns may result in part from the fact that the South has a greater share of the nation's black births, and the western states have higher concentrations of Native American and Mexican-American births. These groups are desperately poor. Black infants tend to experience relatively high neonatal mortality because of their higher incidence of low birthweight. Native American and Mexican-American infants tend to have a lower incidence of low birthweight but relatively greater rates of postneonatal mortality.

- While southern states had high overall infant mortality rates in 1984, five of the ten states with the highest 1984 black infant mortality rates were located outside the South. The ten states were Connecticut, Delaware, Mississippi, Virginia, South Carolina, Washington State, Pennsylvania, Illinois, Michigan, and the District of Columbia (Table 2.3A).*

*Southern states are considered to be: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

***Low birthweight:*** Low birthweight is the single greatest cause of death during the neonatal period. Seven of the ten jurisdictions with the highest overall incidence of low birthweight in 1984 also were among the ten jurisdictions with the highest overall neonatal mortality rates that year. These seven were the District of Columbia, South Carolina, Mississippi, Louisiana, Georgia, Alabama, and North Carolina (Tables 2.1B and 2.5A).

***Prenatal care:*** Of the ten states with the highest overall percentage of pregnant women who received late or no prenatal care in 1984, the percentage of such women actually increased between 1983 and 1984 in five of the states. These were Arkansas, Arizona, Florida, Texas, and New Mexico (Table 2.5C).

***Wide variations in state indicators:*** In 1984 there continued to be enormous variations from state to state in infant mortality rates, the percentage of low-birthweight babies, and the proportion of infants born to women who had received early or late or no prenatal care.

■ For example, in 1984 a white infant born in Wyoming was nearly one and a half times more likely to die in the first year of life than a white infant born in North Dakota (Table 2.2A). A black infant born in the District of Columbia was 1.7 times more likely to die in the first year of life and more than two times more likely to die in the first twenty-eight days of life than a black infant born in Massachusetts (Table 2.3B). A black infant born in Illinois was nearly 1.6 times more likely than one born in Maryland to die during the postneonatal period (Table 2.3C).

An infant born to a black woman in New York in 1984 was more than three times more likely than one born to a black woman in Mississippi, and more than four times more likely than one born to a black woman in Massachusetts, to have a mother who received late or no prenatal care (Table 2.7C).

Among the states that accounted for 99 percent of all black births in 1984, one out of every four infants was born to a woman who failed to receive early prenatal care (Table 2.7B).

An infant born to a black woman in New York in 1984 was more than three times more likely than one born to a black woman in Mississippi, and more than four times more likely than one born to a black woman in Massachusetts, to have a mother who received late or no prenatal care.

## City Findings

■ Between 1983 and 1984, infant mortality rates rose in six of America's twenty-two largest cities. These were the District of Columbia, San Antonio, Cleveland, Boston, Detroit, and Milwaukee (Table 1.3). The District experienced an alarming 8.8 percent increase in infant mortality between 1983 and 1984 alone.

■ Milwaukee, Wisconsin experienced a particularly notable 1984 infant mortality rate. Milwaukee's 1984 overall infant mortality rate of 14.2 deaths per 1,000 live births stood at the highest point in five years and was higher than the city's average infant mortality rate for the preceding four-year period.

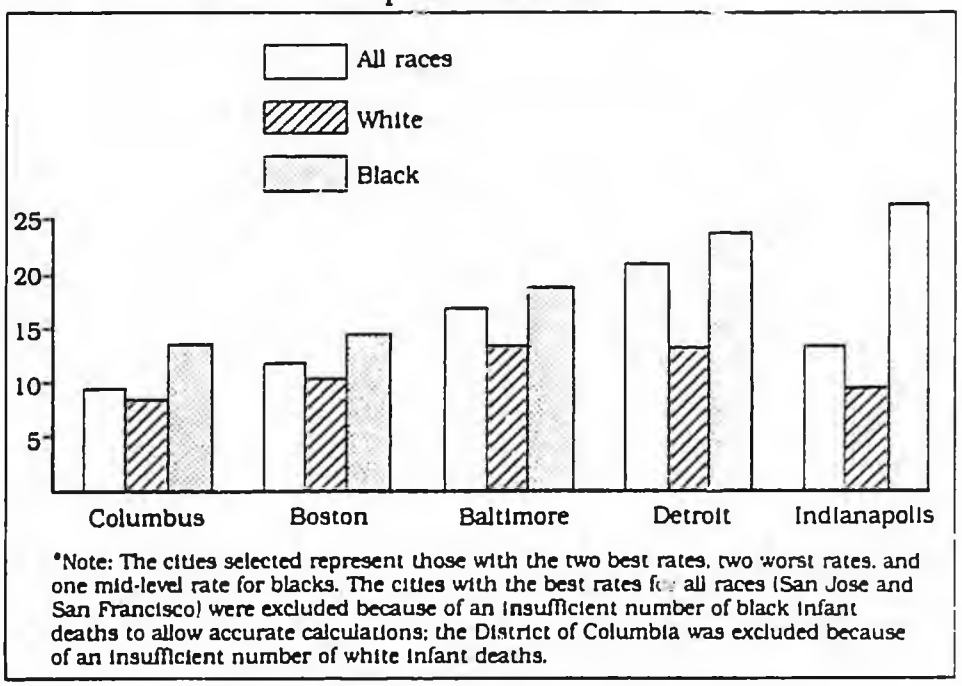
■ In general, infant mortality in America's largest cities tends to be more serious than for the nation as a whole. Only five of America's twenty-two largest cities had 1984 infant mortality rates equal to or lower than the national average. These were Columbus, Phoenix, San Diego, San Francisco, and San Jose (Tables 1.3 and 2.22A).

■ In 1984 there was a substantial disparity in infant mortality rates from city to city. Indianapolis, the city with the highest black infant mortality rate, had a rate that was 1.8 times higher than the black rate in Columbus and 1.6 times higher than the rate in Dallas (Tables 1.3 and 2.22D). Similarly, the District of Columbia's 1984 nonwhite infant mortality rate, the highest among the twenty-two largest cities, was nearly three times greater than the nonwhite rate in San Francisco, the city with the lowest rate that year (Tables 1.3 and 2.22C).

■ The disparity between black and white infant mortality rates in America's twenty-two largest cities in 1984 was startling. In seven cities, (Philadelphia, San Diego, Chicago, Cleveland, Indianapolis, Los Angeles,

FIGURE 1.4

Infant Mortality Rates by Race, Selected* Cities with 500,000+ Population, 1984




*Note: The cities selected represent those with the two best rates, two worst rates, and one mid-level rate for blacks. The cities with the best rates for all races (San Jose and San Francisco) were excluded because of an insufficient number of black infant deaths to allow accurate calculations; the District of Columbia was excluded because of an insufficient number of white infant deaths.

A black infant born in Indianapolis or the District of Columbia in 1984 was more likely to die in the first year of life than an infant born in Trinidad and Tobago, a country much poorer than ours.

and Memphis) black infant mortality rates were more than twice as high as white rates. (The national black infant mortality rate is 1.96 times higher than the white rate.) The highest white infant mortality city rate among the cities in 1984 (13.8 deaths per 1,000 live births in Detroit) was nearly identical to the lowest black city rate that year (13.5 deaths per 1,000 live births in Columbus) (Tables 2.22B and 2.22D).

■ A black infant born in Indianapolis or the District of Columbia in 1984 was more likely to die in the first year of life than an infant born in Trinidad and Tobago, a country much poorer than ours.

■ The infant mortality rates of certain cities stand out. For example, regardless of whether the District of Columbia is considered a state or city, its 1984 black infant mortality rate was shockingly high. In 1984, the District's black infant mortality rate ranked twenty-first worst out of twenty-two large American cities, and last among thirty-two states with a sufficient sample size of black live births (Tables 2.3A and 2.22D).

■ Urban infant mortality rates can vary dramatically on an intrastate as well as interstate basis. For example, in 1984 there was a remarkable difference in infant mortality rates between Columbus, Ohio, and Cleveland, Ohio. A black infant born in Cleveland was 1.7 times more likely to die in the first year of life than one born in Columbus (Table 2.22D).

## Findings on Births to Teens and Unmarried Women

*Births to teens and unmarried women were nationwide problems in 1984.*

### Percent of 1984 Births That Occurred to Teens

■ Nationally in 1984, 13.1 percent of all births, and 23.6 percent of all black births, occurred to women younger than twenty (Table 1.1). These figures varied dramatically from state to state. For example, the

TABLE 1.3

## Infant Mortality Rates, Cities with 500,000+ Population, by Race,* 1984

| | White | Nonwhite | | Total |
|---|---|---|---|---|
| | | Black | Total | |
| Baltimore | 13.2 | 18.7 | 18.5 | 16.8 |
| Boston | 10.4 | 14.6 | 13.4 | 11.7 |
| Chicago | 11.1 | 22.6 | 21.5 | 16.5 |
| Cleveland | 10.2 | 23.2 | 23.0 | 16.8 |
| Columbus | 8.3 | 13.5 | 12.8 | 9.6 |
| Dallas | 9.7 | 15.7 | 15.2 | 11.7 |
| Detroit | 13.8 | 23.7 | 23.3 | 20.9 |
| District of Columbia | — | 24.3 | 24.1 | 21.0 |
| Houston | 10.6 | 16.7 | 14.6 | 11.9 |
| Indianapolis | 9.4 | 24.5 | 23.6 | 13.3 |
| Jacksonville | 9.5 | 16.8 | 16.3 | 11.9 |
| Los Angeles | 9.2 | 19.9 | 15.6 | 11.0 |
| Memphis | 7.8 | 19.3 | 19.2 | 14.8 |
| Milwaukee | 11.7 | 18.5 | 18.1 | 14.2 |
| New Orleans | — | 18.5 | 17.9 | 16.0 |
| New York City | 11.7 | 15.6 | 14.6 | 13.0 |
| Philadelphia | 9.2 | 22.3 | 21.8 | 15.5 |
| Phoenix | 9.4 | — | — | 9.9 |
| San Antonio | 12.5 | — | — | 12.8 |
| San Diego | 8.8 | 18.1 | 11.9 | 9.7 |
| San Francisco | 8.5 | — | 9.0 | 8.8 |
| San Jose | 8.3 | — | — | 7.9 |

* The following cities were not ranked because there were too few infant deaths to calcuate a reliable rate: for whites, the District of Columbia and New Orleans; for blacks, Phoenix, San Antonio, San Francisco, and San Jose; for all nonwhites, Phoenix, San Antonio, and San Jose.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

percentage of all births that occurred to mothers younger than twenty in Mississippi was three times higher than in Minnesota (Table 2.13B).

## Low Birthweight Among Infants Born to Teens

■ Babies born to teen mothers are more likely to be born at low birthweight than those born to older mothers (Table 1.4). In 1984, 9.4 percent of births to women younger than twenty were at low birthweight, compared to 6.7 percent of all births nationally (Table 1.1).

■ There was wide variation from state to state in the incidence of low birthweight among infants born to teens in 1984. An infant born to a South Carolina teen was 2.5 times more likely to be born at low birthweight than one born to a North Dakota teen (Table 2.9A). Similar dramatic state-to-state variations can be seen when the incidence of low birthweight to teens is examined by race. For example, an infant born to a white teen in Wyoming was 1.9 times more likely to be low birthweight than one born in North Dakota (Table 2.10A). Finally, southern teens in general were more likely to have low birthweight infants than teens in other regions (Table 2.9A).

## Prenatal Care Among Teens

■ Despite their greater need for prenatal care, pregnant teens are less likely than older women to begin care early in pregnancy and are more likely to receive either no care or none until the last trimester of pregnancy (Table 1.4). In 1984, only 53.7 percent of infants born to teens had mothers who began care early in pregnancy, compared to 76.5 percent of all births (Table 1.1). Similarly, 11.9 percent of infants born to teens had mothers who received no prenatal care or none until the last trimester, compared to 5.6 percent of all infants (Table 1.1).

■ In some states, teens' lack of access to early prenatal care is particularly shocking. In 1984, for example, two out of every three black births to teens in New York, South Carolina, Florida, Oklahoma, and West Virginia occurred to mothers who had received no prenatal care early in pregnancy (Table 2.11C).

## Births to Unmarried Teens and Older Women

■ Nationally in 1984, 56.3 percent of all births to teens, 42.0 percent of births to white teens, 89.5 percent of births to black teens, and 86.4 percent of births to nonwhite teens were to unmarried mothers (Tables 2.17B, 2.18B, 2.19B, and 2.20B). Since 1970, both teen birth rates and the

TABLE 1.4

Birth Outcome and Prenatal Care, by Age, U.S., 1984

| | *Under 15* | *15-19* | *20-24* |
|---|---|---|---|
| Percentage of babies born at low birthweight (5.5 pounds or less) | 13.6 | 9.3 | 6.9 |
| Percentage of babies born to mothers who received early prenatal care | 34.5 | 54.1 | 72.7 |
| Percentage of babies born to mothers who received late or no prenatal care | 21.0 | 11.8 | 6.6 |

percentage of all births that are to teen mothers have fallen significantly. But the percentage of births to teens that occur to unmarried women has climbed dramatically.

■ In the case of white infants, there was an enormous difference among the states in the percentage of births to teens that occurred to unmarried mothers (Table 2.18B). This was not the case with infants born to black teen mothers, however (Table 2.19B). In thirty-eight of forty-one states with sufficient data on black teen births, more than 80 percent of births to black teens occurred to unmarried mothers in 1984 (Table 2.19B).

■ Births to unmarried white teens were less common in southern states than in other regions in 1984 (Table 2.18B). However, this means only that a white teen was more likely to be married at the time of her baby's birth. Many of these pregnancies were conceived prior to the mother's marriage. Research indicates that, regardless of the timing of the marriage, many of the problems associated with teen pregnancy and parenthood remain, including ignorance about contraception and prenatal care, and inadequate parenting skills, as well as an increased risk of poverty. Teen marriages also are more likely to result in divorce. More than one-third of all divorces in 1984 occurred among women who had married while still in their teens. The greatest rate of divorce that year occurred among women who were younger than twenty.[13]

■ While births to unmarried teens represent an extremely disturbing trend, births to unmarried teenage mothers in 1984 constituted a minority of all births to unmarried women that year. In 1984, teens accounted for only 35 percent of all births that occurred to unmarried mothers (Table 2.17C). This percentage was consistent across racial groups (Tables 2.18C, 2.19C, and 2.20C). These data suggest that the phenomenon of births to unmarried teens is part of a much larger childbearing pattern that persists well beyond adolescence.

# Progress Toward Meeting The Surgeon General's 1990 Infant Health Objectives

In 1978, the Surgeon General of the United States established a set of 1990 Health Objectives for the Nation in the area of infant health. CDF has calculated the nation's and states' rates of progress in meeting these goals. In determining these rates we have included the years of greater progress (generally, 1978 to 1981) as well as those of slower progress (1982 to 1984). As a result, the bleak picture described below may be overly optimistic. If the slower rates of progress that generally prevailed in 1982, 1983, and 1984 continue throughout all, or most of, the rest of the decade (and provisional 1985 infant mortality rates suggest that this may well be the case), even fewer states and fewer subgroups than are described below will meet the Surgeon General's goals.

For example, based on the infant mortality rate of progress for the nation as a whole from 1978 to 1984, we project that the nation will meet this goal. Even this is questionable, however, if one projects on the basis of 1982 to 1984 trends. The Public Health Service of the U. S. Department of Health and Human Services itself reported to Congress in 1985 that the 1990 annual infant mortality goal would not be met based on 1982-1984 trends.* In a more recent study, *The 1990 Health Objectives for the*

*On March 20, 1985, the Public Health Service reported to the U. S. House Energy and Commerce Committee: "Based on a regression of 1982-84 provisional IMRs [infant mortality rates], the average annual decline was 2.7 percent (compared to 4.2 percent for 1978-82 final data). By applying this 2.7 percent decline to the 1982 final rate, the 1990 projection is an IMR of 9.2. Although provisional rates by race are unavailable, the 2.7 percent decline was applied to the 1982 rates for white and black infants separately. This resulted in a 1990 projection of 8.1 for whites and 15.7 for blacks. Thus, if the latest provisional data alone are used to project the infant mortality rates for 1990, the projections are above those in the 1990 Prevention Objectives."[14]

*Nation: A Midcourse Review*, the U. S. Department of Health and Human Services concurred that at its current rate of progress, the United States will not meet the 1990 infant mortality goal.[15]

*Overall, it is clear that inadequate progress toward the Surgeon General's Objectives is being made. For some key measurements, a number of states actually are moving in the wrong direction.*

## Objective 1: Infant Mortality

***Surgeon General's Objective:*** By 1990, the national infant mortality rate (deaths of children younger than one year old) should be reduced to no more than nine deaths per 1,000 live births, with no county and no racial or ethnic subgroup having an infant mortality rate in excess of twelve deaths per 1,000 live births.

Twenty-two of the thirty-four jurisdictions with measurable numbers of black infant deaths in 1984 will not meet the infant mortality objective for black infants.

***Findings:*** Based on CDF's five-year trend calculations, we have concluded that the nation will meet the Surgeon General's overall 1990 infant mortality goal. However, CDF's calculations are more conservative than those performed by the Department of Health and Human Services and therefore have yielded a larger average annual rate of progress. The Department's recently published *Midcourse Review* of the Surgeon General's 1990 Health Objectives, discussed above, found that "based on progress to date, achievement of this objective (infant mortality) is questionable. Applying the 1983-85 rate of decline (9 percent) to the final 1983 figure yields a projected rate in 1990 of 9.2 per 1,000," which is above the 9.0 goal.[16]

- Both CDF and the Department have concluded that the goal will not be met for key racial and ethnic subgroups. First, the Surgeon General's Objective for infant mortality among racial and ethnic subgroups will not be met nationally for blacks.
- Second, while the Department did not chart states' progress toward the 1990 goals, CDF's state trend analysis shows that twenty-two of the thirty-four jurisdictions with measurable numbers of black infant deaths in 1984 will not meet the infant mortality objective for black infants. These are Alabama, Arizona, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Michigan, Minnesota, Mississippi, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. Two additional states, Washington and Wisconsin, actually are moving in the wrong direction.
- Third, seventeen of the thirty-one jurisdictions (thirty states and the District of Columbia) with measurable numbers of nonwhite infant deaths in 1984 will not meet the goal for nonwhite infants. These include: Alabama, Alaska, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Kentucky, Michigan, Mississippi, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. A nineteenth state, Wisconsin, actually is moving in the wrong direction.
- Thirteen jurisdictions (Alabama, Colorado, Connecticut, District of Columbia, Georgia, Indiana, Kentucky, Michigan, Mississippi, New Hampshire, South Carolina, Virginia, and Wyoming) will not meet the overall infant mortality goal. Finally many cities and substate regions will not meet the goal.

## Objective 2: Neonatal Mortality

***Surgeon General's Objective:*** By 1990, the neonatal mortality rate (deaths of infants younger than twenty-eight days of age) should be reduced to no more than six deaths per 1,000 live births.

***Findings:*** Both CDF's and the Department's analyses show the nation will meet this 1990 Objective.

- While states' progress generally has been adequate to assure that

TABLE 1.5

## Surgeon General's 1990 Goals Fact Sheet for the Nation

| Infant Mortality | 1984 Rate | Average rate change per year 1978-84 | Average rate change needed per year to reach the 1990 goal |
|---|---|---|---|
| Total | 10.8 | -0.50 | -0.30 |
| White | 9.4 | -0.43 | -0.07 |
| Nonwhite | 16.1 | -0.85 | -0.68 |
| Black | 18.4 | -0.78 | -1.07 |
| **Neonatal Mortality** | | | |
| Total | 7.0 | -0.42 | -0.08 |
| **Postneonatal Mortality** | | | |
| Total | 3.8 | -0.08 | -0.22 |
| **Low Birthweight** | | | |
| Total | 6.7 | -0.07 | -0.28 |
| White | 5.6 | -0.05 | -0.10 |
| Nonwhite | 11.1 | -0.13 | -0.35 |
| Black | 12.4 | -0.08 | -0.57 |
| **Prenatal Care** | | | |
| Total | 76.5 | 0.27 | 2.25 |
| White | 79.6 | 0.23 | 1.73 |
| Nonwhite | 64.1 | 0.45 | 4.32 |
| Black | 62.2 | 0.33 | 4.63 |

TABLE 1.6

## Progress Toward Meeting the Surgeon General's 1990 Objectives for the Nation

| | | | Nonwhite | |
|---|---|---|---|---|
| Infant Mortality | All Races | White | Black | Total |
| Change 1983-1984 | -0.40 | -0.30 | -0.80 | -0.70 |
| Projected Change Needed 1983-1984 | -0.31 | -0.10 | -1.03 | -0.69 |

| Low Birthweight | All Races | White | Nonwhite |
|---|---|---|---|
| Change 1983-1984 | -0.10 | -0.10 | -0.30 |
| Projected Rate Change Needed 1983-1984 | -0.26 | -0.10 | -0.34 |
| **Early Prenatal Care** | | | |
| Change 1983-1984 | +0.30 | +0.20 | +0.70 |
| Projected Rate Change Needed 1983-1984 | +1.97 | +1.51 | +3.80 |

this objective is attained, five jurisdictions, (the District of Columbia, Georgia, Michigan, South Carolina, and Virginia), show inadequate annual rates of progress to meet the goal.

### Objective 3: Postneonatal Mortality

***Surgeon General's Objective:*** By 1990, the postneonatal mortality rate (deaths of infants age twenty-eight days to one year) should be reduced to no more than 2.5 deaths per 1,000 live births.

***Findings:*** Both CDF and the Department project that the nation as a whole will not meet the Surgeon General's 1990 goal. In addition, forty-four jurisdictions with sufficent postneonatal deaths to compute progress will not meet the goal. These are Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, the District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington State, West Virginia, Wisconsin, and Wyoming.

- Some of these states actually are moving in the wrong direction. These are Alaska, Colorado, Connecticut, Idaho, Kentucky, Maryland, Missouri, Montana, Nevada, Pennsylvania, South Dakota, Utah, Washington State, and Wisconsin.

CDF and the Department of Health and Human Services project that the nation will not meet the Surgeon General's overall objective for low birthweight and will not meet the goal for black infants.

### Objective 4: Low-Birthweight Babies

***Surgeon General's Objective:*** By 1990, low-birthweight babies (those weighing 5.5 pounds or less at birth) should constitute no more than 5 percent of all live births, and in no county or racial or ethnic subgroup of the population should more than 9 percent of all live births be low birthweight.

***Findings:*** Both CDF and the Department project that the nation will not meet the Surgeon General's overall objective for low birthweight and will not meet the goal for black infants.

- CDF's analysis of state trends revealed that only ten states have met or will meet the objective for all races. These are Alaska, Idaho, Iowa, Minnesota, Nebraska, New Hampshire, North Dakota, South Dakota, Washington State, and Wisconsin. Six states (Arizona, Delaware, Hawaii, Maine, Oregon, and West Virginia), are moving in the wrong direction.
- Only seventeen states will meet the low birthweight goal for white infants..
- Only fifteen of the forty-two jurisdictions with sufficient numbers of black infant deaths to compute trends will reach the low birthweight goal. Ten states actually are moving in the wrong direction. These are Arizona, Illinois, Kansas, Louisiana, Michigan, North Carolina, Oregon, Pennsylvania, Virginia, and West Virginia.
- Only twenty of the forty-eight jurisdictions with statistically significant numbers of nonwhite low-birthweight births will meet the objective for nonwhite infants. These include: Alaska, Arizona, California, Hawaii, Idaho, Iowa, Massachusetts, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, Rhode Island, South Dakota, Utah, Washington State, and Wyoming. The other twenty-eight jurisdictions will not meet the goal.

## Progress Toward the Early Prenatal Care Goal, All Races, 1984



### Objective 5: Early Prenatal Care

***Surgeon General's Objective:*** By 1990, 90 percent of all pregnant women should obtain prenatal care within the first three months of pregnancy.

***Findings:*** Based on CDF's and the Department's analyses of recent trends, the nation will not meet the Surgeon General's goal.

- No state will reach the goal at its current rate of progress. Ten jurisdictions are moving in the wrong direction. These are Connecticut, District of Columbia, Maryland, Massachusetts, Pennsylvania, Rhode Island, South Carolina, Texas, Virginia, and Washington State.

## Health and Social Programs for Mothers and Children

*Major public health and social programs are inadequate to meet the national need created by persistent and widespread maternal and child poverty and loss of private health insurance.* Stagnation in the nation's rate of progress in improving infant health has occurred at a time of persistently high unemployment and poverty rates, as well as massive changes in the American employment structure. These changes have led to the loss of millions of jobs with decent fringe benefits (such as health insurance), and the rapid growth of low-paying jobs with no health insurance. Yet public health programs have not responded to these major trends.

Between 1978 and 1984, the number of uninsured Americans increased by more than one-third, from 26 million to 35 million (Figure 1.5). There are numerous causes of this phenomenon, and all have long-term implications. First, poverty increased substantially during this same time period (usually resulting from unemployment or under-employment), and poverty itself results in a significantly greater likelihood that a family will be uninsured.

Children's access to private coverage depends on their parents' economic and employment status. And as that economic and employment picture has eroded for young families, so has children's health insurance status.

Second, eligibility for private health insurance among American families with children is closely related to their employment status. As a result, the persistently high unemployment pattern that has prevailed in the United States in the 1980s, and that shows no signs of disappearing, means greater loss of insurance among families.

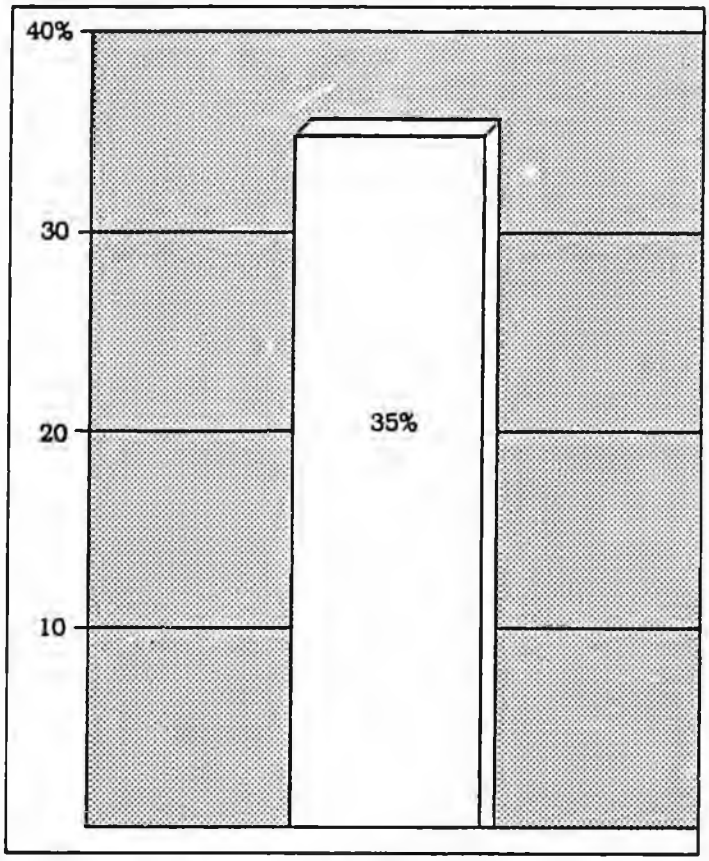
Third, major economic changes now occurring in the United States carry profound implications for Americans' access to employer-provided private health insurance. More than 75 percent of the Americans who have private insurance are covered through their employer. Over the past several years, there has been a notable shift in American employment patterns. The nation has begun to move away from higher paying manufacturing jobs that furnish decent fringe benefits, including private health insurance, and toward low-paying jobs (often in the service sector) that carry few or no benefits. When this shift is added to other trends—more poverty, rising unemployment, higher number of female-headed families in which the primary wage earner tends to have a lower paying service-sector job, and an increase in part-time employment—the elements of significant private disinsurance are all present. The employer-based private health insurance system—the bedrock of the American approach to health care financing for the non-elderly—simply has disappeared for millions of Americans.

As dependents, children's access to private coverage depends on their parents' economic and employment status. And as that economic and employment picture has eroded for young families, so has children's health insurance status. By 1984:

- One-third of all uninsured Americans younger than sixty-five were children younger than eighteen, even though children in that age group represented only 25 percent of all Americans younger than sixty-five.

FIGURE 1.5

## Growth in the Number of Americans Without Health Insurance Coverage, Percent Change, 1978-1984

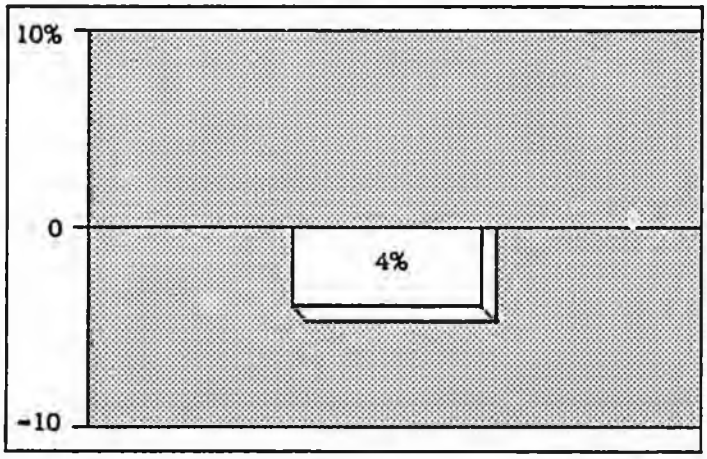



Between 1978 and 1984, the number of uninsured Americans increased by 35 percent.

*Source: Margaret Sulvetta and Katherine Swartz,* The Uninsured and Uncompensated Care, *Urban Institute, 1986.*

FIGURE 1.6

## Reduction in Child Medicaid Recipients,* Percent Change, 1978-1985




Between 1978 and 1985, the actual number of child Medicaid recipients dropped 4 percent, from 11,405,000 to 10,969,300.

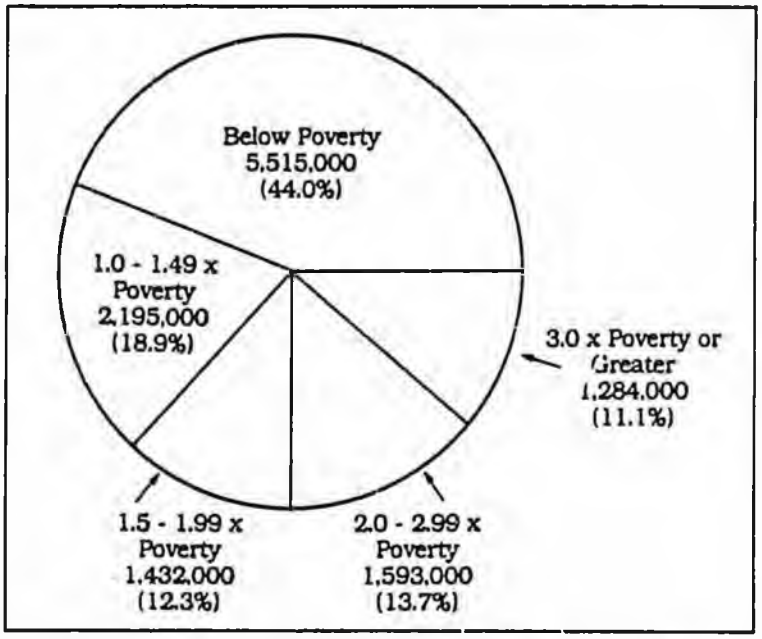
*This calculation excludes children whose Medicaid eligibility is based on their relationship to the Supplemental Security Income program.

*Source: U.S. Health Care Financing Administration, published and unpublished data.*

- One out of every three poor children and one out of every three women of childbearing age was uninsured.
- Three-quarters of uninsured children had a family income of less than 200 percent of the federal poverty level (Figure 1.7).
- The great majority of uninsured children were white, although black children were more likely to be uninsured (Figures 1.9 and 1.10).
- The lack of health insurance was greatest in the South, the region of the country with the highest infant mortality rates and the least generous public assistance programs. Nearly 55 percent of all uninsured Americans lived in the southern region of the nation.

FIGURE 1.7

## Distribution of Uninsured Children by Family Income Relative to the Poverty Level, 1984




*Source: Margaret Sulvetta and Katherine Swartz,* The Uninsured and Uncompensated Care, *Urban Institute, 1986.*

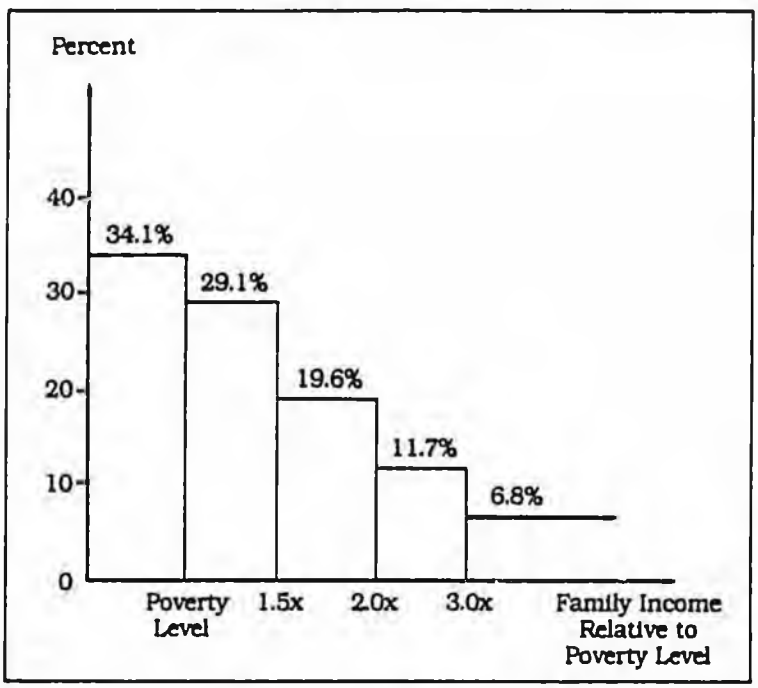
Some public health programs have been improved modestly during the past several years, but not sufficiently to meet enormous maternal and child health needs. In some cases, particularly Medicaid, improvements occurred in one part of a program while funding reductions occurred in other portions of the same program. Still other health programs simply were reduced in funding, either in absolute terms or compared to medical care inflation.

Beginning in 1984, Congress enacted a series of Medicaid reforms for pregnant women and children. First, it mandated that states provide coverage to all pregnant women and all children younger than five whose family incomes fall below state AFDC eligibility levels (Deficit Reduction Act of 1984, PL 98-369; Consolidated Omnibus Budget Reconciliation Act of 1986, PL 99-272). Then it gave states a new option of covering all pregnant women and children younger than five whose family incomes fall below the federal proverty level but exceed the states' very low AFDC eligibility levels (Sixth Omnibus Budget Reconciliation Act, PL 99-504). In addition, since 1982 between fifteen and twenty states on their own initiative have expanded the categories of pregnant women and children eligible for Medicaid. These reforms all have been of critical importance.

At the same time, however, there have been other serious and offsetting cuts in Medicaid eligibility. Many states have permitted their AFDC benefit levels to erode further. In 1986, thirty-two states maintained AFDC eligibility levels that were less than 50 percent of the federal poverty level (Table 2.21A). As a result, a shrinking percentage of poor pregnant women and children are eligible for benefits. Moreover, eligibility restrictions imposed on the AFDC program by Congress since 1981 have removed virtually all working poor families and many other families from the program. Because children's eligibility for Medicaid is tied closely to AFDC eligibility requirements, long-term erosion and cutbacks in AFDC

FIGURE 1.8

Percentage of Children in Each Family Income Group Who Are Uninsured, 1984




*Source: Margaret Sulvetta and Katherine Swartz,* The Uninsured and Uncompensated Care, *Urban Institute, 1986.*

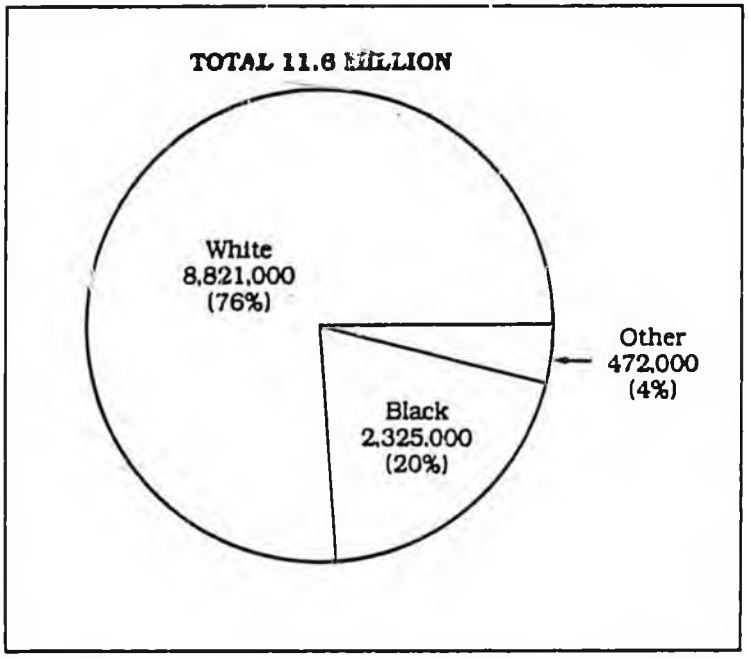
have undermined the Medicaid expansions enacted by Congress and the states during the past few years.

Beginning in April 1987, states will have the option to set Medicaid eligibility levels for children younger than five and pregnant women higher than their AFDC levels. But past experience with states' response to Medicaid maternal and child health options suggests that it will be many years before such an option is fully implemented in all states.

Federal and state reforms enacted since 1982 thus have had only the slightest impact on the number of children and pregnant women enrolled in Medicaid. In Fiscal Year 1985, after the Deficit Reduction Act took effect and after many states had expanded the categories of children eligible for Medicaid additionally, the number of children receiving Medicaid benefits totalled 10,969,293—only 148,645 more than in Fiscal Year 1984. This small expansion failed to offset earlier cutbacks and the effects of program erosion. The total number of children receiving Medicaid in Fiscal Year 1985 was lower than the number who had received benefits in 1978 (Figure 1.6).

FIGURE 1.9

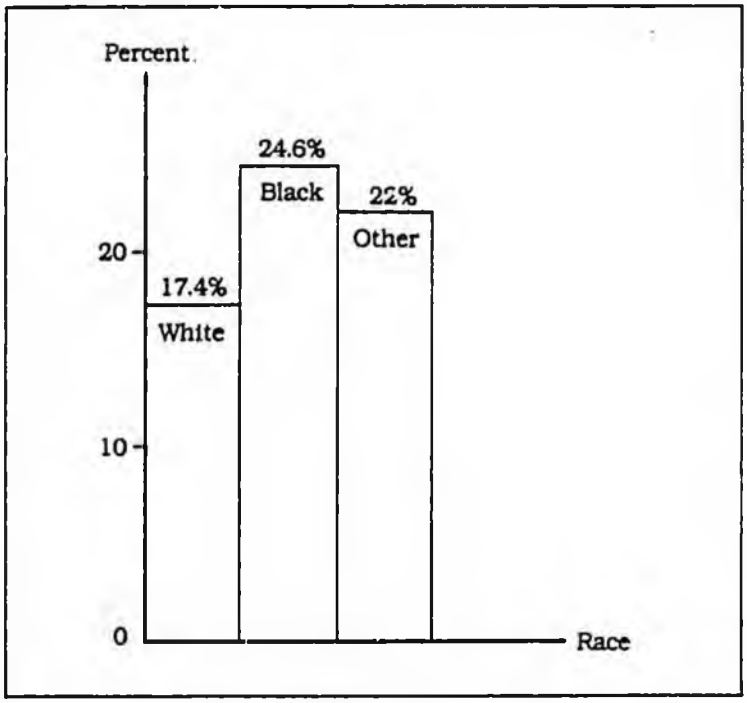
## Racial Distribution of Uninsured Children (Under 18 Years of Age), 1984




*Source: Margaret Sulvetta and Katherine Swartz,* The Uninsured and Uncompensated Care, *Urban Institute, 1986.*

FIGURE 1.10

## Percentage of Children in Each Racial Group Who Are Uninsured, 1984




*Source: Margaret Sulvetta and Katherine Swartz,* The Uninsured and Uncompensated Care, *Urban Institute, 1986.*

By 1986, states' lifeline public health programs reached only a fraction of those who needed aid:

***Medicaid:*** Thirty-two states maintained eligibility levels for families with no income other than AFDC that were less than 50 percent of the federal poverty levels (Table 2.21A).

***The Supplemental Food Program for Women, Infants, and Children (WIC):*** In no state are all women and children who are eligible for WIC actually served. Nationally WIC reached only 40 percent of eligible women and children in 1986. In eleven states (Nebraska, Arkansas, South Dakota, Washington State, California, Utah, Arizona, Idaho, Alaska, New Mexico, and Hawaii) fewer than one-third of all eligible women and children were served (Table 2.21D).

# The Cost of Infant Death and Disability

*By the end of this decade, at its current rate of progress, the nation will have spent at least $2.1 billion in first-year costs alone to care for the excess numbers of low-birthweight infants who need extensive medical care and whose tragic situations could have been averted had the nation moved more rapidly to reduce the incidence of low birthweight.*

On average, the nation's annual rate of progress between 1978 and 1984 in reducing low birthweight has been only 40 percent of what it needs to be if the 1990 goal is to be achieved. At the nation's average annual rate of progress, we will not meet the Surgeon General's 1990 low birthweight goal until the year 2044. Given our consistently slow rate of progress and the absence of any foreseeable, significant improvement in the rate of progress during the rest of the decade, it is evident that the nation will continue to experience an excessive number of low-birthweight births. We estimate that in light of the nation's slow rate of progress in reducing low birthweight, between 1978 and 1990 the nation will experience an excess of 300,701 low-birthweight births (including 57,133 very low-birthweight births) that could have been avoided had progress been sufficient to achieve the goal (Table 1.7).

TABLE 1.7

## Low Birthweight Trends and Projections

| Year | *Actual Percent Of Low-Birthweight Births* | *Actual Number Of Low-Birthweight Births* | *Projected Percent Of Low-Birthweight Births* | *Projected Number Of Low-Birthweight Births* | *Excess Number Of Low-Birthweight Births* |
|---|---|---|---|---|---|
| 1978 | 7.11% | 236,342 | 7.108% | 236,342 | (0) |
| 1979 | 6.94% | 241,826 | 6.933% | 241,727 | 99 |
| 1980 | 6.84% | 246,292 | 6.758% | 243,332 | 2,960 |
| 1981 | 6.81% | 246,749 | 6.583% | 238,452 | 8,297 |
| 1982 | 6.75% | 248,104 | 6.408% | 235,482 | 12,622 |
| 1983 | 6.82% | 247,668 | 6.233% | 226,489 | 21,179 |
| 1984 | 6.72% | 246,105 | 6.058% | 221,978 | 24,127 |
| 1985 | 6.65% | 249,183 | 5.883% | 220,561 | 28,622 |
| 1986 | 6.58% | 246,804 | 5.708% | 214,213 | 32,591 |
| 1987 | 6.51% | 244,419 | 5.533% | 207,851 | 36,567 |
| 1988 | 6.44% | 242,027 | 5.358% | 201,476 | 40,552 |
| 1989 | 6.37% | 239,629 | 5.183% | 195,086 | 44,543 |
| 1990 | 6.30% | 237,223 | 5.008% | 188,681 | 48,542 |
| TOTAL | | 3,172,371 | | 2,871,670 | 300,701 |

These excess low-birthweight births represent lost lives. Infants born at low birthweight are twenty times more likely than normal weight infants to die in the first year of life. Moreover, many of these infants become permanently disabled children who need a lifetime of medical care and supportive services. Low-birthweight infants are substantially more likely to be impaired for life by autism, retardation, cerebral palsy, epilepsy, learning disabilities, and vision and hearing disabilities.

The excess number of low-birthweight births also represents an enormous financial drain on the nation. Because low-birthweight infants need far greater levels of hospitalization, rehospitalization, and intensive medical care, we calculate that the *first year costs alone* that are involved in caring for the 300,701 excess low-birthweight babies born between 1978 and 1990 will amount to $2,103,830,500 by 1990. This expenditure does not take into account the long-term costs of specialized medical, educational, and social services that these infants may need, nor does it estimate the value of these children's lost productivity to the nation.

For the same money that we will spend over this time period to care for excessive numbers of low-birthweight infants, we could have:

- Provided 60,109,443 WIC monthly supplemental food packages;
- Provided comprehensive prenatal care to 3,187,000 women;
- Provided comprehensive maternity care (including delivery costs) to 701,277 women; or
- Provided comprehensive basic pediatric care to 4,207,661 additional infants and children.

By spending $2.1 billion on maternity care, WIC, or primary pediatric health care, we would have reduced infant low birthweight, disability, and mortality more rapidly and therefore could have achieved substantial long-term savings.

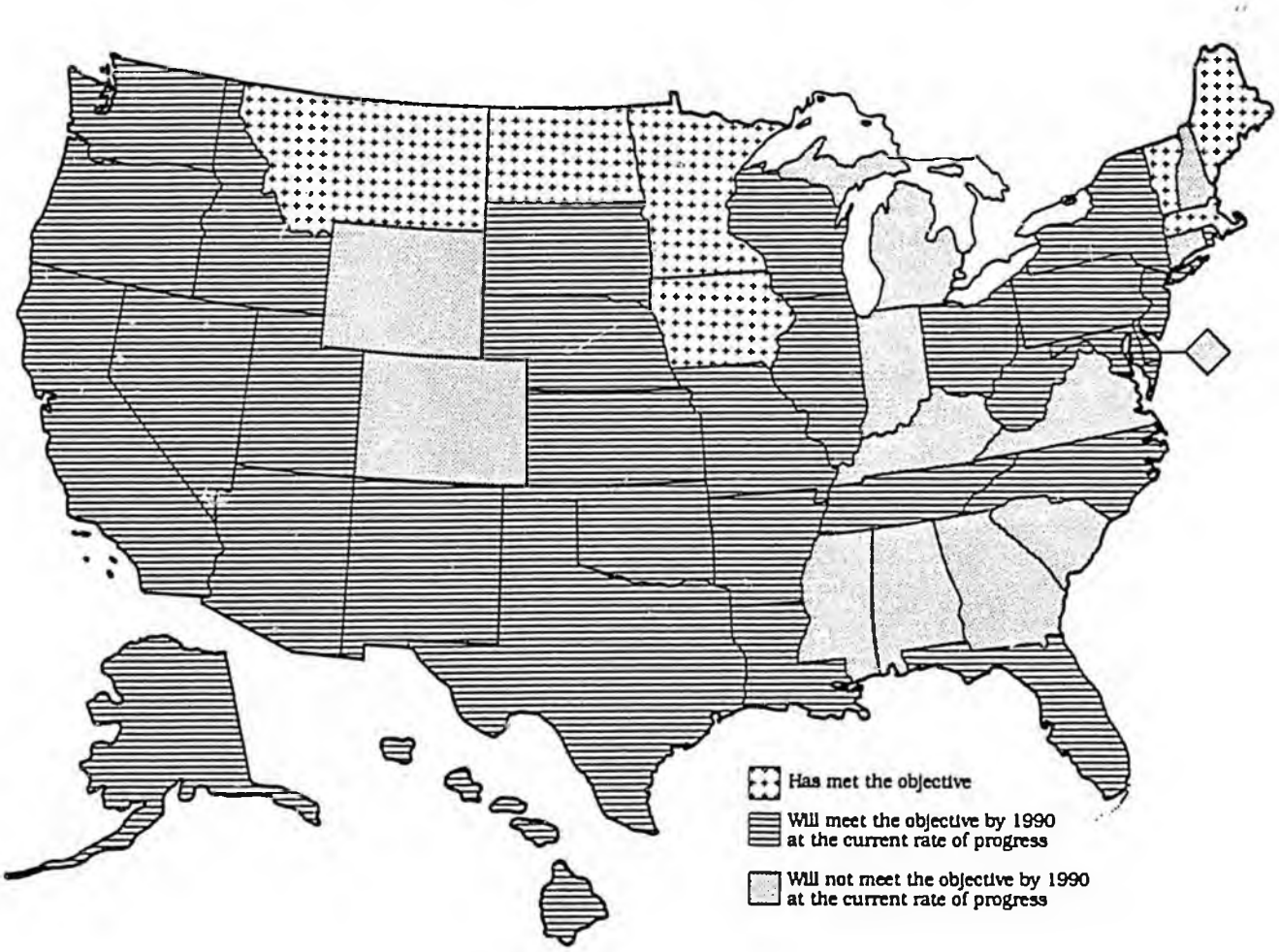
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6. *Ibid.*
7. Miller, *op. cit.*
8. Public Health Service, *The 1990 Health Objectives for the Nation: A Midcourse Review,* U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, 1986.
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16. *Ibid.*

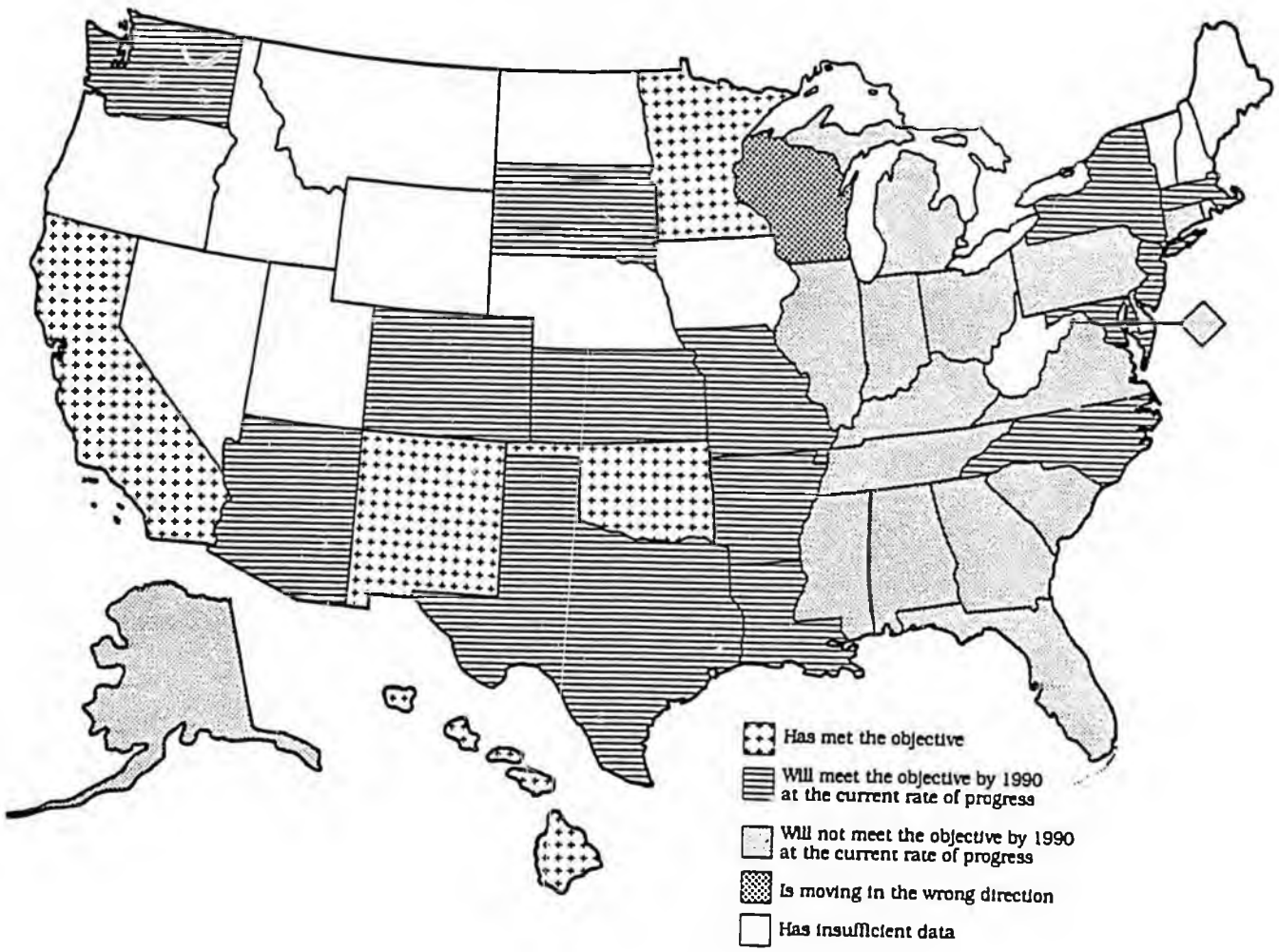
*PART 2*

# State and City Data

## Progress Toward the Infant Mortality Goal, All Races, 1984



## Progress Toward the Infant Mortality Goal, Nonwhite, 1984



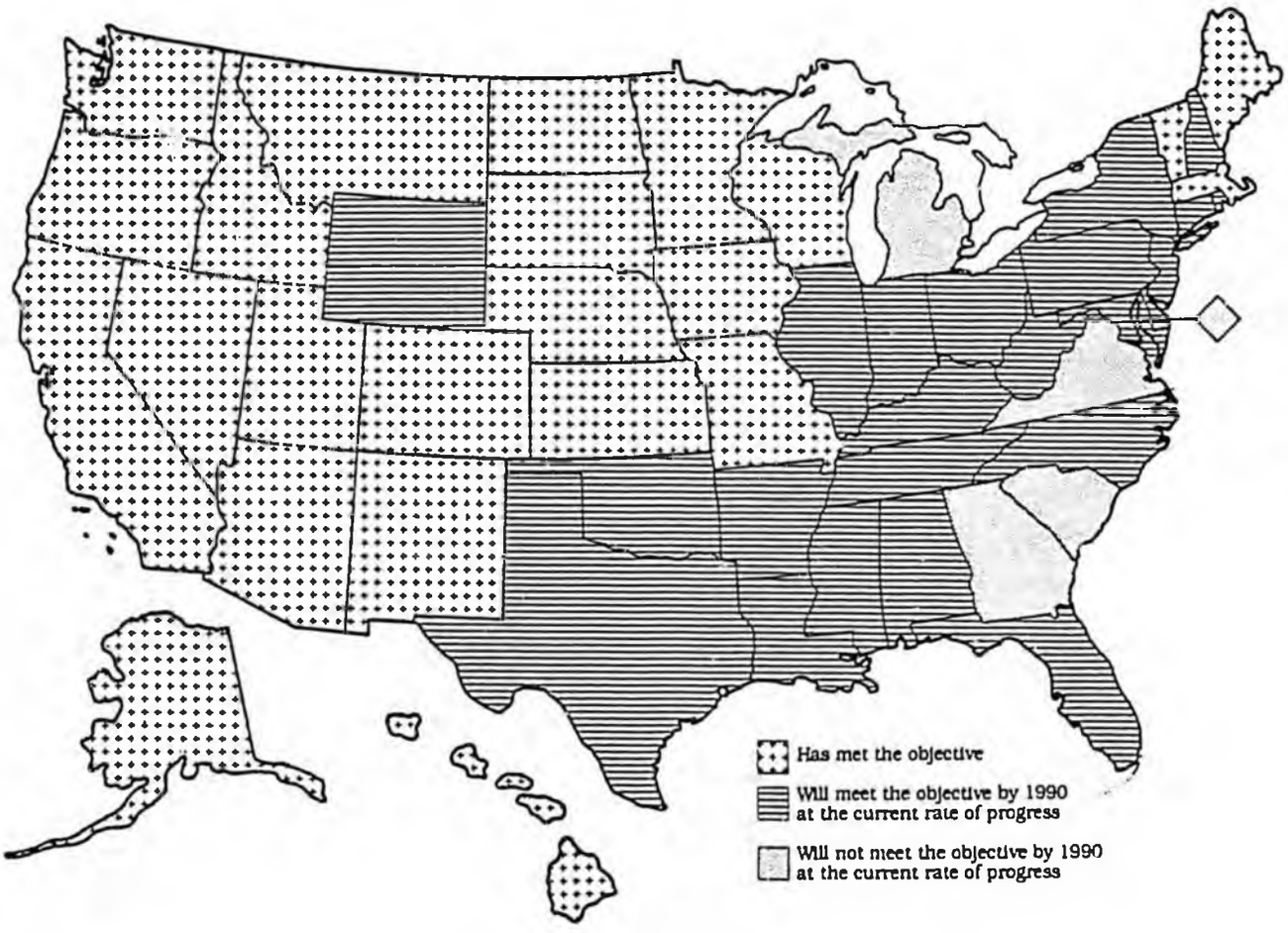
# Progress Toward The Objectives:
## Infant Mortality

Will the state meet the Surgeon General's 1990 Objectives for infant mortality for all races and nonwhites at the current rate of progress?

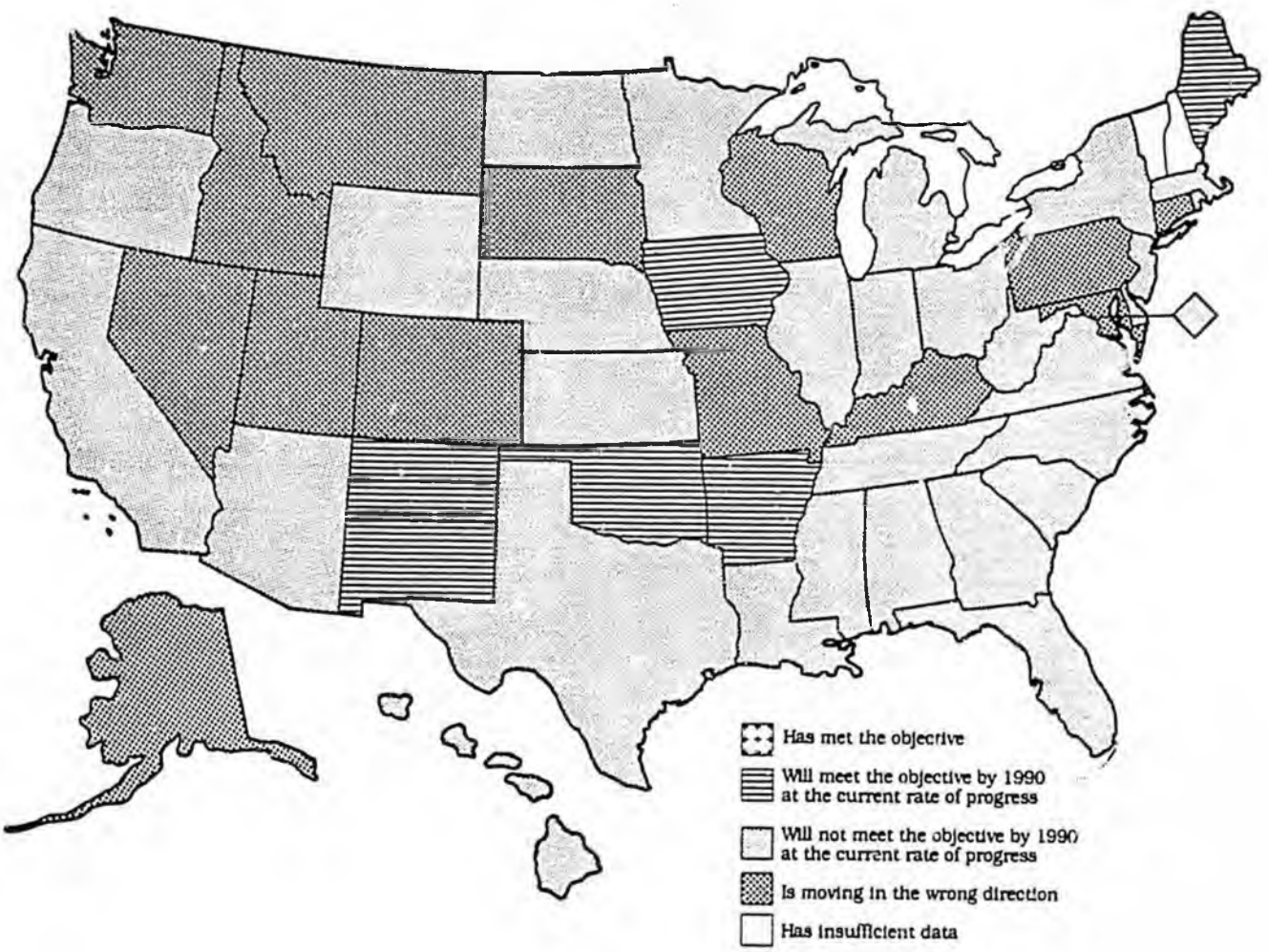
| | *All Races* | | *Nonwhite* | |
|---|---|---|---|---|
| | *Yes* | *No* | *Yes* | *No* |
| Alabama | | N | | N |
| Alaska | Y | | N | |
| Arizona | Y | | | Y |
| Arkansas | Y | | Y | |
| California | Y | | Y | |
| Colorado | | N | Y | |
| Connecticut | | N | | N |
| Delaware | Y | | | N |
| District of Columbia | | N | | N |
| Florida | Y | | | N |
| Georgia | | N | | N |
| Hawaii | Y | | Y | |
| Idaho | Y | | • | • |
| Illinois | Y | | | N |
| Indiana | | N | | N |
| Iowa | Y | | • | • |
| Kansas | | N | Y | |
| Kentucky | | N | | N |
| Louisiana | Y | | Y | |
| Maine | Y | | • | • |
| Maryland | Y | | Y | |
| Massachusetts | Y | | Y | |
| Michigan | | N | | N |
| Minnesota | Y | | Y | |
| Mississippi | | N | | N |
| Missouri | Y | | Y | |
| Montana | Y | | • | • |
| Nebraska | Y | | • | • |
| Nevada | Y | | • | • |
| New Hampshire | | N | • | • |
| New Jersey | Y | | Y | |
| New Mexico | Y | | Y | |
| New York | Y | | Y | |
| North Carolina | Y | | Y | |
| North Dakota | Y | | • | • |
| Ohio | Y | | | N |
| Oklahoma | Y | | Y | |
| Oregon | Y | | • | • |
| Pennsylvania | Y | | | N |
| Rhode Island | Y | | • | • |
| South Carolina | | N | | N |
| South Dakota | Y | | | N |
| Tennessee | Y | | | N |
| Texas | Y | | Y | |
| Utah | Y | | • | • |
| Vermont | Y | | • | • |
| Virginia | | N | | N |
| Washington | Y | | Y | |
| West Virginia | Y | | • | • |
| Wisconsin | Y | | | N |
| Wyoming | | N | • | • |
| United States | Y | | Y | |

**Insufficient data.*

## Progress Toward the Neonatal Mortality Goal, All Races, 1984



Progress Toward the Postneonatal Mortality Goal, All Races, 1984



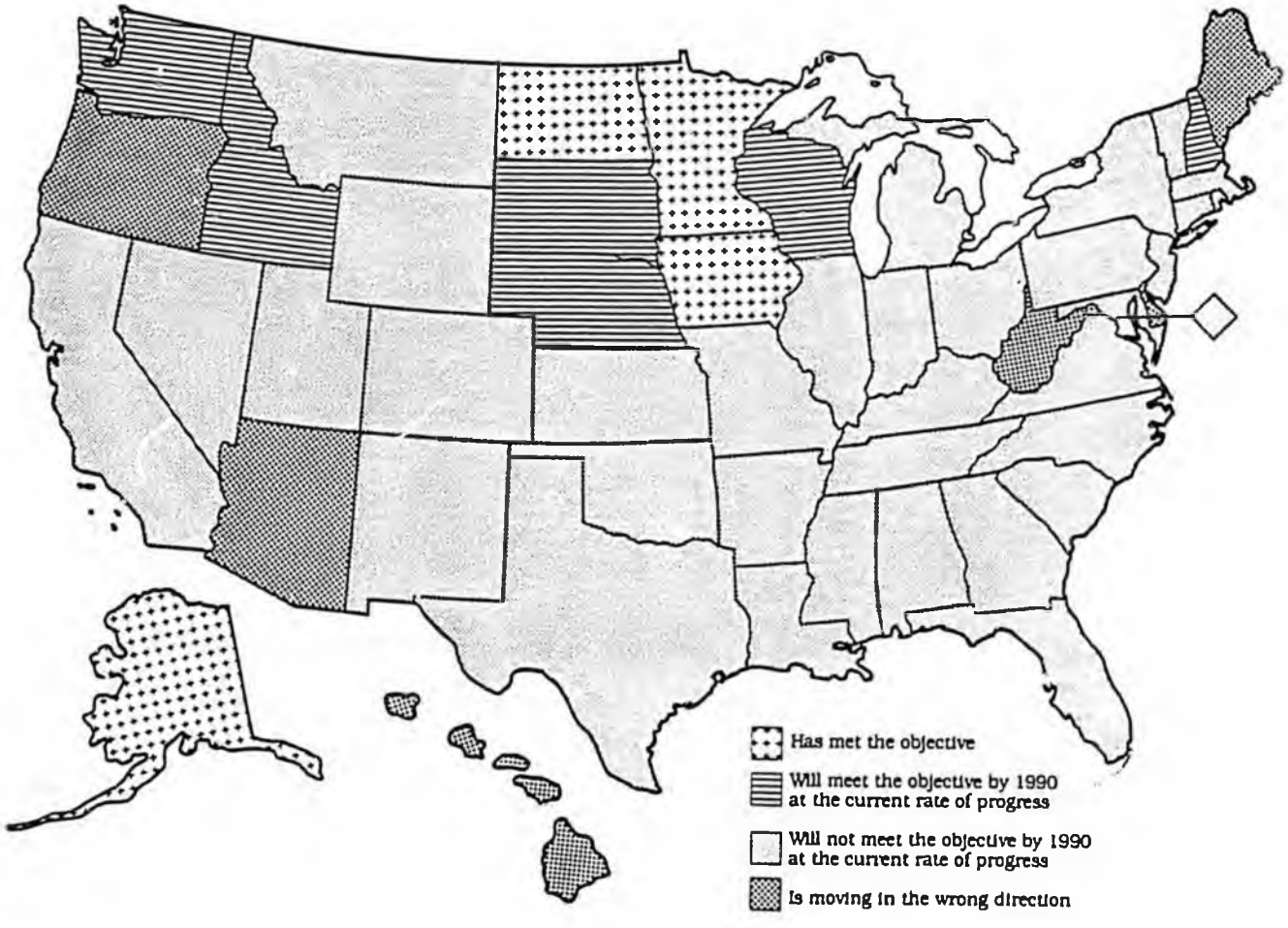
## Progress Toward The Objectives:
### Neonatal and Postneonatal Mortality

Will the state meet the Surgeon General's 1990 Objectives for neonatal and postneonatal mortality at the current rate of progress?

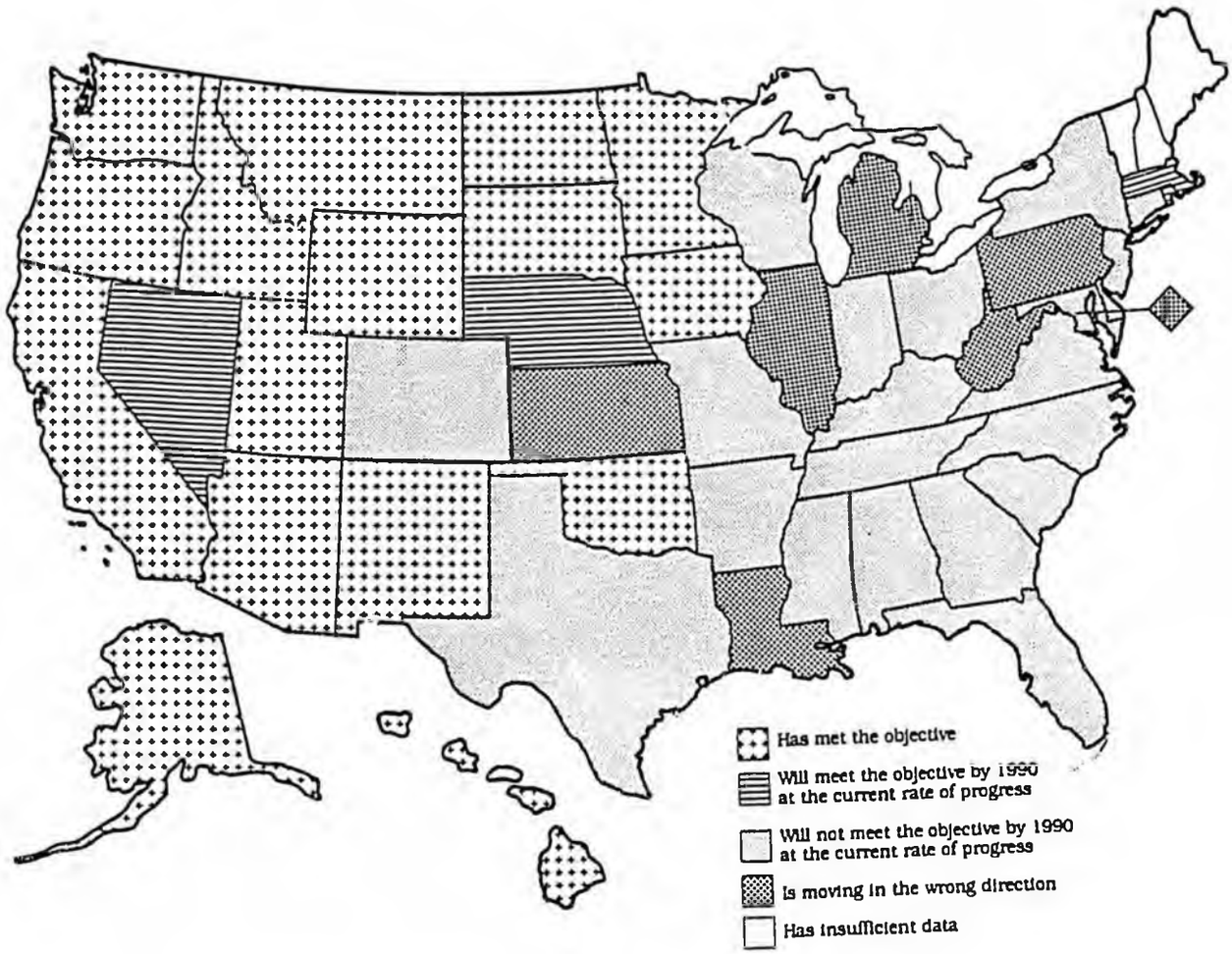
| | *Neonatal Mortality* | | *Postneonatal Mortality* | |
|---|---|---|---|---|
| | *Yes* | *No* | *Yes* | *No* |
| Alabama | Y | | | N |
| Alaska | Y | | | N |
| Arizona | Y | | | N |
| Arkansas | Y | | Y | |
| California | Y | | | N |
| Colorado | Y | | | N |
| Connecticut | Y | | | N |
| Delaware | Y | | | N |
| District of Columbia | | N | | N |
| Florida | Y | | | N |
| Georgia | | N | | N |
| Hawaii | Y | | | N |
| Idaho | Y | | | N |
| Illinois | Y | | | N |
| Indiana | Y | | | N |
| Iowa | Y | | Y | |
| Kansas | Y | | | N |
| Kentucky | Y | | | N |
| Louisiana | Y | | | N |
| Maine | Y | | Y | |
| Maryland | Y | | | N |
| Massachusetts | Y | | | N |
| Michigan | | N | | N |
| Minnesota | Y | | | N |
| Mississippi | Y | | | N |
| Missouri | Y | | | N |
| Montana | Y | | | N |
| Nebraska | Y | | | N |
| Nevada | Y | | | N |
| New Hampshire | Y | | • | • |
| New Jersey | Y | | | N |
| New Mexico | Y | | Y | |
| New York | Y | | | N |
| North Carolina | Y | | | N |
| North Dakota | Y | | | N |
| Ohio | Y | | | N |
| Oklahoma | Y | | Y | |
| Oregon | Y | | | N |
| Pennsylvania | Y | | | N |
| Rhode Island | Y | | | N |
| South Carolina | | N | | N |
| South Dakota | Y | | | N |
| Tennessee | Y | | | N |
| Texas | Y | | | N |
| Utah | Y | | | N |
| Vermont | Y | | • | • |
| Virginia | | N | | N |
| Washington | Y | | | N |
| West Virginia | Y | | | N |
| Wisconsin | Y | | | N |
| Wyoming | Y | | | N |
| United States | Y | | | N |

**Insufficient data.*

## Progress Toward the Low Birthweight Goal, All Races, 1984



## Progress Toward the Low Birthweight Goal, Nonwhite, 1984



# Progress Toward The Objectives:
## Low Birthweight

Will the state meet the Surgeon General's 1990 Objectives for low birthweight for all races and nonwhites at the current rate of progress?

| | *All Races* | | *Nonwhite* | |
|---|---|---|---|---|
| | *Yes* | *No* | *Yes* | *No* |
| Alabama | | N | | N |
| Alaska | Y | | Y | |
| Arizona | | N | Y | |
| Arkansas | | N | | N |
| California | | N | Y | |
| Colorado | | N | | N |
| Connecticut | | N | | N |
| Delaware | | N | | N |
| District of Columbia | | N | | N |
| Florida | | N | | N |
| Georgia | | N | | N |
| Hawaii | | N | Y | |
| Idaho | Y | | Y | |
| Illinois | | N | | N |
| Indiana | | N | | N |
| Iowa | Y | | Y | |
| Kansas | | N | | N |
| Kentucky | | N | | N |
| Louisiana | | N | | N |
| Maine | | N | • | • |
| Maryland | | N | | N |
| Massachusetts | | N | Y | |
| Michigan | | N | | N |
| Minnesota | Y | | Y | |
| Mississippi | | N | | N |
| Missouri | | N | | N |
| Montana | | N | Y | |
| Nebraska | Y | | Y | |
| Nevada | | N | Y | |
| New Hampshire | | N | • | • |
| New Jersey | | N | | N |
| New Mexico | | N | Y | |
| New York | | N | | N |
| North Carolina | | N | | N |
| North Dakota | Y | | Y | |
| Ohio | | N | | N |
| Oklahoma | | N | Y | |
| Oregon | | N | Y | |
| Pennsylvania | | N | | N |
| Rhode Island | | N | Y | |
| South Carolina | | N | | N |
| South Dakota | Y | | Y | |
| Tennessee | | N | | N |
| Texas | | N | | N |
| Utah | | N | Y | |
| Vermont | | N | • | • |
| Virginia | | N | | N |
| Washington | Y | | Y | |
| West Virginia | | N | | N |
| Wisconsin | Y | | | N |
| Wyoming | | N | Y | |
| United States | | N | | N |

**Insufficient data.*

## Progress Toward the Early Prenatal Care Goal, All Races, 1984



# Progress Toward The Objectives:
## Early Prenatal Care

Will the state meet the Surgeon General's 1990 Objectives for early prenatal care for all races and nonwhites at the current rate of progress?

| | *All Races* | | *Nonwhite* | |
|---|---|---|---|---|
| | *Yes* | *No* | *Yes* | *No* |
| Alabama | | N | | N |
| Alaska | | N | | N |
| Arizona | | N | | N |
| Arkansas | | N | | N |
| California | | N | | N |
| Colorado | | N | | N |
| Connecticut | | N | | N |
| Delaware | | N | | N |
| District of Columbia | | N | | N |
| Florida | | N | | N |
| Georgia | | N | | N |
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| Maryland | | N | | N |
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| Montana | | N | | N |
| Nebraska | | N | | N |
| Nevada | | N | | N |
| New Hampshire | | N | | N |
| New Jersey | | N | | N |
| New Mexico | • | • | • | • |
| New York | | N | | N |
| North Carolina | | N | | N |
| North Dakota | | N | | N |
| Ohio | | N | | N |
| Oklahoma | | N | | N |
| Oregon | | N | | N |
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| South Dakota | | N | | N |
| Tennessee | | N | | N |
| Texas | | N | | N |
| Utah | | N | | N |
| Vermont | | N | | N |
| Virginia | | N | | N |
| Washington | | N | | N |
| West Virginia | | N | | N |
| Wisconsin | | N | | N |
| Wyoming | | N | | N |
| United States | | N | | N |

**Insufficient data.*

# State and City Ranking Tables

Infant mortality consists of neonatal and postneonatal mortality. In southern states, where infant mortality rates are among the highest in the country, infant mortality in 1984 was most heavily affected by high neonatal mortality rates. Western states ranked among the highest for postneonatal mortality.

TABLE 2.1A

## Infant Mortality Rate, Total, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 8.1 |
| 2 | Maine | 8.4 |
| 3 | Vermont | 8.7 |
| 4 | Iowa | 8.8 |
| 5 | Montana | 8.8 |
| 6 | Minnesota | 8.9 |
| 7 | Massachusetts | 9.0 |
| 8 | Utah | 9.1 |
| 9 | California | 9.4 |
| 10 | Arizona | 9.5 |
| 11 | New Mexico | 9.6 |
| 12 | Nebraska | 9.6 |
| 13 | Idaho | 9.8 |
| 14 | Oregon | 9.9 |
| 15 | Rhode Island | 9.9 |
| 16 | Hawaii | 9.9 |
| 17 | Wisconsin | 9.9 |
| 18 | South Dakota | 10.0 |
| 19 | Kansas | 10.1 |
| 20 | Colorado | 10.2 |
| 21 | New Hampshire | 10.2 |
| 22 | Washington | 10.2 |
| 23 | Connecticut | 10.4 |
| 24 | Missouri | 10.4 |
| 25 | Pennsylvania | 10.4 |
| 26 | Ohio | 10.4 |
| 27 | Texas | 10.5 |
| 28 | Nevada | 10.5 |
| 29 | Delaware | 10.8 |
| 30 | Florida | 10.8 |
| 31 | Arkansas | 10.9 |
| 32 | New Jersey | 10.9 |
| 33 | Oklahoma | 11.0 |
| 34 | West Virginia | 11.0 |
| 35 | New York | 11.0 |
| 36 | Wyoming | 11.1 |
| 37 | Indiana | 11.1 |
| 38 | Alaska | 11.2 |
| 39 | Kentucky | 11.5 |
| 40 | Michigan | 11.7 |
| 41 | Maryland | 11.8 |
| 42 | Tennessee | 11.8 |
| 43 | Louisiana | 12.1 |
| 44 | Illinois | 12.1 |
| 45 | Virginia | 12.1 |
| 46 | North Carolina | 12.4 |
| 47 | Georgia | 12.9 |
| 48 | Alabama | 12.9 |
| 49 | Mississippi | 14.4 |
| 50 | South Carolina | 14.7 |
| 51 | District of Columbia | 21.0 |
| | United States | 10.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.1B

## Neonatal Mortality Rate, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Montana | 4.5 |
| 2 | North Dakota | 4.5 |
| 3 | Oregon | 4.8 |
| 4 | Idaho | 5.0 |
| 5 | Maine | 5.1 |
| 6 | Washington | 5.4 |
| 7 | South Dakota | 5.5 |
| 8 | Vermont | 5.5 |
| 9 | Minnesota | 5.5 |
| 10 | Utah | 5.6 |
| 11 | Arizona | 5.7 |
| 12 | Alaska | 5.7 |
| 13 | Colorado | 5.8 |
| 14 | Iowa | 5.9 |
| 15 | California | 6.0 |
| 16 | New Mexico | 6.0 |
| 17 | Nevada | 6.0 |
| 18 | Massachusetts | 6.1 |
| 19 | Nebraska | 6.2 |
| 20 | Wisconsin | 6.3 |
| 21 | Missouri | 6.4 |
| 22 | Kansas | 6.5 |
| 23 | Hawaii | 6.5 |
| 24 | Texas | 6.6 |
| 25 | Ohio | 6.8 |
| 26 | Arkansas | 6.9 |
| 27 | Florida | 6.9 |
| 28 | Rhode Island | 7.0 |
| 29 | Oklahoma | 7.0 |
| 30 | Wyoming | 7.1 |
| 31 | New Hampshire | 7.1 |
| 32 | West Virginia | 7.1 |
| 33 | Indiana | 7.1 |
| 34 | Pennsylvania | 7.2 |
| 35 | Kentucky | 7.4 |
| 36 | Connecticut | 7.5 |
| 37 | New York | 7.5 |
| 38 | New Jersey | 7.5 |
| 39 | Delaware | 7.6 |
| 40 | Tennessee | 8.0 |
| 41 | Louisiana | 8.0 |
| 42 | Illinois | 8.1 |
| 43 | Michigan | 8.1 |
| 44 | North Carolina | 8.1 |
| 45 | Maryland | 8.1 |
| 46 | Virginia | 8.7 |
| 47 | Georgia | 8.7 |
| 48 | Alabama | 8.7 |
| 49 | Mississippi | 9.0 |
| 50 | South Carolina | 9.8 |
| 51 | District of Columbia | 16.0 |
| | United States | 7.0 |

TABLE 2.1C

## Postneonatal Mortality Rate, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 2.9 |
| 2 | Connecticut | 2.9 |
| 3 | Rhode Island | 2.9 |
| 4 | Iowa | 2.9 |
| 5 | New Hampshire | 3.1 |
| 6 | Pennsylvania | 3.2 |
| 7 | Delaware | 3.2 |
| 8 | Maine | 3.3 |
| 9 | Hawaii | 3.4 |
| 10 | Minnesota | 3.4 |
| 11 | New Jersey | 3.4 |
| 12 | California | 3.5 |
| 13 | Nebraska | 3.5 |
| 14 | Virginia | 3.5 |
| 15 | New York | 3.5 |
| 16 | Utah | 3.6 |
| 17 | Kansas | 3.6 |
| 18 | New Mexico | 3.6 |
| 19 | North Dakota | 3.6 |
| 20 | Wisconsin | 3.6 |
| 21 | Michigan | 3.7 |
| 22 | Ohio | 3.7 |
| 23 | Maryland | 3.7 |
| 24 | Oklahoma | 3.9 |
| 25 | West Virginia | 3.9 |
| 26 | Arizona | 3.9 |
| 27 | Tennessee | 3.9 |
| 28 | Texas | 3.9 |
| 29 | Florida | 3.9 |
| 30 | Illinois | 4.0 |
| 31 | Indiana | 4.0 |
| 32 | Missouri | 4.0 |
| 33 | Wyoming | 4.0 |
| 34 | Louisiana | 4.0 |
| 35 | Arkansas | 4.0 |
| 36 | Kentucky | 4.2 |
| 37 | Alabama | 4.2 |
| 38 | Georgia | 4.2 |
| 39 | North Carolina | 4.3 |
| 40 | Colorado | 4.3 |
| 41 | Montana | 4.4 |
| 42 | South Dakota | 4.5 |
| 43 | Nevada | 4.5 |
| 44 | Idaho | 4.7 |
| 45 | Washington | 4.8 |
| 46 | South Carolina | 4.9 |
| 47 | District of Columbia | 5.0 |
| 48 | Oregon | 5.1 |
| 49 | Mississippi | 5.4 |
| 50 | Alaska | 5.5 |
| | United States | 3.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Among whites, sixteen states have met the Surgeon General's 1990 goal for infant mortality. In 1984 most of the remaining states were within a percentage point of reaching the goal for whites.

Postneonatal infant mortality rates in 1984 were high among whites in western states. Some states, such as Alaska, Colorado, and South Dakota, rank among the best states on neonatal mortality but among the worst states on postneonatal mortality for whites.

TABLE 2.2A

## Infant Mortality Rate, White, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 7.7 |
| 2 | Hawaii | 7.7 |
| 3 | Delaware | 8.4 |
| 4 | Maine | 8.4 |
| 5 | Florida | 8.5 |
| 6 | Massachusetts | 8.6 |
| 7 | Iowa | 8.8 |
| 8 | Vermont | 8.8 |
| 9 | Arizona | 8.8 |
| 10 | Pennsylvania | 8.8 |
| 11 | South Dakota | 8.8 |
| 12 | Louisiana | 8.9 |
| 13 | Montana | 8.9 |
| 14 | Minnesota | 8.9 |
| 15 | Missouri | 9.0 |
| 16 | Utah | 9.0 |
| 17 | California | 9.1 |
| 18 | Wisconsin | 9.2 |
| 19 | Arkansas | 9.2 |
| 20 | Connecticut | 9.2 |
| 21 | Nebraska | 9.2 |
| 22 | Ohio | 9.3 |
| 23 | New Jersey | 9.3 |
| 24 | Alaska | 9.3 |
| 25 | Kansas | 9.4 |
| 26 | Michigan | 9.4 |
| 27 | New Mexico | 9.4 |
| 28 | Rhode Island | 9.4 |
| 29 | Illinois | 9.5 |
| 30 | Alabama | 9.7 |
| 31 | Texas | 9.7 |
| 32 | New York | 9.8 |
| 33 | Maryland | 9.8 |
| 34 | Tennessee | 9.8 |
| 35 | Idaho | 9.8 |
| 36 | Washington | 9.9 |
| 37 | Virginia | 9.9 |
| 38 | Colorado | 9.9 |
| 39 | North Carolina | 9.9 |
| 40 | Georgia | 10.0 |
| 41 | Oregon | 10.0 |
| 42 | Mississippi | 10.0 |
| 43 | Indiana | 10.2 |
| 44 | New Hampshire | 10.2 |
| 45 | Nevada | 10.5 |
| 46 | West Virginia | 10.8 |
| 47 | Kentucky | 10.9 |
| 48 | South Carolina | 11.0 |
| 49 | Oklahoma | 11.1 |
| 50 | Wyoming | 11.2 |
| | United States | 9.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.2B

## Neonatal Mortality Rate, White, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | North Dakota | 4.5 |
| 2 | Montana | 4.6 |
| 3 | Alaska | 4.7 |
| 4 | Oregon | 4.9 |
| 5 | Maine | 5.0 |
| 6 | Idaho | 5.0 |
| 7 | South Dakota | 5.0 |
| 8 | Washington | 5.3 |
| 9 | Utah | 5.4 |
| 10 | Missouri | 5.5 |
| 11 | Vermont | 5.5 |
| 12 | Minnesota | 5.5 |
| 13 | Colorado | 5.6 |
| 14 | Arizona | 5.6 |
| 15 | Florida | 5.7 |
| 16 | Arkansas | 5.7 |
| 17 | Wisconsin | 5.8 |
| 18 | California | 5.8 |
| 19 | Iowa | 5.9 |
| 20 | Nebraska | 5.9 |
| 21 | Massachusetts | 5.9 |
| 22 | Louisiana | 5.9 |
| 23 | Kansas | 6.0 |
| 24 | Ohio | 6.1 |
| 25 | Delaware | 6.1 |
| 26 | Pennsylvania | 6.1 |
| 27 | Nevada | 6.1 |
| 28 | Texas | 6.2 |
| 29 | New Mexico | 6.2 |
| 30 | Michigan | 6.4 |
| 31 | Tennessee | 6.4 |
| 32 | Indiana | 6.6 |
| 33 | Connecticut | 6.6 |
| 34 | Illinois | 6.6 |
| 35 | Georgia | 6.6 |
| 36 | Rhode Island | 6.7 |
| 37 | North Carolina | 6.7 |
| 38 | Maryland | 6.7 |
| 39 | New Jersey | 6.8 |
| 40 | Kentucky | 6.9 |
| 41 | New York | 6.9 |
| 42 | Alabama | 6.9 |
| 43 | West Virginia | 7.0 |
| 44 | Mississippi | 7.0 |
| 45 | Wyoming | 7.0 |
| 46 | New Hampshire | 7.1 |
| 47 | Virginia | 7.2 |
| 48 | Oklahoma | 7.2 |
| 49 | South Carolina | 7.8 |
| | United States | 6.2 |

TABLE 2.2C

## Postneonatal Mortality Rate, White, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | New Jersey | 2.5 |
| 2 | Connecticut | 2.7 |
| 3 | Massachusetts | 2.7 |
| 4 | Pennsylvania | 2.7 |
| 5 | Rhode Island | 2.7 |
| 6 | Alabama | 2.7 |
| 7 | Virginia | 2.8 |
| 8 | Florida | 2.8 |
| 9 | New York | 2.8 |
| 10 | Illinois | 2.9 |
| 11 | Iowa | 2.9 |
| 12 | Louisiana | 3.0 |
| 13 | Mississippi | 3.0 |
| 14 | Michigan | 3.0 |
| 15 | Maryland | 3.1 |
| 16 | New Hampshire | 3.1 |
| 17 | North Dakota | 3.2 |
| 18 | New Mexico | 3.2 |
| 19 | Arizona | 3.2 |
| 20 | Ohio | 3.2 |
| 21 | North Carolina | 3.2 |
| 22 | South Carolina | 3.3 |
| 23 | California | 3.3 |
| 24 | Georgia | 3.3 |
| 25 | Kansas | 3.3 |
| 26 | Nebraska | 3.4 |
| 27 | Wisconsin | 3.4 |
| 28 | Minnesota | 3.4 |
| 29 | Maine | 3.4 |
| 30 | Tennessee | 3.4 |
| 31 | Arkansas | 3.5 |
| 32 | Missouri | 3.5 |
| 33 | Texas | 3.6 |
| 34 | Utah | 3.6 |
| 35 | Indiana | 3.6 |
| 36 | South Dakota | 3.8 |
| 37 | West Virginia | 3.8 |
| 38 | Oklahoma | 3.9 |
| 39 | Kentucky | 4.0 |
| 40 | Wyoming | 4.2 |
| 41 | Colorado | 4.3 |
| 42 | Montana | 4.3 |
| 43 | Nevada | 4.4 |
| 44 | Alaska | 4.6 |
| 45 | Washington | 4.6 |
| 46 | Idaho | 4.8 |
| 47 | Oregon | 5.0 |
| | United States | 3.3 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Infant mortality is a particularly serious problem among black Americans. The lowest reported state infant mortality rate in 1984 among blacks (14.2) was greater than the highest state rate among whites (11.2).

The highest rates of infant mortality tend to be concentrated in the South. Yet the highest black neonatal mortality rates were found in states outside of the South.

Black postneonatal mortality rates were generally twice as high as white postneonatal rates.

TABLE 2.3A

## Infant Mortality Rate, Black, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Massachusetts | 14.2 |
| 2 | Oklahoma | 14.8 |
| 3 | California | 15.6 |
| 4 | Texas | 15.8 |
| 5 | New York | 16.2 |
| 6 | Arkansas | 16.7 |
| 7 | Arizona | 16.9 |
| 8 | Colorado | 17.0 |
| 9 | Maryland | 17.0 |
| 10 | Louisiana | 17.4 |
| 11 | Ohio | 17.7 |
| 12 | Missouri | 18.3 |
| 13 | Florida | 18.4 |
| 14 | New Jersey | 18.4 |
| 15 | Kentucky | 18.4 |
| 16 | Kansas | 18.5 |
| 17 | Georgia | 18.5 |
| 18 | Wisconsin | 18.7 |
| 19 | North Carolina | 18.8 |
| 20 | Tennessee | 18.9 |
| 21 | Indiana | 19.1 |
| 22 | Alabama | 19.2 |
| 23 | Connecticut | 19.3 |
| 24 | Delaware | 19.4 |
| 25 | Mississippi | 19.5 |
| 26 | Virginia | 19.6 |
| 27 | South Carolina | 20.7 |
| 28 | Washington | 21.3 |
| 29 | Pennsylvania | 21.3 |
| 30 | Illinois | 22.0 |
| 31 | Michigan | 23.5 |
| 32 | District of Columbia | 24.3 |
| | United States | 18.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.3B

## Neonatal Mortality Rate, Black, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Massachusetts | 8.8 |
| 2 | Oklahoma | 9.2 |
| 3 | California | 9.7 |
| 4 | Texas | 9.7 |
| 5 | New York | 10.0 |
| 6 | Arkansas | 10.8 |
| 7 | Florida | 10.9 |
| 8 | New Jersey | 11.0 |
| 9 | Ohio | 11.1 |
| 10 | Mississippi | 11.4 |
| 11 | Missouri | 11.5 |
| 12 | Louisiana | 11.6 |
| 13 | North Carolina | 11.8 |
| 14 | Kansas | 11.8 |
| 15 | Maryland | 11.8 |
| 16 | Wisconsin | 12.2 |
| 17 | Alabama | 12.2 |
| 18 | Indiana | 12.3 |
| 19 | Kentucky | 12.5 |
| 20 | Washington | 12.6 |
| 21 | Georgia | 12.7 |
| 22 | South Carolina | 13.1 |
| 23 | Tennessee | 13.5 |
| 24 | Virginia | 13.6 |
| 25 | Illinois | 13.8 |
| 26 | Connecticut | 14.2 |
| 27 | Pennsylvania | 14.6 |
| 28 | Michigan | 16.9 |
| 29 | District of Columbia | 18.7 |
| | United States | 11.8 |

TABLE 2.3C

## Postneonatal Mortality Rate, Black, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Maryland | 5.2 |
| 2 | Tennessee | 5.4 |
| 3 | Massachusetts | 5.4 |
| 4 | District of Columbia | 5.5 |
| 5 | Oklahoma | 5.6 |
| 6 | Louisiana | 5.8 |
| 7 | Georgia | 5.9 |
| 8 | California | 5.9 |
| 9 | Arkansas | 6.0 |
| 10 | Virginia | 6.0 |
| 11 | Texas | 6.1 |
| 12 | New York | 6.2 |
| 13 | Wisconsin | 6.5 |
| 14 | Ohio | 6.6 |
| 15 | Pennsylvania | 6.6 |
| 16 | Michigan | 6.6 |
| 17 | Missouri | 6.8 |
| 18 | Indiana | 6.8 |
| 19 | Alabama | 7.0 |
| 20 | North Carolina | 7.0 |
| 21 | New Jersey | 7.4 |
| 22 | Florida | 7.5 |
| 23 | South Carolina | 7.6 |
| 24 | Mississippi | 8.0 |
| 25 | Illinois | 8.2 |
| | United States | 6.5 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Nonwhite infant mortality rates (including infants who were Asian, black, Native American, and other races) are not always consistent with black infant mortality rates. For example, in Washington State the 1984 black infant mortality rate was 21.3, while the nonwhite rate was 12.4.

Only one-third of states had nonwhite neonatal mortality rates better than the national average.

Postneonatal mortality is not always a problem among all populations within a given state. New Jersey had the best postneonatal mortality rates among whites in 1984, but its rates were among the worst for nonwhites and blacks.

TABLE 2.4A

## Infant Mortality Rate, Nonwhite, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Minnesota | 8.7 |
| 2 | Oklahoma | 10.2 |
| 3 | California | 10.6 |
| 4 | New Mexico | 10.6 |
| 5 | Hawaii | 10.6 |
| 6 | Massachusetts | 12.3 |
| 7 | Washington | 12.4 |
| 8 | Colorado | 12.5 |
| 9 | Arizona | 13.2 |
| 10 | Texas | 14.4 |
| 11 | New York | 14.8 |
| 12 | Kansas | 15.8 |
| 13 | Maryland | 15.9 |
| 14 | Arkansas | 16.0 |
| 15 | South Dakota | 16.1 |
| 16 | Alaska | 16.1 |
| 17 | New Jersey | 16.7 |
| 18 | Wisconsin | 16.7 |
| 19 | Louisiana | 16.9 |
| 20 | Ohio | 16.9 |
| 21 | Connecticut | 17.2 |
| 22 | Missouri | 17.3 |
| 23 | Kentucky | 17.3 |
| 24 | Florida | 17.7 |
| 25 | Indiana | 17.8 |
| 26 | North Carolina | 17.9 |
| 27 | Georgia | 18.2 |
| 28 | Virginia | 18.3 |
| 29 | Tennessee | 18.5 |
| 30 | Delaware | 18.6 |
| 31 | Alabama | 18.9 |
| 32 | Mississippi | 13.2 |
| 33 | Pennsylvania | 20.0 |
| 34 | South Carolina | 20.2 |
| 35 | Illinois | 20.5 |
| 36 | Michigan | 22.0 |
| 37 | District of Columbia | 24.1 |
| | United States | 16.1 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.4B

## Neonatal Mortality Rate, Nonwhite, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Arizona | 5.8 |
| 2 | Washington | 6.4 |
| 3 | Oklahoma | 6.5 |
| 4 | California | 6.5 |
| 5 | Hawaii | 7.0 |
| 6 | Massachusetts | 7.6 |
| 7 | Colorado | 8.1 |
| 8 | Texas | 8.7 |
| 9 | New York | 9.1 |
| 10 | New Jersey | 10.2 |
| 11 | Kansas | 10.3 |
| 12 | Arkansas | 10.3 |
| 13 | Florida | 10.5 |
| 14 | Ohio | 10.7 |
| 15 | Wisconsin | 10.8 |
| 16 | Missouri | 11.0 |
| 17 | Maryland | 11.0 |
| 18 | North Carolina | 11.2 |
| 19 | Louisiana | 11.2 |
| 20 | Mississippi | 11.2 |
| 21 | Indiana | 11.3 |
| 22 | Kentucky | 11.8 |
| 23 | Alabama | 12.1 |
| 24 | Georgia | 12.5 |
| 25 | Connecticut | 12.7 |
| 26 | Virginia | 12.8 |
| 27 | South Carolina | 12.8 |
| 28 | Illinois | 12.8 |
| 29 | Tennessee | 13.1 |
| 30 | Pennsylvania | 13.7 |
| 31 | Michigan | 15.6 |
| 32 | District of Columbia | 18.5 |
| | United States | 10.2 |

TABLE 2.4C

## Postneonatal Mortality Rate, Nonwhite, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Hawaii | 3.6 |
| 2 | California | 4.0 |
| 3 | Oklahoma | 4.1 |
| 4 | Massachusetts | 4.7 |
| 5 | Maryland | 4.9 |
| 6 | Tennessee | 5.3 |
| 7 | Virginia | 5.5 |
| 8 | District of Columbia | 5.6 |
| 9 | Louisiana | 5.6 |
| 10 | Texas | 5.7 |
| 11 | New York | 5.7 |
| 12 | Arkansas | 5.7 |
| 13 | Georgia | 5.7 |
| 14 | Wisconsin | 5.9 |
| 15 | Washington | 6.0 |
| 16 | Ohio | 6.3 |
| 17 | Pennsylvania | 6.3 |
| 18 | Missouri | 6.3 |
| 19 | Michigan | 6.4 |
| 20 | Indiana | 6.5 |
| 21 | New Jersey | 6.5 |
| 22 | North Carolina | 6.7 |
| 23 | Alabama | 6.8 |
| 24 | Florida | 7.2 |
| 25 | Arizona | 7.4 |
| 26 | South Carolina | 7.4 |
| 27 | Illinois | 7.7 |
| 28 | Mississippi | 8.0 |
| | United States | 5.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Low birthweight is the single largest cause of neonatal death. Ten of fourteen states with the highest incidence of low birthweight also had the highest neonatal mortality rates in 1984.

As might be expected, the states in which higher proportions of pregnant women fail to receive early prenatal care are the same states in which greater proportions of pregnant women receive no prenatal care or none until the last three months of pregnancy. For example, in New Mexico, two in every five infants born in 1984 were born to women who had no prenatal care in the first three months of pregnancy. One in eight New Mexico infants was born to a mother who had received late or no care.

TABLE 2.5A

## Percent of Births that Were Low Birthweight, Total, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 4.8 |
| 2 | Alaska | 4.8 |
| 3 | Iowa | 4.9 |
| 4 | Minnesota | 4.9 |
| 5 | New Hampshire | 5.0 |
| 6 | South Dakota | 5.1 |
| 7 | Washington | 5.1 |
| 8 | Idaho | 5.1 |
| 9 | Wisconsin | 5.1 |
| 10 | Oregon | 5.2 |
| 11 | Nebraska | 5.4 |
| 12 | Maine | 5.5 |
| 13 | Utah | 5.6 |
| 14 | Montana | 5.8 |
| 15 | California | 5.9 |
| 16 | Massachusetts | 5.9 |
| 17 | Rhode Island | 6.0 |
| 18 | Kansas | 6.1 |
| 19 | Vermont | 6.1 |
| 20 | Arizona | 6.1 |
| 21 | Indiana | 6.3 |
| 22 | Oklahoma | 6.3 |
| 23 | Ohio | 6.4 |
| 24 | Connecticut | 6.6 |
| 25 | Pennsylvania | 6.6 |
| 26 | Missouri | 6.7 |
| 27 | Nevada | 6.7 |
| 28 | Texas | 6.8 |
| 29 | West Virginia | 6.9 |
| 30 | Kentucky | 6.9 |
| 31 | Michigan | 7.0 |
| 32 | New Jersey | 7.0 |
| 33 | New York | 7.0 |
| 34 | Wyoming | 7.1 |
| 35 | Illinois | 7.1 |
| 36 | Virginia | 7.2 |
| 37 | Hawaii | 7.2 |
| 38 | Delaware | 7.4 |
| 39 | Florida | 7.4 |
| 40 | Maryland | 7.4 |
| 41 | Arkansas | 7.5 |
| 42 | New Mexico | 7.6 |
| 43 | Colorado | 7.6 |
| 44 | North Carolina | 7.8 |
| 45 | Alabama | 7.9 |
| 46 | Tennessee | 7.9 |
| 47 | Georgia | 8.3 |
| 48 | Louisiana | 8.5 |
| 49 | Mississippi | 8.7 |
| 50 | South Carolina | 8.8 |
| 51 | District of Columbia | 12.5 |
| | United States | 6.7 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births by Timing of Mother's Entry into Prenatal Care, Total, 1984

TABLE 2.5B
## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Connecticut | 85.6 |
| 2 | Massachusetts | 85.6 |
| 3 | Rhode Island | 85.5 |
| 4 | Iowa | 85.3 |
| 5 | New Hampshire | 84.6 |
| 6 | Wisconsin | 84.1 |
| 7 | Maine | 82.8 |
| 8 | Vermont | 82.3 |
| 9 | North Dakota | 82.0 |
| 10 | New Jersey | 82.0 |
| 11 | Utah | 82.0 |
| 12 | Ohio | 81.7 |
| 13 | Kansas | 81.5 |
| 14 | Michigan | 81.4 |
| 15 | Wyoming | 80.6 |
| 16 | Virginia | 80.3 |
| 17 | Nebraska | 79.9 |
| 18 | Missouri | 79.9 |
| 19 | Minnesota | 79.9 |
| 20 | Maryland | 79.3 |
| 21 | Montana | 79.0 |
| 22 | Pennsylvania | 78.9 |
| 23 | North Carolina | 78.2 |
| 24 | Washington | 78.1 |
| 25 | Indiana | 78.0 |
| 26 | Delaware | 78.0 |
| 27 | Illinois | 77.9 |
| 28 | Louisiana | 77.6 |
| 29 | Colorado | 77.2 |
| 30 | Oregon | 77.1 |
| 31 | California | 76.9 |
| 32 | Idaho | 76.5 |
| 33 | Georgia | 75.8 |
| 34 | Hawaii | 75.8 |
| 35 | Nevada | 75.8 |
| 36 | Tennessee | 75.7 |
| 37 | Alaska | 75.7 |
| 38 | Kentucky | 75.6 |
| 39 | Mississippi | 74.8 |
| 40 | Alabama | 73.6 |
| 41 | South Dakota | 72.7 |
| 42 | New York | 72.2 |
| 43 | Arizona | 71.7 |
| 44 | West Virginia | 71.2 |
| 45 | Oklahoma | 69.4 |
| 46 | Arkansas | 68.9 |
| 47 | Texas | 68.1 |
| 48 | Florida | 67.7 |
| 49 | South Carolina | 67.6 |
| 50 | New Mexico | 61.2 |
| 51 | District of Columbia | 60.3 |
| | United States | 76.5 |

TABLE 2.5C
## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Iowa | 2.2 |
| 2 | Rhode Island | 2.2 |
| 3 | New Hampshire | 2.3 |
| 4 | Massachusetts | 2.3 |
| 5 | Maine | 2.4 |
| 6 | Wisconsin | 2.6 |
| 7 | Connecticut | 2.6 |
| 8 | Vermont | 2.7 |
| 9 | North Dakota | 2.7 |
| 10 | Michigan | 3.0 |
| 11 | Utah | 3.1 |
| 12 | Nebraska | 3.5 |
| 13 | Minnesota | 3.6 |
| 14 | Ohio | 3.6 |
| 15 | Kansas | 3.7 |
| 16 | Delaware | 3.7 |
| 17 | Virginia | 3.8 |
| 18 | North Carolina | 3.9 |
| 19 | Maryland | 4.0 |
| 20 | Missouri | 4.0 |
| 21 | New Jersey | 4.0 |
| 22 | Wyoming | 4.1 |
| 23 | Montana | 4.2 |
| 24 | Mississippi | 4.4 |
| 25 | Illinois | 4.4 |
| 26 | Pennsylvania | 4.4 |
| 27 | Indiana | 4.4 |
| 28 | Hawaii | 4.7 |
| 29 | Louisiana | 4.8 |
| 30 | Alaska | 4.8 |
| 31 | Idaho | 4.8 |
| 32 | Washington | 5.0 |
| 33 | Georgia | 5.1 |
| 34 | California | 5.1 |
| 35 | Oregon | 5.2 |
| 36 | Tennessee | 5.3 |
| 37 | Kentucky | 5.3 |
| 38 | Colorado | 5.4 |
| 39 | Alabama | 5.9 |
| 40 | Nevada | 6.0 |
| 41 | West Virginia | 6.3 |
| 42 | South Dakota | 6.6 |
| 43 | South Carolina | 7.7 |
| 44 | Arkansas | 7.9 |
| 45 | Arizona | 8.2 |
| 46 | Oklahoma | 8.5 |
| 47 | Florida | 8.9 |
| 48 | New York | 9.2 |
| 49 | District of Columbia | 10.0 |
| 50 | Texas | 10.6 |
| 51 | New Mexico | 13.2 |
| | United States | 5.6 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Low birthweight is a problem for many white infants. Low-birthweight rates among white infants that exceed the national average are not confined to any one region of the country.

Among the nine states in which the greatest percentage of white pregnant women received late or no prenatal care in 1984, seven had increases in the proportion of women receiving late or no prenatal care between 1983 and 1984.

TABLE 2.6A

## Percent of Births that Were Low Birthweight, White, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Alaska | 4.3 |
| 2 | North Dakota | 4.5 |
| 3 | Wisconsin | 4.6 |
| 4 | Washington | 4.7 |
| 5 | Minnesota | 4.7 |
| 6 | Iowa | 4.7 |
| 7 | South Dakota | 4.8 |
| 8 | New Hampshire | 5.0 |
| 9 | Oregon | 5.0 |
| 10 | Idaho | 5.0 |
| 11 | Nebraska | 5.0 |
| 12 | California | 5.1 |
| 13 | District of Columbia | 5.1 |
| 14 | Illinois | 5.3 |
| 15 | Utah | 5.4 |
| 16 | Maryland | 5.4 |
| 17 | Maine | 5.4 |
| 18 | Ohio | 5.5 |
| 19 | Massachusetts | 5.5 |
| 20 | Kansas | 5.5 |
| 21 | Michigan | 5.5 |
| 22 | Pennsylvania | 5.5 |
| 23 | Missouri | 5.6 |
| 24 | Rhode Island | 5.6 |
| 25 | Connecticut | 5.6 |
| 26 | Indiana | 5.7 |
| 27 | New Jersey | 5.7 |
| 28 | Virginia | 5.7 |
| 29 | Montana | 5.7 |
| 30 | Louisiana | 5.7 |
| 31 | Alabama | 5.7 |
| 32 | New York | 5.7 |
| 33 | Oklahoma | 5.8 |
| 34 | Arizona | 5.9 |
| 35 | Georgia | 5.9 |
| 36 | Texas | 6.0 |
| 37 | Florida | 6.0 |
| 38 | Arkansas | 6.0 |
| 39 | Mississippi | 6.0 |
| 40 | Nevada | 6.1 |
| 41 | Hawaii | 6.1 |
| 42 | Delaware | 6.1 |
| 43 | North Carolina | 6.1 |
| 44 | Vermont | 6.2 |
| 45 | South Carolina | 6.2 |
| 46 | Kentucky | 6.4 |
| 47 | Tennessee | 6.4 |
| 48 | West Virginia | 6.6 |
| 49 | Wyoming | 7.1 |
| 50 | Colorado | 7.3 |
| 51 | New Mexico | 7.8 |
| | United States | 5.6 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births by Timing of Mother's Entry into Prenatal Care, White, 1984

TABLE 2.6B
## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Connecticut | 88.5 |
| 2 | Rhode Island | 87.4 |
| 3 | Massachusetts | 86.6 |
| 4 | Wisconsin | 86.1 |
| 5 | Iowa | 86.0 |
| 6 | Louisiana | 85.8 |
| 7 | New Jersey | 85.5 |
| 8 | Maryland | 85.4 |
| 9 | Mississippi | 85.3 |
| 10 | New Hampshire | 84.7 |
| 11 | Virginia | 84.4 |
| 12 | Ohio | 84.1 |
| 13 | North Carolina | 84.0 |
| 14 | North Dakota | 83.5 |
| 15 | Michigan | 83.3 |
| 16 | Kansas | 83.1 |
| 17 | Utah | 82.9 |
| 18 | Maine | 82.9 |
| 19 | Georgia | 82.6 |
| 20 | Vermont | 82.4 |
| 21 | Missouri | 82.3 |
| 22 | Delaware | 81.9 |
| 23 | Pennsylvania | 81.9 |
| 24 | Montana | 81.7 |
| 25 | Nebraska | 81.6 |
| 26 | Illinois | 81.6 |
| 27 | Alabama | 81.5 |
| 28 | Minnesota | 81.5 |
| 29 | Wyoming | 81.0 |
| 30 | Indiana | 79.9 |
| 31 | Washington | 79.5 |
| 32 | Tennessee | 79.5 |
| 33 | Alaska | 78.8 |
| 34 | Hawaii | 78.5 |
| 35 | New York | 78.2 |
| 36 | Colorado | 77.9 |
| 37 | Nevada | 77.9 |
| 38 | Oregon | 77.8 |
| 39 | California | 77.5 |
| 40 | Kentucky | 77.2 |
| 41 | Idaho | 76.8 |
| 42 | South Carolina | 76.7 |
| 43 | South Dakota | 76.7 |
| 44 | District of Columbia | 75.7 |
| 45 | Arizona | 74.1 |
| 46 | Arkansas | 73.8 |
| 47 | Oklahoma | 73.6 |
| 48 | Florida | 73.3 |
| 49 | West Virginia | 71.9 |
| 50 | Texas | 69.6 |
| 51 | New Mexico | 63.5 |
| | United States | 79.6 |

TABLE 2.6C
## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Rhode Island | 1.8 |
| 2 | Iowa | 2.0 |
| 3 | Connecticut | 2.0 |
| 4 | North Dakota | 2.1 |
| 5 | Massachusetts | 2.1 |
| 6 | Wisconsin | 2.2 |
| 7 | New Hampshire | 2.3 |
| 8 | Maine | 2.4 |
| 9 | Mississippi | 2.4 |
| 10 | Michigan | 2.4 |
| 11 | North Carolina | 2.5 |
| 12 | Maryland | 2.5 |
| 13 | Vermont | 2.6 |
| 14 | Utah | 2.7 |
| 15 | Delaware | 2.8 |
| 16 | Ohio | 2.8 |
| 17 | Louisiana | 2.8 |
| 18 | Minnesota | 2.9 |
| 19 | Virginia | 2.9 |
| 20 | Nebraska | 3.0 |
| 21 | Montana | 3.1 |
| 22 | New Jersey | 3.1 |
| 23 | Kansas | 3.1 |
| 24 | Missouri | 3.4 |
| 25 | Pennsylvania | 3.5 |
| 26 | Illinois | 3.5 |
| 27 | Hawaii | 3.6 |
| 28 | Alaska | 3.6 |
| 29 | Georgia | 3.8 |
| 30 | Indiana | 3.9 |
| 31 | Alabama | 3.9 |
| 32 | Wyoming | 4.0 |
| 33 | South Dakota | 4.0 |
| 34 | Tennessee | 4.2 |
| 35 | Washington | 4.5 |
| 36 | South Carolina | 4.6 |
| 37 | Idaho | 4.7 |
| 38 | Kentucky | 4.9 |
| 39 | Oregon | 4.9 |
| 40 | District of Columbia | 5.0 |
| 41 | California | 5.0 |
| 42 | Colorado | 5.1 |
| 43 | Nevada | 5.4 |
| 44 | West Virginia | 6.1 |
| 45 | Arkansas | 6.4 |
| 46 | New York | 6.6 |
| 47 | Oklahoma | 6.9 |
| 48 | Florida | 7.2 |
| 49 | Arizona | 7.2 |
| 50 | Texas | 10.3 |
| 51 | New Mexico | 12.1 |
| | United States | 4.7 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

In 1984, there was wide variation among states in the percentage of black infants born at low birthweight. A black infant born in Michigan or the District of Columbia was twice as likely as a black infant born in Alaska to have a low birthweight.

In those states that accounted for 99 percent of all black births in 1984, fewer than 75 percent of all infants were born to mothers receiving early prenatal care.

In states that accounted for two-thirds of all black births in 1984, 10 percent or more of black infants were born to mothers who received no care before the seventh month of pregnancy or none at all.

TABLE 2.7A

## Percent of Births that Were Low Birthweight, Black, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Alaska | 7.1 |
| 2 | Hawaii | 9.0 |
| 3 | New Mexico | 9.8 |
| 4 | Nevada | 10.2 |
| 5 | Washington | 10.5 |
| 6 | Iowa | 10.6 |
| 7 | Minnesota | 10.6 |
| 8 | Oregon | 10.9 |
| 9 | Massachusetts | 11.0 |
| 10 | California | 11.4 |
| 11 | Oklahoma | 11.5 |
| 12 | Rhode Island | 11.6 |
| 13 | Nebraska | 11.6 |
| 14 | New York | 11.7 |
| 15 | Mississippi | 11.7 |
| 16 | Indiana | 11.7 |
| 17 | Delaware | 11.8 |
| 18 | Florida | 11.9 |
| 19 | Arizona | 11.9 |
| 20 | Virginia | 12.0 |
| 21 | Kentucky | 12.0 |
| 22 | Maryland | 12.0 |
| 23 | Alabama | 12.1 |
| 24 | Wisconsin | 12.1 |
| 25 | Kansas | 12.1 |
| 26 | North Carolina | 12.2 |
| 27 | Ohio | 12.2 |
| 28 | Texas | 12.2 |
| 29 | Arkansas | 12.3 |
| 30 | New Jersey | 12.4 |
| 31 | Missouri | 12.6 |
| 32 | Georgia | 12.6 |
| 33 | South Carolina | 12.7 |
| 34 | Connecticut | 12.9 |
| 35 | Colorado | 13.0 |
| 36 | Louisiana | 13.1 |
| 37 | Tennessee | 13.2 |
| 38 | West Virginia | 13.4 |
| 39 | Illinois | 13.8 |
| 40 | Pennsylvania | 13.9 |
| 41 | District of Columbia | 14.2 |
| 42 | Michigan | 14.2 |
| | United States | 12.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births by Timing of Mother's Entry into Prenatal Care, Black, 1984

TABLE 2.7B

## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | New Hampshire | 81.0 |
| 2 | Wyoming | 79.8 |
| 3 | Montana | 79.7 |
| 4 | Massachusetts | 75.5 |
| 5 | Maine | 74.3 |
| 6 | North Dakota | 74.2 |
| 7 | Iowa | 73.3 |
| 8 | Hawaii | 73.0 |
| 9 | Michigan | 72.3 |
| 10 | Rhode Island | 71.9 |
| 11 | California | 71.9 |
| 12 | Idaho | 71.8 |
| 13 | Kansas | 70.1 |
| 14 | Alaska | 69.8 |
| 15 | Colorado | 69.7 |
| 16 | Wisconsin | 68.5 |
| 17 | Virginia | 68.0 |
| 18 | New Jersey | 67.9 |
| 19 | Utah | 67.7 |
| 20 | Missouri | 67.1 |
| 21 | Ohio | 66.8 |
| 22 | Connecticut | 66.3 |
| 23 | Washington | 65.7 |
| 24 | Illinois | 65.3 |
| 25 | Maryland | 65.2 |
| 26 | Oregon | 65.2 |
| 27 | Arizona | 64.9 |
| 28 | Louisiana | 64.8 |
| 29 | North Carolina | 64.8 |
| 30 | Delaware | 64.4 |
| 31 | Mississippi | 63.5 |
| 32 | Minnesota | 63.4 |
| 33 | Georgia | 63.2 |
| 34 | South Dakota | 63.0 |
| 35 | Tennessee | 62.7 |
| 36 | Nevada | 62.4 |
| 37 | Nebraska | 61.6 |
| 38 | Kentucky | 61.1 |
| 39 | Pennsylvania | 59.0 |
| 40 | Alabama | 58.8 |
| 41 | Indiana | 58.5 |
| 42 | Texas | 58.2 |
| 43 | District of Columbia | 56.7 |
| 44 | West Virginia | 53.9 |
| 45 | South Carolina | 53.5 |
| 46 | Arkansas | 53.2 |
| 47 | New Mexico | 52.7 |
| 48 | Oklahoma | 51.4 |
| 49 | New York | 50.6 |
| 50 | Florida | 50.1 |
| | United States | 62.2 |

TABLE 2.7C

## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Hawaii | 3.8 |
| 2 | Massachusetts | 4.4 |
| 3 | Iowa | 4.5 |
| 4 | California | 5.4 |
| 5 | Michigan | 5.5 |
| 6 | Rhode Island | 5.6 |
| 7 | Virginia | 6.2 |
| 8 | Kansas | 6.4 |
| 9 | Mississippi | 6.4 |
| 10 | Wisconsin | 6.5 |
| 11 | Delaware | 6.7 |
| 12 | Connecticut | 6.8 |
| 13 | North Carolina | 7.2 |
| 14 | Missouri | 7.3 |
| 15 | Maryland | 7.3 |
| 16 | Illinois | 7.5 |
| 17 | Georgia | 7.5 |
| 18 | Louisiana | 7.8 |
| 19 | New Jersey | 8.0 |
| 20 | Colorado | 8.0 |
| 21 | Oregon | 8.5 |
| 22 | Ohio | 8.5 |
| 23 | Nevada | 8.8 |
| 24 | Nebraska | 8.9 |
| 25 | Tennessee | 8.9 |
| 26 | Alabama | 9.5 |
| 27 | Arizona | 9.5 |
| 28 | Washington | 9.5 |
| 29 | Indiana | 9.8 |
| 30 | Kentucky | 10.0 |
| 31 | Minnesota | 10.6 |
| 32 | Pennsylvania | 11.1 |
| 33 | District of Columbia | 11.4 |
| 34 | West Virginia | 12.2 |
| 35 | South Carolina | 12.5 |
| 36 | Texas | 12.7 |
| 37 | Arkansas | 12.7 |
| 38 | Florida | 14.3 |
| 39 | New Mexico | 14.5 |
| 40 | Oklahoma | 15.4 |
| 41 | New York | 19.2 |
| | United States | 9.6 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

The record for early prenatal care among infants born to nonwhite mothers was poor in all states in 1984. However, in some states, lack of adequate prenatal care is a particularly serious problem. For example, in New Mexico and South Dakota, only half of all nonwhite babies were born to mothers who received early care. In South Dakota, one in five babies was born to a mother who received late or no care.

TABLE 2.8A

## Percent of Births that Were Low Birthweight, Nonwhite, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Alaska | 6.1 |
| 2 | South Dakota | 6.3 |
| 3 | New Mexico | 6.6 |
| 4 | Montana | 6.9 |
| 5 | North Dakota | 7.3 |
| 6 | Arizona | 7.4 |
| 7 | Oregon | 7.4 |
| 8 | Hawaii | 7.6 |
| 9 | Minnesota | 7.8 |
| 10 | Idaho | 7.9 |
| 11 | Washington | 8.0 |
| 12 | Oklahoma | 8.3 |
| 13 | Utah | 8.7 |
| 14 | California | 8.7 |
| 15 | Iowa | 8.8 |
| 16 | Nevada | 9.6 |
| 17 | Nebraska | 9.7 |
| 18 | Massachusetts | 9.8 |
| 19 | Rhode Island | 10.1 |
| 20 | Wisconsin | 10.3 |
| 21 | Kansas | 10.9 |
| 22 | New York | 10.9 |
| 23 | Colorado | 11.0 |
| 24 | Indiana | 11.2 |
| 25 | Virginia | 11.4 |
| 26 | Delaware | 11.4 |
| 27 | Texas | 11.5 |
| 28 | Mississippi | 11.6 |
| 29 | Maryland | 11.6 |
| 30 | Florida | 11.6 |
| 31 | New Jersey | 11.6 |
| 32 | North Carolina | 11.7 |
| 33 | Kentucky | 11.7 |
| 34 | Ohio | 11.8 |
| 35 | Arkansas | 12.0 |
| 36 | Alabama | 12.0 |
| 37 | Connecticut | 12.2 |
| 38 | Missouri | 12.3 |
| 39 | Georgia | 12.5 |
| 40 | South Carolina | 12.6 |
| 41 | West Virginia | 12.8 |
| 42 | Louisiana | 12.8 |
| 43 | Tennessee | 13.0 |
| 44 | Illinois | 13.1 |
| 45 | Pennsylvania | 13.3 |
| 46 | Michigan | 13.5 |
| 47 | District of Columbia | 14.2 |
| | United States | 11.1 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births by Timing of Mother's Entry into Prenatal Care, Nonwhite, 1984

TABLE 2.8B
## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | New Hampshire | 79.5 |
| 2 | Maine | 76.9 |
| 3 | Massachusetts | 76.6 |
| 4 | Hawaii | 74.9 |
| 5 | California | 74.6 |
| 6 | Wyoming | 73.2 |
| 7 | Michigan | 72.7 |
| 8 | Iowa | 70.3 |
| 9 | New Jersey | 70.0 |
| 10 | Virginia | 69.0 |
| 11 | Kansas | 68.9 |
| 12 | Colorado | 68.9 |
| 13 | Rhode Island | 68.8 |
| 14 | Connecticut | 68.2 |
| 15 | Washington | 68.0 |
| 16 | Ohio | 67.8 |
| 17 | Oregon | 67.8 |
| 18 | Missouri | 67.7 |
| 19 | Alaska | 67.4 |
| 20 | Idaho | 67.3 |
| 21 | Maryland | 66.7 |
| 22 | North Dakota | 66.7 |
| 23 | Illinois | 66.2 |
| 24 | Wisconsin | 66.2 |
| 25 | Nevada | 65.9 |
| 26 | Delaware | 65.4 |
| 27 | North Carolina | 65.3 |
| 28 | Louisiana | 65.1 |
| 29 | Vermont | 64.5 |
| 30 | Utah | 64.1 |
| 31 | Georgia | 63.6 |
| 32 | Mississippi | 63.5 |
| 33 | Tennessee | 63.0 |
| 34 | Kentucky | 61.5 |
| 35 | Indiana | 60.2 |
| 36 | Pennsylvania | 60.2 |
| 37 | Nebraska | 60.1 |
| 38 | Texas | 60.0 |
| 39 | Montana | 59.5 |
| 40 | Alabama | 59.0 |
| 41 | Arizona | 58.9 |
| 42 | Minnesota | 58.0 |
| 43 | District of Columbia | 56.8 |
| 44 | West Virginia | 56.0 |
| 45 | Arkansas | 53.8 |
| 46 | South Carolina | 53.7 |
| 47 | Oklahoma | 53.3 |
| 48 | New York | 53.1 |
| 49 | Florida | 51.1 |
| 50 | New Mexico | 50.8 |
| 51 | South Dakota | 50.4 |
| | United States | 64.1 |

TABLE 2.8C
## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 4.4 |
| 2 | Hawaii | 5.1 |
| 3 | Michigan | 5.5 |
| 4 | California | 5.5 |
| 5 | Virginia | 6.1 |
| 6 | Connecticut | 6.4 |
| 7 | Rhode Island | 6.4 |
| 8 | Mississippi | 6.5 |
| 9 | Delaware | 6.6 |
| 10 | Wisconsin | 6.9 |
| 11 | North Carolina | 7.0 |
| 12 | Maryland | 7.0 |
| 13 | Iowa | 7.0 |
| 14 | Missouri | 7.1 |
| 15 | Illinois | 7.3 |
| 16 | New Jersey | 7.4 |
| 17 | Georgia | 7.5 |
| 18 | Louisiana | 7.8 |
| 19 | Wyoming | 7.9 |
| 20 | Alaska | 8.0 |
| 21 | Kansas | 8.0 |
| 22 | Ohio | 8.2 |
| 23 | Washington | 8.8 |
| 24 | Tennessee | 8.8 |
| 25 | Oregon | 8.9 |
| 26 | Colorado | 9.1 |
| 27 | Nevada | 9.3 |
| 28 | Indiana | 9.4 |
| 29 | Alabama | 9.5 |
| 30 | Nebraska | 9.5 |
| 31 | North Dakota | 9.5 |
| 32 | Idaho | 9.6 |
| 33 | Kentucky | 9.7 |
| 34 | Utah | 9.8 |
| 35 | Pennsylvania | 10.7 |
| 36 | District of Columbia | 11.2 |
| 37 | West Virginia | 11.2 |
| 38 | Texas | 12.2 |
| 39 | Montana | 12.3 |
| 40 | South Carolina | 12.4 |
| 41 | Arkansas | 12.5 |
| 42 | Minnesota | 13.1 |
| 43 | Arizona | 13.2 |
| 44 | Florida | 14.0 |
| 45 | Oklahoma | 14.6 |
| 46 | New York | 17.8 |
| 47 | New Mexico | 17.9 |
| 48 | South Dakota | 21.5 |
| | United States | 9.3 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Babies born to teen mothers are more likely to experience low birthweight than those born to older mothers. However, in 1984 there was wide variation among states in the incidence of low birthweight among infants born to teens. An infant born to a teen mother in South Carolina in 1984 was two and one-half times more likely to be born at low birthweight than one born to a teen in North Dakota.

Teen mothers are among those least likely to receive adequate prenatal care. Even in the state with the best rankings on this table, one in three babies born to teens in 1984 had mothers who did not receive early prenatal care. In states representing more than half of teen births, 10 percent or more received late or no care.

TABLE 2.9A

## Percent of Births to Teens that Were Low Birthweight, Total, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 5.1 |
| 2 | Alaska | 6.2 |
| 3 | New Hampshire | 6.3 |
| 4 | Idaho | 6.7 |
| 5 | Oregon | 7.1 |
| 6 | Washington | 7.2 |
| 7 | Arizona | 7.2 |
| 8 | Montana | 7.3 |
| 9 | South Dakota | 7.4 |
| 10 | Minnesota | 7.4 |
| 11 | Iowa | 7.4 |
| 12 | California | 7.6 |
| 13 | Nebraska | 7.8 |
| 14 | Nevada | 7.8 |
| 15 | Wisconsin | 7.9 |
| 16 | Maine | 8.1 |
| 17 | Oklahoma | 8.4 |
| 18 | West Virginia | 8.6 |
| 19 | New Mexico | 8.7 |
| 20 | Utah | 8.8 |
| 21 | Indiana | 8.8 |
| 22 | Massachusetts | 8.9 |
| 23 | Ohio | 9.0 |
| 24 | Kentucky | 9.0 |
| 25 | Texas | 9.2 |
| 26 | Wyoming | 9.2 |
| 27 | Rhode Island | 9.3 |
| 28 | Kansas | 9.3 |
| 29 | Missouri | 9.4 |
| 30 | Vermont | 9.4 |
| 31 | Arkansas | 9.7 |
| 32 | Pennsylvania | 9.8 |
| 33 | Michigan | 9.9 |
| 34 | Delaware | 9.9 |
| 35 | Maryland | 10.0 |
| 36 | Colorado | 10.0 |
| 37 | Illinois | 10.1 |
| 38 | Virginia | 10.1 |
| 39 | New York | 10.1 |
| 40 | Hawaii | 10.2 |
| 41 | Connecticut | 10.2 |
| 42 | North Carolina | 10.2 |
| 43 | Tennessee | 10.4 |
| 44 | Florida | 10.5 |
| 45 | Alabama | 10.7 |
| 46 | Georgia | 10.8 |
| 47 | New Jersey | 11.2 |
| 48 | Mississippi | 11.5 |
| 49 | Louisiana | 11.6 |
| 50 | District of Columbia | 12.2 |
| 51 | South Carolina | 12.5 |
| | United States | 9.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births to Teens by Timing of Mother's Entry into Prenatal Care, Total, 1984

TABLE 2.9B
## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Maine | 67.1 |
| 2 | Utah | 65.9 |
| 3 | Iowa | 65.2 |
| 4 | Rhode Island | 64.2 |
| 5 | Wisconsin | 61.7 |
| 6 | North Dakota | 61.3 |
| 7 | Massachusetts | 61.2 |
| 8 | Kansas | 61.1 |
| 9 | Wyoming | 60.8 |
| 10 | Michigan | 60.5 |
| 11 | Ohio | 60.2 |
| 12 | Vermont | 60.1 |
| 13 | New Hampshire | 60.1 |
| 14 | Louisiana | 60.0 |
| 15 | Connecticut | 58.8 |
| 16 | Kentucky | 58.3 |
| 17 | Mississippi | 57.6 |
| 18 | Alaska | 57.5 |
| 19 | Montana | 57.4 |
| 20 | California | 57.3 |
| 21 | Missouri | 57.3 |
| 22 | Virginia | 57.2 |
| 23 | North Carolina | 57.0 |
| 24 | Idaho | 56.8 |
| 25 | Delaware | 56.6 |
| 26 | Minnesota | 56.3 |
| 27 | Indiana | 56.1 |
| 28 | Hawaii | 55.8 |
| 29 | Maryland | 55.5 |
| 30 | New Jersey | 55.3 |
| 31 | Georgia | 55.3 |
| 32 | Nebraska | 54.9 |
| 33 | Tennessee | 54.4 |
| 34 | Illinois | 54.3 |
| 35 | Washington | 54.2 |
| 36 | Nevada | 53.9 |
| 37 | Pennsylvania | 53.7 |
| 38 | Oregon | 52.3 |
| 39 | Arizona | 51.8 |
| 40 | Colorado | 51.6 |
| 41 | Alabama | 51.5 |
| 42 | Arkansas | 50.6 |
| 43 | South Dakota | 50.6 |
| 44 | West Virginia | 48.8 |
| 45 | Oklahoma | 48.3 |
| 46 | Texas | 45.7 |
| 47 | New York | 44.1 |
| 48 | District of Columbia | 43.3 |
| 49 | South Carolina | 42.9 |
| 50 | Florida | 41.4 |
| 51 | New Mexico | 39.9 |
| | United States | 53.7 |

TABLE 2.9C
## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Maine | 5.0 |
| 2 | Rhode Island | 5.7 |
| 3 | Iowa | 6.2 |
| 4 | New Hampshire | 6.2 |
| 5 | Utah | 6.5 |
| 6 | Vermont | 6.9 |
| 7 | Wisconsin | 7.4 |
| 8 | North Dakota | 7.5 |
| 9 | Mississippi | 7.8 |
| 10 | Massachusetts | 7.8 |
| 11 | Michigan | 7.9 |
| 12 | Ohio | 8.0 |
| 13 | Delaware | 8.1 |
| 14 | Hawaii | 8.4 |
| 15 | Kansas | 8.5 |
| 16 | Louisiana | 8.5 |
| 17 | North Carolina | 8.6 |
| 18 | Missouri | 8.8 |
| 19 | Connecticut | 8.8 |
| 20 | Indiana | 8.9 |
| 21 | Minnesota | 9.0 |
| 22 | Montana | 9.2 |
| 23 | Maryland | 9.4 |
| 24 | Wyoming | 9.5 |
| 25 | Virginia | 9.5 |
| 26 | Kentucky | 9.7 |
| 27 | Georgia | 9.8 |
| 28 | Nebraska | 9.9 |
| 29 | California | 9.9 |
| 30 | Tennessee | 10.3 |
| 31 | Illinois | 10.3 |
| 32 | Alaska | 10.4 |
| 33 | Idaho | 10.5 |
| 34 | Pennsylvania | 10.6 |
| 35 | New Jersey | 11.3 |
| 36 | Washington | 11.8 |
| 37 | Alabama | 12.0 |
| 38 | Nevada | 12.2 |
| 39 | Oregon | 12.9 |
| 40 | Colorado | 12.9 |
| 41 | West Virginia | 13.1 |
| 42 | Arkansas | 13.5 |
| 43 | South Dakota | 14.3 |
| 44 | Oklahoma | 15.4 |
| 45 | District of Columbia | 15.7 |
| 46 | South Carolina | 15.7 |
| 47 | Arizona | 16.0 |
| 48 | Florida | 17.6 |
| 49 | Texas | 19.3 |
| 50 | New York | 20.7 |
| 51 | New Mexico | 22.8 |
| | United States | 11.9 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Low birthweight among infants born to white teens in 1984 was not concentrated in any one region in the country. Furthermore, there was wide disparity between the best and worst states in the proportion of low-birthweight births among white infants born to teens.

In 1984, white teens were less likely than older white mothers to receive adequate prenatal care. However, they were more likely to receive early care than their black counterparts. While only 50.3 percent of black births to teens in Mississippi in 1984 occurred to mothers who received early prenatal care, 70.6 percent of infants born to white Mississippi teens had mothers who received care during the first trimester of pregnancy.

TABLE 2.10A

## Percent of Births to Teens that Were Low Birthweight, White, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 5.1 |
| 2 | Alaska | 5.9 |
| 3 | New Hampshire | 6.2 |
| 4 | Nebraska | 6.5 |
| 5 | California | 6.5 |
| 6 | Wisconsin | 6.6 |
| 7 | Idaho | 6.6 |
| 8 | Washington | 6.6 |
| 9 | Maryland | 6.8 |
| 10 | Nevada | 6.9 |
| 11 | Alabama | 7.0 |
| 12 | Oregon | 7.0 |
| 13 | Arizona | 7.1 |
| 14 | Iowa | 7.1 |
| 15 | Minnesota | 7.1 |
| 16 | Louisiana | 7.4 |
| 17 | Virginia | 7.4 |
| 18 | Illinois | 7.5 |
| 19 | South Dakota | 7.5 |
| 20 | Arkansas | 7.6 |
| 21 | Ohio | 7.6 |
| 22 | Oklahoma | 7.7 |
| 23 | Indiana | 7.7 |
| 24 | Montana | 7.8 |
| 25 | Michigan | 7.8 |
| 26 | Rhode Island | 7.9 |
| 27 | Texas | 7.9 |
| 28 | Massachusetts | 8.0 |
| 29 | Missouri | 8.0 |
| 30 | Pennsylvania | 8.0 |
| 31 | North Carolina | 8.0 |
| 32 | Maine | 8.1 |
| 33 | Florida | 8.1 |
| 34 | Mississippi | 8.2 |
| 35 | Georgia | 8.3 |
| 36 | New York | 8.3 |
| 37 | Kentucky | 8.3 |
| 38 | Kansas | 8.3 |
| 39 | West Virginia | 8.3 |
| 40 | Utah | 8.4 |
| 41 | Tennessee | 8.6 |
| 42 | Connecticut | 8.6 |
| 43 | New Mexico | 8.7 |
| 44 | South Carolina | 8.8 |
| 45 | New Jersey | 8.9 |
| 46 | Delaware | 8.9 |
| 47 | Hawaii | 9.4 |
| 48 | Colorado | 9.5 |
| 49 | Vermont | 9.5 |
| 50 | Wyoming | 9.6 |
| | United States | 7.7 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births to Teens by Timing of Mother's Entry into Prenatal Care, White, 1984

TABLE 2.10B
## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Mississippi | 70.6 |
| 2 | Louisiana | 69.1 |
| 3 | Utah | 67.5 |
| 4 | Maine | 67.1 |
| 5 | Iowa | 65.9 |
| 6 | Rhode Island | 65.6 |
| 7 | Wisconsin | 64.4 |
| 8 | Georgia | 63.8 |
| 9 | North Carolina | 63.6 |
| 10 | North Dakota | 63.5 |
| 11 | Kansas | 63.1 |
| 12 | Ohio | 63.0 |
| 13 | Maryland | 62.9 |
| 14 | Michigan | 62.2 |
| 15 | Connecticut | 61.8 |
| 16 | Virginia | 61.5 |
| 17 | Montana | 61.4 |
| 18 | Wyoming | 61.1 |
| 19 | Massachusetts | 61.0 |
| 20 | Vermont | 60.2 |
| 21 | Alabama | 60.0 |
| 22 | New Hampshire | 60.0 |
| 23 | Kentucky | 59.7 |
| 24 | Delaware | 59.1 |
| 25 | Hawaii | 58.8 |
| 26 | Indiana | 58.7 |
| 27 | Missouri | 58.5 |
| 28 | Minnesota | 58.4 |
| 29 | Alaska | 58.4 |
| 30 | Tennessee | 57.6 |
| 31 | California | 57.5 |
| 32 | Pennsylvania | 57.3 |
| 33 | Idaho | 57.1 |
| 34 | Nevada | 57.1 |
| 35 | Illinois | 56.5 |
| 36 | New Jersey | 56.4 |
| 37 | Nebraska | 56.3 |
| 38 | Arkansas | 55.7 |
| 39 | South Dakota | 55.4 |
| 40 | Washington | 55.1 |
| 41 | Arizona | 53.2 |
| 42 | Oregon | 53.1 |
| 43 | South Carolina | 52.1 |
| 44 | Oklahoma | 52.0 |
| 45 | Colorado | 51.9 |
| 46 | West Virginia | 49.6 |
| 47 | New York | 48.8 |
| 48 | Texas | 47.2 |
| 49 | Florida | 46.2 |
| 50 | New Mexico | 41.2 |
| | United States | 56.7 |

TABLE 2.10C
## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Maine | 4.9 |
| 2 | North Dakota | 5.5 |
| 3 | Rhode Island | 5.7 |
| 4 | Iowa | 5.7 |
| 5 | Mississippi | 5.8 |
| 6 | Utah | 5.9 |
| 7 | Louisiana | 6.1 |
| 8 | North Carolina | 6.2 |
| 9 | New Hampshire | 6.4 |
| 10 | Wisconsin | 6.4 |
| 11 | Maryland | 6.6 |
| 12 | Ohio | 6.7 |
| 13 | Vermont | 6.9 |
| 14 | Michigan | 7.1 |
| 15 | Delaware | 7.5 |
| 16 | Minnesota | 7.5 |
| 17 | Kansas | 7.6 |
| 18 | Montana | 7.6 |
| 19 | Massachusetts | 7.7 |
| 20 | Indiana | 7.9 |
| 21 | Alaska | 7.9 |
| 22 | Missouri | 8.1 |
| 23 | Connecticut | 8.2 |
| 24 | Georgia | 8.5 |
| 25 | Virginia | 8.5 |
| 26 | Pennsylvania | 8.6 |
| 27 | Alabama | 8.9 |
| 28 | Tennessee | 9.1 |
| 29 | South Dakota | 9.1 |
| 30 | Wyoming | 9.2 |
| 31 | Kentucky | 9.2 |
| 32 | Nebraska | 9.4 |
| 33 | Illinois | 9.8 |
| 34 | California | 9.9 |
| 35 | Idaho | 10.5 |
| 36 | Washington | 11.1 |
| 37 | Nevada | 11.4 |
| 38 | New Jersey | 11.4 |
| 39 | South Carolina | 11.5 |
| 40 | Arkansas | 11.6 |
| 41 | Oregon | 12.3 |
| 42 | Colorado | 12.5 |
| 43 | West Virginia | 12.6 |
| 44 | Oklahoma | 13.6 |
| 45 | Arizona | 15.2 |
| 46 | Florida | 16.2 |
| 47 | New York | 17.5 |
| 48 | Texas | 19.3 |
| 49 | New Mexico | 21.9 |
| | United States | 10.9 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Infants born to black teen mothers are at greater risk of low birthweight than those born to other teen mothers. For example, in 1984 the lowest per-state percentage of low birthweight among infants born to white teen mothers (North Dakota) was about half as large as the lowest per-state percentage of low birthweight among infants born to black teen mothers (Nevada).

In 1984, two in three black births to teens in West Virginia occurred to mothers who did not receive early prenatal care, compared to one in three black births to teens in Massachusetts. One in four infants born to black teens in New York in 1984 had a mother who received late or no prenatal care.

TABLE 2.11A

## Percent of Births to Teens that Were Low Birthweight, Black, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Nevada | 10.1 |
| 2 | Delaware | 11.3 |
| 3 | Washington | 11.5 |
| 4 | Iowa | 11.5 |
| 5 | California | 12.2 |
| 6 | District of Columbia | 12.4 |
| 7 | Minnesota | 12.6 |
| 8 | New York | 12.8 |
| 9 | Missouri | 12.8 |
| 10 | Maryland | 12.9 |
| 11 | Wisconsin | 13.0 |
| 12 | North Carolina | 13.1 |
| 13 | Ohio | 13.2 |
| 14 | Illinois | 13.3 |
| 15 | Georgia | 13.3 |
| 16 | Indiana | 13.4 |
| 17 | Oklahoma | 13.4 |
| 18 | Mississippi | 13.4 |
| 19 | Texas | 13.6 |
| 20 | Massachusetts | 13.6 |
| 21 | Arizona | 13.6 |
| 22 | Arkansas | 13.7 |
| 23 | Connecticut | 13.8 |
| 24 | New Jersey | 13.8 |
| 25 | Florida | 13.9 |
| 26 | Virginia | 14.0 |
| 27 | Kentucky | 14.1 |
| 28 | Kansas | 14.1 |
| 29 | Michigan | 14.2 |
| 30 | Tennessee | 14.4 |
| 31 | Pennsylvania | 14.6 |
| 32 | Nebraska | 14.6 |
| 33 | Alabama | 14.6 |
| 34 | Louisiana | 15.2 |
| 35 | South Carolina | 15.5 |
| 36 | Colorado | 16.5 |
| | United States | 13.6 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births to Teens by Timing of Mother's Entry into Prenatal Care, Black, 1984

TABLE 2.11B
## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 62.7 |
| 2 | Iowa | 60.6 |
| 3 | Rhode Island | 60.1 |
| 4 | California | 57.6 |
| 5 | Michigan | 57.3 |
| 6 | Wisconsin | 55.6 |
| 7 | Missouri | 54.3 |
| 8 | New Jersey | 54.1 |
| 9 | Delaware | 53.3 |
| 10 | Hawaii | 53.3 |
| 11 | Kansas | 52.8 |
| 12 | Louisiana | 52.3 |
| 13 | Connecticut | 52.2 |
| 14 | Colorado | 51.7 |
| 15 | Illinois | 51.6 |
| 16 | Ohio | 51.6 |
| 17 | Virginia | 51.1 |
| 18 | Mississippi | 50.3 |
| 19 | Arizona | 49.3 |
| 20 | Kentucky | 49.0 |
| 21 | Nebraska | 48.9 |
| 22 | North Carolina | 48.7 |
| 23 | Maryland | 48.3 |
| 24 | Tennessee | 47.7 |
| 25 | Minnesota | 47.2 |
| 26 | Georgia | 47.0 |
| 27 | Washington | 46.9 |
| 28 | Alaska | 46.2 |
| 29 | Oregon | 4[illegible] |
| 30 | Nevada | 4[illegible] |
| 31 | Pennsylvania | [illegible] |
| 32 | District of Columbia | [illegible] |
| 33 | Indiana | [illegible] |
| 34 | Alabama | 42.4 |
| 35 | Arkansas | 41.0 |
| 36 | Texas | 40.3 |
| 37 | New York | 36.4 |
| 38 | South Carolina | 35.4 |
| 39 | Florida | 34.6 |
| 40 | Oklahoma | 34.4 |
| 41 | West Virginia | 32.3 |
| | United States | 47.0 |

TABLE 2.11C
## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 8.2 |
| 2 | Mississippi | 8.8 |
| 3 | Delaware | 8.8 |
| 4 | California | 9.2 |
| 5 | Michigan | 9.4 |
| 6 | Wisconsin | 9.9 |
| 7 | Connecticut | 10.0 |
| 8 | Missouri | 10.1 |
| 9 | Louisiana | 10.5 |
| 10 | Kansas | 10.7 |
| 11 | Illinois | 10.8 |
| 12 | Virginia | 10.9 |
| 13 | Georgia | 11.0 |
| 14 | New Jersey | 11.2 |
| 15 | Nebraska | 11.6 |
| 16 | North Carolina | 11.7 |
| 17 | Ohio | 11.9 |
| 18 | Maryland | 12.1 |
| 19 | Nevada | 12.2 |
| 20 | Tennessee | 12.8 |
| 21 | Kentucky | 12.9 |
| 22 | Indiana | 13.9 |
| 23 | Washington | 14.6 |
| 24 | Colorado | 15.2 |
| 25 | Alabama | 15.3 |
| 26 | District of Columbia | 15.5 |
| 27 | Pennsylvania | 16.2 |
| 28 | Arizona | 16.2 |
| 29 | Minnesota | 17.1 |
| 30 | Arkansas | 17.2 |
| 31 | South Carolina | 19.1 |
| 32 | Texas | 19.3 |
| 33 | Florida | 19.6 |
| 34 | Oklahoma | 21.6 |
| 35 | West Virginia | 22.6 |
| 36 | New York | 25.8 |
| | United States | 14.0 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

One in six infants born to nonwhite teens in Rhode Island in 1984 was low birthweight, compared to one in seventeen infants born that year to all mothers in the state.

More than half of all nonwhite teen births in 1984 occurred in states in which more than half such infants were born to mothers who did not receive early prenatal care. Furthermore, one in four nonwhite infants born to teens in New York, New Mexico, and South Dakota in 1984 had mothers who received no care or none before the seventh month.

TABLE 2.12A

## Percent of Births to Teens that Were Low Birthweight, Nonwhite, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Alaska | 6.6 |
| 2 | Arizona | 7.8 |
| 3 | Oregon | 7.9 |
| 4 | New Mexico | 8.4 |
| 5 | Minnesota | 8.9 |
| 6 | Washington | 10.0 |
| 7 | Oklahoma | 10.1 |
| 8 | Nevada | 10.4 |
| 9 | Hawaii | 10.4 |
| 10 | Delaware | 11.1 |
| 11 | Iowa | 11.1 |
| 12 | California | 11.2 |
| 13 | Wisconsin | 12.0 |
| 14 | District of Columbia | 12.2 |
| 15 | New York | 12.8 |
| 16 | Missouri | 12.8 |
| 17 | North Carolina | 12.9 |
| 18 | Maryland | 12.9 |
| 19 | Utah | 13.0 |
| 20 | Ohio | 13.1 |
| 21 | Indiana | 13.2 |
| 22 | Illinois | 13.3 |
| 23 | Georgia | 13.3 |
| 24 | Mississippi | 13.3 |
| 25 | Massachusetts | 13.5 |
| 26 | Arkansas | 13.5 |
| 27 | Texas | 13.5 |
| 28 | Nebraska | 13.5 |
| 29 | New Jersey | 13.7 |
| 30 | Kansas | 13.7 |
| 31 | Connecticut | 13.8 |
| 32 | Virginia | 13.9 |
| 33 | Florida | 13.9 |
| 34 | Michigan | 13.9 |
| 35 | Kentucky | 13.9 |
| 36 | Tennessee | 14.3 |
| 37 | Colorado | 14.3 |
| 38 | West Virginia | 14.4 |
| 39 | Pennsylvania | 14.5 |
| 40 | Alabama | 14.6 |
| 41 | Louisiana | 15.1 |
| 42 | South Carolina | 15.5 |
| 43 | Rhode Island | 15.8 |
| | United States | 13.1 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Percent of Births to Teens by Timing of Mother's Entry into Prenatal Care, Nonwhite, 1984

TABLE 2.12B
## Early Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 62.3 |
| 2 | Wyoming | 57.6 |
| 3 | Michigan | 57.2 |
| 4 | Rhode Island | 56.9 |
| 5 | California | 56.8 |
| 6 | Iowa | 56.7 |
| 7 | Alaska | 56.5 |
| 8 | Hawaii | 54.7 |
| 9 | Missouri | 54.4 |
| 10 | New Jersey | 54.2 |
| 11 | Wisconsin | 53.5 |
| 12 | Delaware | 53.5 |
| 13 | Kansas | 52.6 |
| 14 | Louisiana | 52.4 |
| 15 | Connecticut | 52.3 |
| 16 | North Dakota | 52.1 |
| 17 | Ohio | 51.8 |
| 18 | Illinois | 51.6 |
| 19 | Idaho | 51.5 |
| 20 | Virginia | 51.2 |
| 21 | Mississippi | 50.4 |
| 22 | Colorado | 49.3 |
| 23 | North Carolina | 49.2 |
| 24 | Washington | 49.1 |
| 25 | Kentucky | 49.0 |
| 26 | Nebraska | 48.6 |
| 27 | Maryland | 48.5 |
| 28 | Tennessee | 47.7 |
| 29 | Georgia | 47.0 |
| 30 | Arizona | 46.4 |
| 31 | Nevada | 45.7 |
| 32 | Minnesota | 45.1 |
| 33 | Utah | 44.7 |
| 34 | Oregon | 44.4 |
| 35 | Montana | 44.2 |
| 36 | Pennsylvania | 43.9 |
| 37 | Indiana | 43.6 |
| 38 | District of Columbia | 43.5 |
| 39 | Alabama | 42.4 |
| 40 | Arkansas | 41.2 |
| 41 | Texas | 40.3 |
| 42 | South Dakota | 38.9 |
| 43 | Oklahoma | 38.9 |
| 44 | New York | 36.7 |
| 45 | South Carolina | 35.5 |
| 46 | New Mexico | 35.2 |
| 47 | Florida | 34.7 |
| 48 | West Virginia | 32.8 |
| | United States | 47.3 |

TABLE 2.12C
## Late or No Care

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 8.5 |
| 2 | Hawaii | 8.6 |
| 3 | Mississippi | 8.8 |
| 4 | Delaware | 8.9 |
| 5 | Michigan | 9.4 |
| 6 | California | 9.7 |
| 7 | Connecticut | 10.0 |
| 8 | Missouri | 10.2 |
| 9 | Wisconsin | 10.4 |
| 10 | Louisiana | 10.6 |
| 11 | Illinois | 10.9 |
| 12 | Virginia | 11.0 |
| 13 | Georgia | 11.0 |
| 14 | New Jersey | 11.2 |
| 15 | North Carolina | 11.4 |
| 16 | Iowa | 11.5 |
| 17 | Ohio | 11.8 |
| 18 | Nebraska | 11.9 |
| 19 | Maryland | 12.1 |
| 20 | Kansas | 12.3 |
| 21 | Tennessee | 12.8 |
| 22 | Kentucky | 12.9 |
| 23 | Alaska | 13.4 |
| 24 | Indiana | 13.9 |
| 25 | Nevada | 14.1 |
| 26 | Utah | 14.2 |
| 27 | Montana | 14.5 |
| 28 | Alabama | 15.3 |
| 29 | District of Columbia | 15.5 |
| 30 | Washington | 15.5 |
| 31 | North Dakota | 16.0 |
| 32 | Pennsylvania | 16.1 |
| 33 | Colorado | 16.3 |
| 34 | Arkansas | 17.0 |
| 35 | Minnesota | 17.0 |
| 36 | Oregon | 17.7 |
| 37 | Arizona | 18.8 |
| 38 | South Carolina | 19.1 |
| 39 | Texas | 19.4 |
| 40 | Florida | 19.6 |
| 41 | Oklahoma | 20.2 |
| 42 | West Virginia | 21.9 |
| 43 | New York | 25.7 |
| 44 | New Mexico | 26.3 |
| 45 | South Dakota | 26.9 |
| | United States | 14.1 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

In southern states low-birthweight births to teens account for a larger proportion of all low-birthweight births than in other states.

The proportions of all births to teens in 1984 were highest in southern states. The proportion of births to teenagers younger than fifteen was also highest in the South. In Mississippi, the percentage of births to teens younger than fifteen was three times the national average in 1984.

TABLE 2.13A

## Percent of All Low-Birthweight Infants Born to Teens, Total, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 9.1 |
| 2 | New Hampshire | 10.9 |
| 3 | Minnesota | 11.9 |
| 4 | Alaska | 12.3 |
| 5 | Montana | 13.0 |
| 6 | Massachusetts | 13.6 |
| 7 | Utah | 13.7 |
| 8 | Colorado | 14.0 |
| 9 | Nebraska | 14.0 |
| 10 | Idaho | 14.0 |
| 11 | Nevada | 14.4 |
| 12 | Iowa | 14.4 |
| 13 | Connecticut | 14.6 |
| 14 | California | 14.6 |
| 15 | Hawaii | 14.6 |
| 16 | Washington | 14.6 |
| 17 | Oregon | 15.0 |
| 18 | New York | 15.0 |
| 19 | Wyoming | 15.1 |
| 20 | Vermont | 15.5 |
| 21 | Wisconsin | 15.6 |
| 22 | South Dakota | 15.7 |
| 23 | Rhode Island | 15.7 |
| 24 | New Jersey | 16.3 |
| 25 | Arizona | 16.8 |
| 26 | Maryland | 17.1 |
| 27 | Pennsylvania | 17.2 |
| 28 | Michigan | 17.5 |
| 29 | District of Columbia | 17.5 |
| 30 | Virginia | 17.7 |
| 31 | New Mexico | 18.0 |
| 32 | Maine | 18.1 |
| 33 | Kansas | 18.1 |
| 34 | Illinois | 18.4 |
| 35 | Delaware | 18.5 |
| 36 | Ohio | 18.8 |
| 37 | Indiana | 19.7 |
| 38 | Missouri | 19.9 |
| 39 | Florida | 20.8 |
| 40 | Texas | 21.1 |
| 41 | Oklahoma | 21.4 |
| 42 | North Carolina | 21.6 |
| 43 | West Virginia | 22.2 |
| 44 | Tennessee | 22.8 |
| 45 | Georgia | 23.2 |
| 46 | Louisiana | 23.8 |
| 47 | Kentucky | 23.9 |
| 48 | Alabama | 24.5 |
| 49 | South Carolina | 24.6 |
| 50 | Arkansas | 25.8 |
| 51 | Mississippi | 28.2 |
| | United States | 18.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.13B

## Percent of All Births to Mothers Under 20, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Minnesota | 7.9 |
| 2 | North Dakota | 8.5 |
| 3 | New Hampshire | 8.6 |
| 4 | Utah | 8.7 |
| 5 | Massachusetts | 9.0 |
| 6 | Connecticut | 9.4 |
| 7 | Iowa | 9.4 |
| 8 | Alaska | 9.6 |
| 9 | Nebraska | 9.7 |
| 10 | Vermont | 10.0 |
| 11 | Wisconsin | 10.1 |
| 12 | New Jersey | 10.2 |
| 13 | Rhode Island | 10.3 |
| 14 | Montana | 10.3 |
| 15 | Hawaii | 10.4 |
| 16 | Washington | 10.4 |
| 17 | New York | 10.4 |
| 18 | Colorado | 10.7 |
| 19 | Idaho | 10.7 |
| 20 | South Dakota | 10.8 |
| 21 | Oregon | 10.9 |
| 22 | California | 11.2 |
| 23 | Wyoming | 11.6 |
| 24 | Pennsylvania | 11.7 |
| 25 | Kansas | 11.8 |
| 26 | Maine | 12.2 |
| 27 | Nevada | 12.2 |
| 28 | Michigan | 12.4 |
| 29 | Virginia | 12.6 |
| 30 | Maryland | 12.8 |
| 31 | Illinois | 13.0 |
| 32 | Ohio | 13.4 |
| 33 | Delaware | 13.8 |
| 34 | Missouri | 14.0 |
| 35 | Indiana | 14.1 |
| 36 | Arizona | 14.3 |
| 37 | Florida | 14.7 |
| 38 | Texas | 15.7 |
| 39 | New Mexico | 15.7 |
| 40 | Oklahoma | 16.2 |
| 41 | North Carolina | 16.5 |
| 42 | South Carolina | 17.2 |
| 43 | Tennessee | 17.4 |
| 44 | Louisiana | 17.6 |
| 45 | West Virginia | 17.7 |
| 46 | Georgia | 17.8 |
| 47 | District of Columbia | 18.0 |
| 48 | Alabama | 18.2 |
| 49 | Kentucky | 18.3 |
| 50 | Arkansas | 19.9 |
| 51 | Mississippi | 21.2 |
| | United States | 13.1 |

TABLE 2.13C

## Percent of All Births to Mothers Under 15, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Minnesota | 0.1 |
| 2 | Iowa | 0.1 |
| 3 | Massachusetts | 0.1 |
| 4 | Colorado | 0.1 |
| 5 | Nebraska | 0.1 |
| 6 | Wisconsin | 0.1 |
| 7 | Oregon | 0.1 |
| 8 | Washington | 0.1 |
| 9 | Kansas | 0.2 |
| 10 | Connecticut | 0.2 |
| 11 | Arizona | 0.2 |
| 12 | New York | 0.2 |
| 13 | California | 0.2 |
| 14 | Missouri | 0.2 |
| 15 | West Virginia | 0.2 |
| 16 | Pennsylvania | 0.2 |
| 17 | Indiana | 0.2 |
| 18 | Ohio | 0.2 |
| 19 | New Mexico | 0.2 |
| 20 | Nevada | 0.2 |
| 21 | Michigan | 0.3 |
| 22 | Virginia | 0.3 |
| 23 | New Jersey | 0.3 |
| 24 | Illinois | 0.3 |
| 25 | Oklahoma | 0.3 |
| 26 | Maryland | 0.3 |
| 27 | Texas | 0.4 |
| 28 | Florida | 0.4 |
| 29 | Tennessee | 0.4 |
| 30 | Kentucky | 0.4 |
| 31 | Delaware | 0.4 |
| 32 | North Carolina | 0.4 |
| 33 | Alabama | 0.4 |
| 34 | South Carolina | 0.5 |
| 35 | Arkansas | 0.5 |
| 36 | Georgia | 0.5 |
| 37 | Louisiana | 0.5 |
| 38 | District of Columbia | 0.5 |
| 39 | Mississippi | 0.9 |
| | United States | 0.3 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

In some states, in 1984 a relatively low percentage of low-birthweight births was attributable to teen mothers. For example, while New Mexico, Colorado, and Wyoming had the highest percentages of low-birthweight births among all white mothers, white teens in these states made only a moderate contribution to all low-birthweight births that year.

Of the ten states in 1984 in which the highest percentage of white births occurred to teen mothers, eight were southern states.

TABLE 2.14A

## Percent of All Low-Birthweight Infants Born to Teens, White, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | North Dakota | 8.6 |
| 2 | Alaska | 9.8 |
| 3 | New Jersey | 10.7 |
| 4 | New Hampshire | 10.8 |
| 5 | Minnesota | 10.8 |
| 6 | Nebraska | 11.1 |
| 7 | Connecticut | 11.4 |
| 8 | Maryland | 11.6 |
| 9 | Hawaii | 12.0 |
| 10 | New York | 12.0 |
| 11 | Nevada | 12.1 |
| 12 | Massachusetts | 12.2 |
| 13 | Wisconsin | 12.3 |
| 14 | Montana | 12.3 |
| 15 | Illinois | 13.1 |
| 16 | Virginia | 13.2 |
| 17 | Utah | 13.2 |
| 18 | Colorado | 13.4 |
| 19 | Rhode Island | 13.5 |
| 20 | Iowa | 13.6 |
| 21 | South Dakota | 13.9 |
| 22 | Idaho | 13.9 |
| 23 | California | 14.0 |
| 24 | Washington | 14.2 |
| 25 | Pennsylvania | 14.2 |
| 26 | Michigan | 14.2 |
| 27 | Delaware | 14.4 |
| 28 | Oregon | 14.9 |
| 29 | Wyoming | 15.0 |
| 30 | Florida | 15.5 |
| 31 | Vermont | 15.6 |
| 32 | Arizona | 16.0 |
| 33 | Kansas | 16.4 |
| 34 | Ohio | 16.4 |
| 35 | North Carolina | 17.1 |
| 36 | Missouri | 17.1 |
| 37 | Louisiana | 17.2 |
| 38 | New Mexico | 17.2 |
| 39 | Indiana | 17.4 |
| 40 | Alabama | 17.6 |
| 41 | South Carolina | 17.8 |
| 42 | Maine | 18.1 |
| 43 | Georgia | 19.2 |
| 44 | Oklahoma | 19.3 |
| 45 | Texas | 19.3 |
| 46 | Mississippi | 19.8 |
| 47 | Tennessee | 20.3 |
| 48 | Arkansas | 21.4 |
| 49 | West Virginia | 22.2 |
| 50 | Kentucky | 23.1 |
| | United States | 15.3 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.14B

## Percent of All Births to Mothers Under 20, White, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | District of Columbia | 4.1 |
| 2 | New Jersey | 6.8 |
| 3 | Minnesota | 7.1 |
| 4 | Alaska | 7.3 |
| 5 | Connecticut | 7.5 |
| 6 | North Dakota | 7.6 |
| 7 | Hawaii | 7.8 |
| 8 | Massachusetts | 8.3 |
| 9 | New York | 8.3 |
| 10 | Wisconsin | 8.5 |
| 11 | Utah | 8.5 |
| 12 | New Hampshire | 8.6 |
| 13 | Nebraska | 8.6 |
| 14 | South Dakota | 9.0 |
| 15 | Montana | 9.0 |
| 16 | Iowa | 9.0 |
| 17 | Maryland | 9.2 |
| 18 | Illinois | 9.3 |
| 19 | Rhode Island | 9.5 |
| 20 | Pennsylvania | 9.8 |
| 21 | Delaware | 9.9 |
| 22 | Washington | 10.0 |
| 23 | Vermont | 10.0 |
| 24 | Michigan | 10.0 |
| 25 | Virginia | 10.0 |
| 26 | Colorado | 10.3 |
| 27 | Idaho | 10.5 |
| 28 | Oregon | 10.6 |
| 29 | Nevada | 10.7 |
| 30 | Kansas | 10.8 |
| 31 | California | 11.0 |
| 32 | Wyoming | 11.1 |
| 33 | Florida | 11.4 |
| 34 | Ohio | 11.8 |
| 35 | Missouri | 11.9 |
| 36 | Maine | 12.2 |
| 37 | South Carolina | 12.6 |
| 38 | Indiana | 12.8 |
| 39 | North Carolina | 13.0 |
| 40 | Louisiana | 13.3 |
| 41 | Arizona | 13.3 |
| 42 | Georgia | 13.8 |
| 43 | Alabama | 14.4 |
| 44 | Mississippi | 14.5 |
| 45 | Texas | 14.5 |
| 46 | Oklahoma | 14.6 |
| 47 | Tennessee | 15.3 |
| 48 | New Mexico | 15.4 |
| 49 | Arkansas | 17.0 |
| 50 | West Virginia | 17.6 |
| 51 | Kentucky | 17.7 |
| | United States | 11.1 |

TABLE 2.14C

## Percent of All Births to Mothers Under 15, White, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Massachusetts | 0.1 |
| 2 | Kansas | 0.1 |
| 3 | Illinois | 0.1 |
| 4 | Virginia | 0.1 |
| 5 | New Jersey | 0.1 |
| 6 | Pennsylvania | 0.1 |
| 7 | Connecticut | 0.1 |
| 8 | Michigan | 0.1 |
| 9 | Ohio | 0.1 |
| 10 | Missouri | 0.1 |
| 11 | Washington | 0.1 |
| 12 | Colorado | 0.1 |
| 13 | Maryland | 0.1 |
| 14 | New York | 0.1 |
| 15 | Oregon | 0.1 |
| 16 | Indiana | 0.1 |
| 17 | Florida | 0.1 |
| 18 | South Carolina | 0.1 |
| 19 | North Carolina | 0.1 |
| 20 | Mississippi | 0.1 |
| 21 | Arizona | 0.2 |
| 22 | Louisiana | 0.2 |
| 23 | Georgia | 0.2 |
| 24 | Tennessee | 0.2 |
| 25 | Alabama | 0.2 |
| 26 | California | 0.2 |
| 27 | Arkansas | 0.2 |
| 28 | West Virginia | 0.2 |
| 29 | New Mexico | 0.2 |
| 30 | Oklahoma | 0.2 |
| 31 | Texas | 0.3 |
| 32 | Kentucky | 0.3 |
| | United States | 0.1 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

In states representing nearly 60 percent of all black teen births in 1984, low-birthweight births to black teens accounted for at least one in four of all black low-birthweight births.

In 1984 there was wide variation among states in the proportion of all black births that occurred to mothers younger than twenty. For example, the percentage in Arkansas was four times that in Hawaii.

TABLE 2.15A

## Percent of All Low-Birthweight Infants Born to Teens, Black, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Washington | 17.9 |
| 2 | District of Columbia | 18.7 |
| 3 | California | 19.6 |
| 4 | New York | 20.8 |
| 5 | Colorado | 21.5 |
| 6 | Maryland | 23.2 |
| 7 | Massachusetts | 23.3 |
| 8 | Michigan | 23.9 |
| 9 | Connecticut | 24.4 |
| 10 | Nevada | 25.0 |
| 11 | Virginia | 25.0 |
| 12 | Minnesota | 25.1 |
| 13 | Kansas | 25.4 |
| 14 | Ohio | 25.6 |
| 15 | Pennsylvania | 25.7 |
| 16 | Arizona | 25.7 |
| 17 | Delaware | 25.8 |
| 18 | Illinois | 26.1 |
| 19 | Iowa | 26.8 |
| 20 | Oklahoma | 26.9 |
| 21 | Missouri | 27.0 |
| 22 | North Carolina | 27.0 |
| 23 | Georgia | 27.1 |
| 24 | New Jersey | 27.2 |
| 25 | Tennessee | 27.3 |
| 26 | Texas | 27.6 |
| 27 | Louisiana | 28.6 |
| 28 | Kentucky | 29.1 |
| 29 | Indiana | 29.4 |
| 30 | Florida | 29.4 |
| 31 | South Carolina | 30.0 |
| 32 | Alabama | 30.6 |
| 33 | Wisconsin | 31.0 |
| 34 | Arkansas | 32.8 |
| 35 | Mississippi | 33.0 |
| 36 | Nebraska | 34.2 |
| | United States | 26.0 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.15B

## Percent of All Births to Mothers Under 20, Black, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Hawaii | 7.2 |
| 2 | Utah | 12.3 |
| 3 | Alaska | 13.7 |
| 4 | Washington | 16.3 |
| 5 | Colorado | 17.1 |
| 6 | California | 18.3 |
| 7 | Massachusetts | 18.8 |
| 8 | New York | 18.9 |
| 9 | Rhode Island | 19.5 |
| 10 | New Mexico | 19.5 |
| 11 | Oregon | 20.5 |
| 12 | Minnesota | 21.2 |
| 13 | Virginia | 21.5 |
| 14 | District of Columbia | 21.5 |
| 15 | Maryland | 21.6 |
| 16 | West Virginia | 21.7 |
| 17 | Kansas | 21.9 |
| 18 | Arizona | 22.5 |
| 19 | Connecticut | 22.8 |
| 20 | Oklahoma | 23.0 |
| 21 | Ohio | 23.6 |
| 22 | Michigan | 23.8 |
| 23 | New Jersey | 24.5 |
| 24 | Pennsylvania | 24.5 |
| 25 | South Carolina | 24.6 |
| 26 | Iowa | 24.6 |
| 27 | Louisiana | 24.7 |
| 28 | Texas | 24.8 |
| 29 | Kentucky | 24.8 |
| 30 | Tennessee | 25.0 |
| 31 | Florida | 25.1 |
| 32 | North Carolina | 25.2 |
| 33 | Nevada | 25.4 |
| 34 | Alabama | 25.4 |
| 35 | Indiana | 25.7 |
| 36 | Georgia | 25.7 |
| 37 | Missouri | 26.5 |
| 38 | Delaware | 27.0 |
| 39 | Illinois | 27.0 |
| 40 | Nebraska | 27.3 |
| 41 | Mississippi | 28.8 |
| 42 | Wisconsin | 28.9 |
| 43 | Arkansas | 29.4 |
| | United States | 23.6 |

TABLE 2.15C

## Percent of All Births to Mothers Under 15, Black, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | New York | 0.6 |
| 2 | Connecticut | 0.6 |
| 3 | California | 0.6 |
| 4 | District of Columbia | 0.7 |
| 5 | Oklahoma | 0.8 |
| 6 | Missouri | 0.8 |
| 7 | Virginia | 0.8 |
| 8 | Maryland | 0.9 |
| 9 | Michigan | 1.0 |
| 10 | Alabama | 1.0 |
| 11 | New Jersey | 1.0 |
| 12 | Ohio | 1.0 |
| 13 | Texas | 1.0 |
| 14 | South Carolina | 1.0 |
| 15 | Pennsylvania | 1.0 |
| 16 | Illinois | 1.0 |
| 17 | Indiana | 1.1 |
| 18 | Louisiana | 1.1 |
| 19 | Florida | 1.2 |
| 20 | North Carolina | 1.2 |
| 21 | Georgia | 1.2 |
| 22 | Tennessee | 1.2 |
| 23 | Wisconsin | 1.3 |
| 24 | Kentucky | 1.3 |
| 25 | Arkansas | 1.4 |
| 26 | Delaware | 1.5 |
| 27 | Mississippi | 1.8 |
| | United States | 1.0 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

In three states in 1984, nearly one in every three nonwhite low-birthweight births occurred to a woman younger than twenty.

The high incidence of births to nonwhite teens is a national problem. In every state in 1984 more than one in ten nonwhite births occurred to a mother younger than twenty.

TABLE 2.16A

## Percent of All Low-Birthweight Infants Born to Teens, Nonwhite, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Hawaii | 15.3 |
| 2 | Oregon | 15.6 |
| 3 | California | 15.8 |
| 4 | Washington | 16.5 |
| 5 | Alaska | 16.8 |
| 6 | District of Columbia | 18.4 |
| 7 | Colorado | 18.4 |
| 8 | Utah | 18.7 |
| 9 | New York | 19.9 |
| 10 | Arizona | 20.1 |
| 11 | Minnesota | 20.5 |
| 12 | Massachusetts | 20.8 |
| 13 | Nevada | 21.3 |
| 14 | West Virginia | 22.2 |
| 15 | Maryland | 22.4 |
| 16 | New Mexico | 22.4 |
| 17 | Michigan | 23.2 |
| 18 | Connecticut | 23.5 |
| 19 | Virginia | 24.0 |
| 20 | Iowa | 24.7 |
| 21 | Pennsylvania | 24.7 |
| 22 | Kansas | 24.9 |
| 23 | Ohio | 24.9 |
| 24 | Illinois | 25.4 |
| 25 | Delaware | 25.4 |
| 26 | New Jersey | 25.6 |
| 27 | Texas | 26.2 |
| 28 | Missouri | 26.2 |
| 29 | Rhode Island | 26.3 |
| 30 | Georgia | 26.7 |
| 31 | North Carolina | 26.8 |
| 32 | Tennessee | 26.8 |
| 33 | Oklahoma | 27.3 |
| 34 | Kentucky | 27.6 |
| 35 | Louisiana | 28.3 |
| 36 | Indiana | 28.3 |
| 37 | Florida | 28.8 |
| 38 | Wisconsin | 29.0 |
| 39 | South Carolina | 29.8 |
| 40 | Alabama | 30.4 |
| 41 | Nebraska | 32.1 |
| 42 | Arkansas | 32.3 |
| 43 | Mississippi | 32.9 |
| | United States | 24.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.16B

## Percent of All Births to Mothers Under 20, Nonwhite, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Hawaii | 11.2 |
| 2 | California | 12.2 |
| 3 | Utah | 12.4 |
| 4 | Washington | 13.3 |
| 5 | Maine | 14.2 |
| 6 | Colorado | 14.2 |
| 7 | Oregon | 14.7 |
| 8 | Massachusetts | 15.1 |
| 9 | Alaska | 15.6 |
| 10 | Idaho | 15.8 |
| 11 | Rhode Island | 16.7 |
| 12 | New York | 17.0 |
| 13 | New Mexico | 17.7 |
| 14 | Minnesota | 18.0 |
| 15 | North Dakota | 18.1 |
| 16 | Arizona | 19.1 |
| 17 | Iowa | 19.5 |
| 18 | Nevada | 19.6 |
| 19 | Virginia | 19.7 |
| 20 | Kansas | 19.7 |
| 21 | West Virginia | 19.7 |
| 22 | Montana | 20.1 |
| 23 | Maryland | 20.1 |
| 24 | South Dakota | 20.6 |
| 25 | Connecticut | 20.8 |
| 26 | District of Columbia | 21.2 |
| 27 | Wyoming | 21.6 |
| 28 | New Jersey | 21.8 |
| 29 | Texas | 22.1 |
| 30 | Oklahoma | 22.4 |
| 31 | Ohio | 22.5 |
| 32 | Michigan | 22.5 |
| 33 | Pennsylvania | 22.7 |
| 34 | Nebraska | 23.1 |
| 35 | Kentucky | 23.3 |
| 36 | Louisiana | 24.1 |
| 37 | Indiana | 24.1 |
| 38 | Florida | 24.2 |
| 39 | South Carolina | 24.3 |
| 40 | North Carolina | 24.4 |
| 41 | Tennessee | 24.4 |
| 42 | Wisconsin | 25.0 |
| 43 | Illinois | 25.0 |
| 44 | Alabama | 25.1 |
| 45 | Georgia | 25.1 |
| 46 | Missouri | 25.1 |
| 47 | Delaware | 26.2 |
| 48 | Mississippi | 28.5 |
| 49 | Arkansas | 28.6 |
| | United States | 20.8 |

TABLE 2.16C

## Percent of All Births to Mothers Under 15, Nonwhite, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | California | 0.4 |
| 2 | Washington | 0.4 |
| 3 | Arizona | 0.5 |
| 4 | New York | 0.5 |
| 5 | Connecticut | 0.5 |
| 6 | Oklahoma | 0.6 |
| 7 | Minnesota | 0.6 |
| 8 | Kansas | 0.7 |
| 9 | Missouri | 0.7 |
| 10 | Virginia | 0.8 |
| 11 | Maryland | 0.8 |
| 12 | Texas | 0.9 |
| 13 | New Jersey | 0.9 |
| 14 | Michigan | 0.9 |
| 15 | Ohio | 0.9 |
| 16 | Pennsylvania | 1.0 |
| 17 | Illinois | 1.0 |
| 18 | Wisconsin | 1.0 |
| 19 | Alabama | 1.0 |
| 20 | South Carolina | 1.0 |
| 21 | Indiana | 1.0 |
| 22 | Louisiana | 1.1 |
| 23 | North Carolina | 1.1 |
| 24 | Florida | 1.1 |
| 25 | Georgia | 1.1 |
| 26 | Tennessee | 1.1 |
| 27 | Kentucky | 1.2 |
| 28 | Arkansas | 1.4 |
| 29 | Delaware | 1.4 |
| 30 | Mississippi | 1.8 |
| | United States | 0.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

States show wide variation in the percentage of births to unmarried mothers. In 1984, the percentage of births that occurred to unmarried mothers in the District of Columbia was more than seven times greater than that in Utah.

In 1984 the percentage of births to teens that were to unmarried mothers varied dramatically from state to state. Although the teen birth rate and the proportion of all births that are to teens have decreased over the past several years, birth rates to unmarried teens and the proportion of all births to unmarried women that are to teen mothers have increased.

While the proportion of births to unmarried teen mothers varied significantly in 1984, there was far greater consistency in the percentage of all births to unmarried women accounted for by teens. In no state in 1984 did teens account for even half of all births to unmarried women.

TABLE 2.17A

## Percent of Infants Born to Unmarried Mothers, Total, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Utah | 7.7 |
| 2 | Idaho | 9.3 |
| 3 | North Dakota | 10.8 |
| 4 | Wyoming | 11.2 |
| 5 | Iowa | 12.6 |
| 6 | New Hampshire | 12.6 |
| 7 | Minnesota | 13.5 |
| 8 | Kansas | 13.8 |
| 9 | Nebraska | 14.0 |
| 10 | Nevada | 14.1 |
| 11 | Montana | 15.1 |
| 12 | Colorado | 15.3 |
| 13 | Texas | 15.3 |
| 14 | Vermont | 15.9 |
| 15 | Oklahoma | 16.1 |
| 16 | West Virginia | 16.2 |
| 17 | Maine | 16.3 |
| 18 | South Dakota | 16.4 |
| 19 | Wisconsin | 16.6 |
| 20 | Washington | 16.9 |
| 21 | Oregon | 17.4 |
| 22 | Alaska | 17.6 |
| 23 | Kentucky | 17.7 |
| 24 | Massachusetts | 17.7 |
| 25 | Michigan | 17.7 |
| 26 | Rhode Island | 17.7 |
| 27 | Indiana | 18.7 |
| 28 | Hawaii | 19.1 |
| 29 | Ohio | 20.4 |
| 30 | Missouri | 20.5 |
| 31 | Virginia | 20.8 |
| 32 | Pennsylvania | 20.9 |
| 33 | North Carolina | 21.2 |
| 34 | Connecticut | 21.2 |
| 35 | Arkansas | 21.8 |
| 36 | New Jersey | 22.1 |
| 37 | Tennessee | 22.9 |
| 38 | Arizona | 23.2 |
| 39 | California | 23.8 |
| 40 | Alabama | 24.5 |
| 41 | New Mexico | 24.7 |
| 42 | Delaware | 24.8 |
| 43 | Illinois | 25.0 |
| 44 | Florida | 25.1 |
| 45 | Georgia | 25.1 |
| 46 | South Carolina | 25.6 |
| 47 | Louisiana | 26.6 |
| 48 | New York | 26.9 |
| 49 | Maryland | 28.5 |
| 50 | Mississippi | 32.3 |
| 51 | District of Columbia | 56.9 |
| | United States | 21.0 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.17B

## Percent of Births to Teens that Were to Unmarried Mothers, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Utah | 33.4 |
| 2 | Idaho | 33.5 |
| 3 | West Virginia | 38.6 |
| 4 | Wyoming | 38.8 |
| 5 | Texas | 38.9 |
| 6 | Kentucky | 39.1 |
| 7 | Oklahoma | 39.3 |
| 8 | Nevada | 43.1 |
| 9 | Kansas | 44.3 |
| 10 | North Dakota | 46.4 |
| 11 | Arkansas | 47.4 |
| 12 | Tennessee | 49.7 |
| 13 | South Dakota | 49.9 |
| 14 | Iowa | 51.3 |
| 15 | Alaska | 51.6 |
| 16 | Colorado | 51.8 |
| 17 | Maine | 52.2 |
| 18 | Indiana | 52.3 |
| 19 | Montana | 52.9 |
| 20 | New Hampshire | 53.2 |
| 21 | Oregon | 53.3 |
| 22 | New Mexico | 53.7 |
| 23 | North Carolina | 53.9 |
| 24 | Washington | 54.6 |
| 25 | Michigan | 54.7 |
| 26 | Alabama | 55.0 |
| 27 | Vermont | 55.2 |
| 28 | Missouri | 55.5 |
| 29 | Nebraska | 56.0 |
| 30 | Georgia | 56.5 |
| 31 | Virginia | 56.7 |
| 32 | Ohio | 57.1 |
| 33 | Arizona | 57.9 |
| 34 | California | 58.0 |
| 35 | Florida | 58.8 |
| 36 | Louisiana | 59.0 |
| 37 | Hawaii | 60.6 |
| 38 | South Carolina | 61.5 |
| 39 | Minnesota | 61.8 |
| 40 | Wisconsin | 62.5 |
| 41 | Pennsylvania | 62.9 |
| 42 | Delaware | 63.8 |
| 43 | Rhode Island | 64.8 |
| 44 | Mississippi | 66.1 |
| 45 | Massachusetts | 67.5 |
| 46 | Illinois | 68.8 |
| 47 | Connecticut | 70.3 |
| 48 | Maryland | 72.6 |
| 49 | New York | 73.0 |
| 50 | New Jersey | 75.2 |
| 51 | District of Columbia | 91.6 |
| | United States | 56.3 |

TABLE 2.17C

## Percent of All Unmarried Mothers who Were Teens, Total, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | California | 27.4 |
| 2 | Alaska | 28.3 |
| 3 | New York | 28.3 |
| 4 | District of Columbia | 29.0 |
| 5 | Connecticut | 31.1 |
| 6 | Maryland | 32.6 |
| 7 | Hawaii | 32.9 |
| 8 | South Dakota | 32.9 |
| 9 | Oregon | 33.3 |
| 10 | Washington | 33.7 |
| 11 | New Mexico | 34.3 |
| 12 | Massachusetts | 34.3 |
| 13 | Florida | 34.4 |
| 14 | Virginia | 34.4 |
| 15 | New Jersey | 34.6 |
| 16 | Vermont | 34.9 |
| 17 | Pennsylvania | 35.0 |
| 18 | Delaware | 35.4 |
| 19 | Arizona | 35.6 |
| 20 | Illinois | 35.8 |
| 21 | Minnesota | 36.1 |
| 22 | Montana | 36.1 |
| 23 | Colorado | 36.2 |
| 24 | New Hampshire | 36.3 |
| 25 | North Dakota | 36.7 |
| 26 | Nevada | 37.4 |
| 27 | Rhode Island | 37.5 |
| 28 | Ohio | 37.6 |
| 29 | Utah | 37.6 |
| 30 | Tennessee | 37.7 |
| 31 | Kansas | 37.9 |
| 32 | Wisconsin | 38.1 |
| 33 | Missouri | 38.2 |
| 34 | Michigan | 38.3 |
| 35 | Iowa | 38.5 |
| 36 | Idaho | 38.7 |
| 37 | Nebraska | 38.9 |
| 38 | Louisiana | 39.0 |
| 39 | Maine | 39.1 |
| 40 | Indiana | 39.5 |
| 41 | Oklahoma | 39.5 |
| 42 | Texas | 40.0 |
| 43 | Georgia | 40.1 |
| 44 | Wyoming | 40.4 |
| 45 | Kentucky | 40.5 |
| 46 | Alabama | 40.7 |
| 47 | South Carolina | 41.4 |
| 48 | North Carolina | 42.1 |
| 49 | West Virginia | 42.1 |
| 50 | Arkansas | 43.2 |
| 51 | Mississippi | 43.4 |
| | United States | 35.1 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

While the proportion of births to unmarried white women in 1984 was far lower than that among black women, the state with the highest percentage of births to unmarried white women had a rate nearly three times greater than the state with the lowest percentage.

In 1984, births to unmarried white teens were not as common in southern states as elsewhere. However, this means only that white teens were more likely to be married at the time of their baby's birth. Regardless of the timing of the marriage, many of the problems associated with teen parenthood, including ignorance about contraception, prenatal care, and parenting skills, as well as an increased risk of poverty, affected white teen mothers.

TABLE 2.18A

## Percent of Infants Born to Unmarried Mothers, White, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Utah | 7.1 |
| 2 | Alabama | 7.3 |
| 3 | Mississippi | 7.5 |
| 4 | North Dakota | 7.9 |
| 5 | North Carolina | 7.9 |
| 6 | Georgia | 8.3 |
| 7 | South Carolina | 8.3 |
| 8 | Louisiana | 8.8 |
| 9 | Idaho | 8.9 |
| 10 | South Dakota | 9.3 |
| 11 | Arkansas | 9.7 |
| 12 | Virginia | 9.9 |
| 13 | Michigan | 10.1 |
| 14 | Nevada | 10.2 |
| 15 | Kansas | 10.2 |
| 16 | Wyoming | 10.3 |
| 17 | Texas | 10.4 |
| 18 | Nebraska | 10.5 |
| 19 | Alaska | 10.7 |
| 20 | Oklahoma | 10.8 |
| 21 | Montana | 10.9 |
| 22 | Iowa | 11.2 |
| 23 | Tennessee | 11.2 |
| 24 | Minnesota | 11.2 |
| 25 | Missouri | 11.8 |
| 26 | Wisconsin | 12.1 |
| 27 | New Jersey | 12.5 |
| 28 | New Hampshire | 12.6 |
| 29 | Illinois | 12.6 |
| 30 | Hawaii | 12.7 |
| 31 | Delaware | 12.9 |
| 32 | Indiana | 13.0 |
| 33 | Florida | 13.0 |
| 34 | Ohio | 13.1 |
| 35 | Kentucky | 13.3 |
| 36 | Pennsylvania | 13.6 |
| 37 | Maryland | 13.9 |
| 38 | Colorado | 14.0 |
| 39 | Massachusetts | 14.8 |
| 40 | West Virginia | 14.9 |
| 41 | Connecticut | 14.9 |
| 42 | Rhode Island | 15.0 |
| 43 | Washington | 15.1 |
| 44 | Vermont | 15.8 |
| 45 | Maine | 16.1 |
| 46 | Oregon | 16.2 |
| 47 | District of Columbia | 17.1 |
| 48 | New York | 17.7 |
| 49 | Arizona | 18.5 |
| 50 | New Mexico | 20.4 |
| 51 | California | 21.1 |
| | United States | 13.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.18B

## Percent of Births to Teens that Were to Unmarried Mothers, White, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Alabama | 22.8 |
| 2 | Mississippi | 23.4 |
| 3 | Georgia | 23.8 |
| 4 | Arkansas | 24.9 |
| 5 | North Carolina | 26.7 |
| 6 | Louisiana | 27.5 |
| 7 | Texas | 27.6 |
| 8 | South Carolina | 28.6 |
| 9 | Tennessee | 29.5 |
| 10 | Oklahoma | 30.3 |
| 11 | Hawaii | 30.8 |
| 12 | Kentucky | 32.0 |
| 13 | Utah | 32.1 |
| 14 | Nevada | 33.0 |
| 15 | Idaho | 33.1 |
| 16 | Virginia | 34.7 |
| 17 | West Virginia | 36.2 |
| 18 | Alaska | 36.5 |
| 19 | Florida | 36.6 |
| 20 | Kansas | 37.5 |
| 21 | Wyoming | 37.7 |
| 22 | South Dakota | 38.4 |
| 23 | Missouri | 39.6 |
| 24 | North Dakota | 40.0 |
| 25 | Michigan | 40.5 |
| 26 | Indiana | 42.2 |
| 27 | Delaware | 44.9 |
| 28 | Montana | 45.0 |
| 29 | Ohio | 45.3 |
| 30 | New Mexico | 47.8 |
| 31 | Illinois | 48.0 |
| 32 | Iowa | 48.1 |
| 33 | Nebraska | 48.6 |
| 34 | Maryland | 49.5 |
| 35 | Colorado | 50.0 |
| 36 | Oregon | 50.9 |
| 37 | Pennsylvania | 51.2 |
| 38 | Arizona | 51.4 |
| 39 | Washington | 51.4 |
| 40 | Maine | 52.4 |
| 41 | California | 52.5 |
| 42 | New Hampshire | 53.4 |
| 43 | Wisconsin | 54.4 |
| 44 | Vermont | 55.2 |
| 45 | Minnesota | 57.9 |
| 46 | New Jersey | 58.7 |
| 47 | Connecticut | 60.9 |
| 48 | New York | 61.0 |
| 49 | Rhode Island | 61.1 |
| 50 | Massachusetts | 63.0 |
| 51 | District of Columbia | 68.5 |
| | United States | 42.0 |

TABLE 2.18C

## Percent of All Unmarried Mothers who Were Teens, White, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | District of Columbia | 16.3 |
| 2 | Hawaii | 19.0 |
| 3 | Alaska | 24.9 |
| 4 | California | 27.3 |
| 5 | New York | 28.5 |
| 6 | Connecticut | 30.4 |
| 7 | New Jersey | 32.1 |
| 8 | Florida | 32.1 |
| 9 | Maryland | 32.5 |
| 10 | Oregon | 33.2 |
| 11 | Washington | 34.0 |
| 12 | Delaware | 34.5 |
| 13 | Nevada | 34.8 |
| 14 | Vermont | 35.0 |
| 15 | Virginia | 35.2 |
| 16 | Illinois | 35.4 |
| 17 | Massachusetts | 35.4 |
| 18 | New Mexico | 36.1 |
| 19 | New Hampshire | 36.5 |
| 20 | Minnesota | 36.8 |
| 21 | Pennsylvania | 36.8 |
| 22 | Colorado | 36.8 |
| 23 | Arizona | 37.1 |
| 24 | South Dakota | 37.1 |
| 25 | Montana | 37.1 |
| 26 | Wisconsin | 38.1 |
| 27 | North Dakota | 38.6 |
| 28 | Utah | 38.6 |
| 29 | Texas | 38.7 |
| 30 | Iowa | 38.7 |
| 31 | Rhode Island | 38.8 |
| 32 | Idaho | 39.0 |
| 33 | Georgia | 39.4 |
| 34 | Maine | 39.4 |
| 35 | Kansas | 39.6 |
| 36 | Missouri | 39.7 |
| 37 | Nebraska | 39.7 |
| 38 | Tennessee | 40.1 |
| 39 | Michigan | 40.1 |
| 40 | Wyoming | 40.4 |
| 41 | Ohio | 40.7 |
| 42 | Oklahoma | 41.0 |
| 43 | Indiana | 41.6 |
| 44 | Louisiana | 41.6 |
| 45 | Kentucky | 42.6 |
| 46 | West Virginia | 42.9 |
| 47 | South Carolina | 43.3 |
| 48 | Arkansas | 43.7 |
| 49 | North Carolina | 44.0 |
| 50 | Alabama | 44.8 |
| 51 | Mississippi | 45.1 |
| | United States | 34.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Black infants were far more likely than other infants to be born to unmarried women in 1984. The proportion of births to unmarried black women in the state with the highest percentage was more than six times greater than that in the state with the lowest percentage.

In all states with a significant number of black births to teens in 1984, the vast majority occurred to unmarried women. In twenty of forty-one states, 90 percent or more occurred to unmarried women. However, in all states in 1984, the majority of births to black unmarried women occurred to those older than twenty.

TABLE 2.19A

## Percent of All Infants Born to Unmarried Mothers, Black, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Hawaii | 11.6 |
| 2 | Alaska | 28.5 |
| 3 | Wyoming | 34.0 |
| 4 | New Mexico | 34.9 |
| 5 | Colorado | 39.8 |
| 6 | Utah | 39.9 |
| 7 | Washington | 41.2 |
| 8 | Texas | 47.7 |
| 9 | Nevada | 48.9 |
| 10 | Kansas | 51.6 |
| 11 | West Virginia | 52.0 |
| 12 | Arizona | 52.5 |
| 13 | South Carolina | 53.0 |
| 14 | Oklahoma | 53.2 |
| 15 | North Carolina | 53.4 |
| 16 | Rhode Island | 54.8 |
| 17 | Michigan | 55.0 |
| 18 | Massachusetts | 55.4 |
| 19 | California | 55.6 |
| 20 | Louisiana | 55.8 |
| 21 | Virginia | 55.8 |
| 22 | Oregon | 56.4 |
| 23 | Georgia | 56.8 |
| 24 | Alabama | 57.0 |
| 25 | Minnesota | 58.1 |
| 26 | Mississippi | 59.9 |
| 27 | Arkansas | 60.3 |
| 28 | Iowa | 60.7 |
| 29 | New York | 61.4 |
| 30 | Kentucky | 61.5 |
| 31 | Maryland | 61.9 |
| 32 | New Jersey | 62.7 |
| 33 | Florida | 63.1 |
| 34 | Tennessee | 64.0 |
| 35 | Connecticut | 64.2 |
| 36 | Ohio | 64.7 |
| 37 | Delaware | 65.2 |
| 38 | Nebraska | 66.2 |
| 39 | Indiana | 66.5 |
| 40 | District of Columbia | 66.8 |
| 41 | Missouri | 68.3 |
| 42 | Wisconsin | 69.8 |
| 43 | Pennsylvania | 70.2 |
| 44 | Illinois | 70.9 |
| | United States | 59.2 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.19B

## Percent of Births to Teens that Were to Unmarried Mothers, Black, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Alaska | 60.0 |
| 2 | New Mexico | 74.6 |
| 3 | Colorado | 79.3 |
| 4 | Washington | 80.6 |
| 5 | Texas | 80.8 |
| 6 | Kansas | 81.5 |
| 7 | Nevada | 83.4 |
| 8 | Michigan | 84.4 |
| 9 | Oklahoma | 84.6 |
| 10 | California | 85.6 |
| 11 | Louisiana | 86.5 |
| 12 | Delaware | 86.7 |
| 13 | West Virginia | 87.1 |
| 14 | Arizona | 88.1 |
| 15 | North Carolina | 88.2 |
| 16 | Arkansas | 88.3 |
| 17 | South Carolina | 88.3 |
| 18 | Virginia | 88.8 |
| 19 | Georgia | 89.0 |
| 20 | Alabama | 89.3 |
| 21 | Kentucky | 89.7 |
| 22 | Mississippi | 90.0 |
| 23 | Florida | 90.4 |
| 24 | Connecticut | 91.6 |
| 25 | New York | 91.7 |
| 26 | Massachusetts | 92.1 |
| 27 | Rhode Island | 92.4 |
| 28 | Nebraska | 92.5 |
| 29 | Oregon | 92.5 |
| 30 | Ohio | 92.6 |
| 31 | Iowa | 92.7 |
| 32 | Tennessee | 92.8 |
| 33 | District of Columbia | 92.8 |
| 34 | New Jersey | 93.8 |
| 35 | Minnesota | 93.9 |
| 36 | Indiana | 93.9 |
| 37 | Pennsylvania | 94.0 |
| 38 | Wisconsin | 94.2 |
| 39 | Maryland | 94.6 |
| 40 | Illinois | 94.7 |
| 41 | Missouri | 94.8 |
| | United States | 89.5 |

TABLE 2.19C

## Percent of All Unmarried Mothers who Were Teens, Black, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | California | 28.2 |
| 2 | New York | 28.3 |
| 3 | Alaska | 28.8 |
| 4 | District of Columbia | 29.8 |
| 5 | Massachusetts | 31.2 |
| 6 | Washington | 31.9 |
| 7 | Connecticut | 32.5 |
| 8 | Pennsylvania | 32.8 |
| 9 | Rhode Island | 32.8 |
| 10 | Maryland | 33.0 |
| 11 | Oregon | 33.7 |
| 12 | Ohio | 33.8 |
| 13 | Virginia | 34.1 |
| 14 | Colorado | 34.1 |
| 15 | Minnesota | 34.3 |
| 16 | Kansas | 34.6 |
| 17 | Delaware | 35.8 |
| 18 | Florida | 35.9 |
| 19 | Illinois | 36.1 |
| 20 | Kentucky | 36.1 |
| 21 | Tennessee | 36.2 |
| 22 | Indiana | 36.3 |
| 23 | West Virginia | 36.3 |
| 24 | Oklahoma | 36.5 |
| 25 | Michigan | 36.6 |
| 26 | New Jersey | 36.6 |
| 27 | Missouri | 36.8 |
| 28 | Iowa | 37.6 |
| 29 | Arizona | 37.8 |
| 30 | Nebraska | 38.1 |
| 31 | Louisiana | 38.4 |
| 32 | Wisconsin | 38.9 |
| 33 | Alabama | 39.7 |
| 34 | Georgia | 40.4 |
| 35 | South Carolina | 41.0 |
| 36 | North Carolina | 41.6 |
| 37 | New Mexico | 41.8 |
| 38 | Texas | 42.0 |
| 39 | Arkansas | 43.0 |
| 40 | Mississippi | 43.2 |
| 41 | Nevada | 43.2 |
| | United States | 35.7 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

Births to unmarried mothers were far more common among nonwhites than whites in 1984. In twenty-five states and the District of Columbia, 50 percent or more of all nonwhite births were to unmarried women.

In all but one state in 1984, more than 50 percent of births to nonwhite teens were to unmarried women.

Out of all births to nonwhite, unmarried women, only about one-third occurred to teens in 1984.

TABLE 2.20A

## Percent of Infants Born to Unmarried Mothers, Nonwhite, 1984

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | New Hampshire | 12.9 |
| 2 | Idaho | 19.5 |
| 3 | Utah | 20.2 |
| 4 | Hawaii | 21.2 |
| 5 | Maine | 22.6 |
| 6 | Wyoming | 27.1 |
| 7 | Colorado | 29.0 |
| 8 | Washington | 29.6 |
| 9 | Oregon | 32.3 |
| 10 | Nevada | 33.1 |
| 11 | California | 33.6 |
| 12 | Alaska | 35.0 |
| 13 | Oklahoma | 36.8 |
| 14 | North Dakota | 41.1 |
| 15 | Rhode Island | 41.4 |
| 16 | Texas | 41.8 |
| 17 | Kansas | 42.0 |
| 18 | Minnesota | 44.1 |
| 19 | Massachusetts | 44.1 |
| 20 | Iowa | 45.0 |
| 21 | New Mexico | 46.0 |
| 22 | Montana | 46.1 |
| 23 | West Virginia | 46.3 |
| 24 | Arizona | 47.4 |
| 25 | Michigan | 50.7 |
| 26 | North Carolina | 50.8 |
| 27 | Virginia | 50.9 |
| 28 | South Carolina | 52.1 |
| 29 | Louisiana | 53.7 |
| 30 | New York | 54.8 |
| 31 | South Dakota | 54.9 |
| 32 | Georgia | 55.2 |
| 33 | Nebraska | 55.3 |
| 34 | New Jersey | 55.5 |
| 35 | Alabama | 56.1 |
| 36 | Wisconsin | 57.4 |
| 37 | Kentucky | 57.5 |
| 38 | Maryland | 57.9 |
| 39 | Arkansas | 58.0 |
| 40 | Connecticut | 58.4 |
| 41 | Mississippi | 59.1 |
| 42 | Florida | 60.5 |
| 43 | Ohio | 60.8 |
| 44 | Indiana | 61.9 |
| 45 | Tennessee | 61.9 |
| 46 | Delaware | 62.9 |
| 47 | Missouri | 64.1 |
| 48 | Pennsylvania | 64.6 |
| 49 | Illinois | 65.2 |
| 50 | District of Columbia | 66.0 |
| | United States | 50.8 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.20B

## Percent of Births to Teens that Were to Unmarried Mothers, Nonwhite, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | Idaho | 42.2 |
| 2 | Utah | 50.4 |
| 3 | Wyoming | 50.5 |
| 4 | Oklahoma | 62.0 |
| 5 | Colorado | 66.9 |
| 6 | Hawaii | 67.5 |
| 7 | Alaska | 69.5 |
| 8 | Nevada | 69.7 |
| 9 | Washington | 72.1 |
| 10 | Kansas | 73.5 |
| 11 | North Dakota | 74.5 |
| 12 | Oregon | 75.2 |
| 13 | California | 75.9 |
| 14 | South Dakota | 77.1 |
| 15 | Texas | 78.6 |
| 16 | New Mexico | 78.9 |
| 17 | Montana | 79.1 |
| 18 | Arizona | 80.8 |
| 19 | Minnesota | 82.1 |
| 20 | Michigan | 82.3 |
| 21 | Rhode Island | 82.8 |
| 22 | West Virginia | 85.1 |
| 23 | Louisiana | 85.4 |
| 24 | Iowa | 86.1 |
| 25 | North Carolina | 86.3 |
| 26 | Delaware | 86.5 |
| 27 | Arkansas | 87.0 |
| 28 | Wisconsin | 87.4 |
| 29 | Virginia | 87.8 |
| 30 | South Carolina | 87.8 |
| 31 | Georgia | 88.7 |
| 32 | Alabama | 88.9 |
| 33 | Kentucky | 89.0 |
| 34 | Nebraska | 89.0 |
| 35 | Mississippi | 89.6 |
| 36 | Florida | 89.7 |
| 37 | Massachusetts | 90.2 |
| 38 | Connecticut | 90.3 |
| 39 | New York | 90.9 |
| 40 | Ohio | 91.6 |
| 41 | Tennessee | 91.9 |
| 42 | District of Columbia | 92.6 |
| 43 | Indiana | 93.0 |
| 44 | New Jersey | 93.0 |
| 45 | Pennsylvania | 93.2 |
| 46 | Missouri | 93.8 |
| 47 | Illinois | 94.0 |
| 48 | Maryland | 94.0 |
| | United States | 86.4 |

TABLE 2.20C

## Percent of All Unmarried Mothers who Were Teens, Nonwhite, 1984

| Rank | State Name | Rate |
|---|---|---|
| 1 | California | 27.6 |
| 2 | New York | 28.1 |
| 3 | South Dakota | 28.9 |
| 4 | District of Columbia | 29.8 |
| 5 | New Mexico | 30.3 |
| 6 | Alaska | 30.9 |
| 7 | Massachusetts | 30.9 |
| 8 | Utah | 30.9 |
| 9 | Connecticut | 32.2 |
| 10 | Washington | 32.5 |
| 11 | Maryland | 32.6 |
| 12 | Arizona | 32.7 |
| 13 | Colorado | 32.7 |
| 14 | North Dakota | 32.8 |
| 15 | Pennsylvania | 32.8 |
| 16 | Rhode Island | 33.5 |
| 17 | Minnesota | 33.6 |
| 18 | Ohio | 33.9 |
| 19 | Virginia | 34.0 |
| 20 | Idaho | 34.1 |
| 21 | Oregon | 34.2 |
| 22 | Montana | 34.4 |
| 23 | Kansas | 34.6 |
| 24 | Hawaii | 35.6 |
| 25 | Florida | 35.9 |
| 26 | Delaware | 36.0 |
| 27 | Illinois | 36.0 |
| 28 | Kentucky | 36.0 |
| 29 | Tennessee | 36.2 |
| 30 | Indiana | 36.2 |
| 31 | West Virginia | 36.3 |
| 32 | New Jersey | 36.6 |
| 33 | Michigan | 36.6 |
| 34 | Missouri | 36.7 |
| 35 | Nebraska | 37.2 |
| 36 | Iowa | 37.2 |
| 37 | Oklahoma | 37.8 |
| 38 | Wisconsin | 38.1 |
| 39 | Louisiana | 38.3 |
| 40 | Alabama | 39.7 |
| 41 | Wyoming | 40.3 |
| 42 | Georgia | 40.3 |
| 43 | South Carolina | 40.9 |
| 44 | Nevada | 41.2 |
| 45 | North Carolina | 41.4 |
| 46 | Texas | 41.7 |
| 47 | Arkansas | 42.9 |
| 48 | Mississippi | 43.2 |
| | United States | 35.3 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

In 1986, levels for AFDC payment and Medicaid coverage for families with no other income were extremely low. The unweighted national average among states was only 47.4 percent of the federal poverty level. In no state did payment levels reach the federal poverty level. Thirty-two states maintained payment levels less than 50 percent of the federal poverty level for a family of three.

The standard of need is the threshold for determining AFDC and Medicaid eligibility for most families with children. In theory it reflects the amount a family would need to subsist, but in most states it is much lower. In 1986 the standard of need in Alabama was $384 a month for a family of three (50.5 percent of the federal poverty level).

In 1986, payment levels to AFDC recipients were so low that in more than half of the states, actual payments did not meet their own official definition of the amount a family would need to subsist. The payment level in Alabama was only 31 percent of its standard of need, which was only 50.5 percent of the federal poverty level (see Table 2.21b). In dollars, this meant a payment of $118 per month for a family of three.

TABLE 2.21A

## AFDC Maximum Payment Levels* and Medicaid Coverage for Families with No Other Income as a Percent of the Federal Poverty Level, 1986

| *Rank* | *State Name* | *Percent* |
|---|---|---|
| 1 | Alaska | 77.9 |
| 2 | California | 77.2 |
| 3 | Vermont | 76.7 |
| 4 | Connecticut | 74.9 |
| 5 | Wisconsin | 72.9 |
| 6 | Minnesota | 69.5 |
| 7 | Rhode Island | 66.2 |
| 8 | New York | 65.4 |
| 9 | Washington | 64.7 |
| 10 | Michigan | 63.9 |
| 11 | Massachusetts | 56.8 |
| 12 | Hawaii | 53.5 |
| 13 | New Jersey | 53.2 |
| 14 | Oregon | 52.2 |
| 15 | Kansas | 51.8 |
| 16 | Maine | 51.2 |
| 17 | New Hampshire | 51.2 |
| 18 | Pennsylvania | 50.3 |
| 19 | Iowa | 50.1 |
| 20 | Utah | 49.5 |
| 21 | North Dakota | 48.8 |
| 22 | Wyoming | 47.4 |
| 23 | Montana | 46.6 |
| 24 | Virginia | 46.6 |
| 25 | Nebraska | 46.1 |
| 26 | Colorado | 45.5 |
| 27 | Illinois | 44.9 |
| 28 | Maryland | 43.3 |
| 29 | South Dakota | 43.3 |
| 30 | District of Columbia | 43.0 |
| 31 | Oklahoma | 40.8 |
| 32 | Idaho | 40.0 |
| 33 | Ohio | 39.7 |
| 34 | Delaware | 39.2 |
| 35 | Arizona | 38.6 |
| 36 | Nevada | 37.5 |
| 37 | Missouri | 36.1 |
| 38 | New Mexico | 33.9 |
| 39 | Indiana | 33.7 |
| 40 | Florida | 33.2 |
| 41 | West Virginia | 32.8 |
| 42 | North Carolina | 32.4 |
| 43 | Georgia | 29.3 |
| 44 | South Carolina | 26.2 |
| 45 | Kentucky | 25.9 |
| 46 | Arkansas | 25.3 |
| 47 | Louisiana | 25.0 |
| 48 | Texas | 24.2 |
| 49 | Tennessee | 20.1 |
| 50 | Mississippi | 15.8 |
| 51 | Alabama | 15.5 |

*All AFDC recipients are entitled to Medicaid coverage.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.21B

## States' Standard of Need as a Percent of the Federal Poverty Level, 1986

| Rank | State Name | Rate |
|---|---|---|
| 1 | Vermont | 116.2 |
| 2 | Washington | 102.2 |
| 3 | Utah | 91.2 |
| 4 | Illinois | 89.5 |
| 5 | District of Columbia | 86.1 |
| 6 | Ohio | 85.8 |
| 7 | Wisconsin | 84.3 |
| 8 | Michigan | 82.8 |
| 9 | Arizona | 81.7 |
| 10 | Pennsylvania | 80.8 |
| 11 | Louisiana | 78.9 |
| 12 | Alaska | 77.9 |
| 13 | California | 77.2 |
| 14 | Texas | 75.5 |
| 15 | Connecticut | 74.9 |
| 16 | Idaho | 72.9 |
| 17 | Maine | 70.5 |
| 18 | Minnesota | 69.5 |
| 19 | Rhode Island | 66.2 |
| 20 | Iowa | 65.4 |
| 21 | New York | 65.4 |
| 22 | West Virginia | 65.4 |
| 23 | North Carolina | 64.7 |
| 24 | Oklahoma | 62.0 |
| 25 | Maryland | 59.9 |
| 26 | Massachusetts | 57.8 |
| 27 | Montana | 56.3 |
| 28 | Colorado | 55.4 |
| 29 | Hawaii | 53.5 |
| 30 | New Jersey | 53.2 |
| 31 | Florida | 52.6 |
| 32 | Oregon | 52.2 |
| 33 | Kansas | 51.8 |
| 34 | Virginia | 51.7 |
| 35 | New Hampshire | 51.2 |
| 36 | Alabama | 50.5 |
| 37 | North Dakota | 48.8 |
| 38 | South Carolina | 48.6 |
| 39 | Georgia | 48.2 |
| 40 | Wyoming | 47.4 |
| 41 | Nebraska | 46.1 |
| 42 | Tennessee | 44.6 |
| 43 | South Dakota | 43.3 |
| 44 | Missouri | 41.1 |
| 45 | Indiana | 40.4 |
| 46 | Delaware | 39.2 |
| 47 | Mississippi | 37.6 |
| 48 | Nevada | 37.5 |
| 49 | New Mexico | 33.9 |
| 50 | Arkansas | 30.8 |
| 51 | Kentucky | 25.9 |

TABLE 2.21C

## AFDC Payment Level as a Percent of the AFDC Standard of Need, 1986

| Rank | State Name | Rate |
|---|---|---|
| 1 | Alaska | 100.0 |
| 2 | California | 100.0 |
| 3 | Connecticut | 100.0 |
| 4 | Delaware | 100.0 |
| 5 | Hawaii | 100.0 |
| 6 | Kansas | 100.0 |
| 7 | Kentucky | 100.0 |
| 8 | Minnesota | 100.0 |
| 9 | Nebraska | 100.0 |
| 10 | Nevada | 100.0 |
| 11 | New Hampshire | 100.0 |
| 12 | New Jersey | 100.0 |
| 13 | New Mexico | 100.0 |
| 14 | New York | 100.0 |
| 15 | North Dakota | 100.0 |
| 16 | Oregon | 100.0 |
| 17 | Rhode Island | 100.0 |
| 18 | South Dakota | 100.0 |
| 19 | Wyoming | 100.0 |
| 20 | Massachusetts | 98.4 |
| 21 | Virginia | 90.1 |
| 22 | Missouri | 87.8 |
| 23 | Wisconsin | 86.4 |
| 24 | Indiana | 83.4 |
| 25 | Montana | 82.7 |
| 26 | Colorado | 82.2 |
| 27 | Arkansas | 82.1 |
| 28 | Michigan | 77.3 |
| 29 | Iowa | 76.7 |
| 30 | Maine | 72.6 |
| 31 | Maryland | 72.3 |
| 32 | Vermont | 66.0 |
| 33 | Oklahoma | 65.8 |
| 34 | Washington | 63.3 |
| 35 | Florida | 63.0 |
| 36 | Pennsylvania | 62.2 |
| 37 | Georgia | 60.9 |
| 38 | Idaho | 54.9 |
| 39 | Utah | 54.3 |
| 40 | South Carolina | 53.9 |
| 41 | Illinois | 50.1 |
| 42 | West Virginia | 50.1 |
| 43 | District of Columbia | 50.0 |
| 44 | North Carolina | 50.0 |
| 45 | Arizona | 47.2 |
| 46 | Ohio | 46.3 |
| 47 | Tennessee | 45.1 |
| 48 | Mississippi | 42.0 |
| 49 | Texas | 32.1 |
| 50 | Louisiana | 31.7 |
| 51 | Alabama | 30.7 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

In no state were all women and children who were financially eligible for WIC actually served by the program in 1986. In forty-four states, fewer than 50 percent of eligible women and children were served.

TABLE 2.21D

## Percent of WIC Financially Eligible Population Served, 1986

| *Rank* | *State Name* | *Rate* |
|---|---|---|
| 1 | Vermont | 76.5 |
| 2 | Connecticut | 65.3 |
| 3 | Wyoming | 62.8 |
| 4 | Mississippi | 57.1 |
| 5 | Ohio | 56.9 |
| 6 | Nevada | 53.2 |
| 7 | Rhode Island | 50.1 |
| 8 | District of Columbia | 49.8 |
| 9 | Georgia | 49.7 |
| 10 | New Hampshire | 49.4 |
| 11 | Minnesota | 48.7 |
| 12 | Wisconsin | 48.3 |
| 13 | Illinois | 47.6 |
| 14 | Pennsylvania | 47.4 |
| 15 | Michigan | 46.1 |
| 16 | North Carolina | 43.2 |
| 17 | West Virginia | 42.7 |
| 18 | Iowa | 42.0 |
| 19 | Massachusetts | 41.5 |
| 20 | Louisiana | 41.1 |
| 21 | New York | 40.8 |
| 22 | Alabama | 40.7 |
| 23 | Maryland | 40.7 |
| 24 | Maine | 40.6 |
| 25 | North Dakota | 40.4 |
| 26 | South Carolina | 39.5 |
| 27 | Kansas | 39.2 |
| 28 | Delaware | 39.1 |
| 29 | Tennessee | 39.0 |
| 30 | Virginia | 39.0 |
| 31 | Montana | 38.6 |
| 32 | Kentucky | 38.1 |
| 33 | New Jersey | 37.9 |
| 34 | Colorado | 37.3 |
| 35 | Texas | 36.5 |
| 36 | Oklahoma | 36.0 |
| 37 | Indiana | 35.8 |
| 38 | Oregon | 35.1 |
| 39 | Florida | 34.8 |
| 40 | Missouri | 34.5 |
| 41 | Nebraska | 33.8 |
| 42 | Arkansas | 32.8 |
| 43 | South Dakota | 32.4 |
| 44 | Washington | 31.5 |
| 45 | California | 31.1 |
| 46 | Utah | 31.1 |
| 47 | Arizona | 28.4 |
| 48 | Idaho | 28.1 |
| 49 | Alaska | 27.6 |
| 50 | New Mexico | 24.9 |
| 51 | Hawaii | 22.7 |
| | United States | 40.4 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.22A

## Infant Mortality Rates for Cities of 500,000+ Population, All Races, 1984

| Rank | City Name | Rate |
|---|---|---|
| 1 | San Jose | 7.9 |
| 2 | San Francisco | 8.8 |
| 3 | Columbus | 9.6 |
| 4 | San Diego | 9.7 |
| 5 | Phoenix | 9.9 |
| 6 | Los Angeles | 11.0 |
| 7 | Boston | 11.7 |
| 8 | Dallas | 11.7 |
| 9 | Jacksonville | 11.9 |
| 10 | Houston | 11.9 |
| 11 | San Antonio | 12.8 |
| 12 | New York City | 13.0 |
| 13 | Indianapolis | 13.3 |
| 14 | Milwaukee | 14.2 |
| 15 | Memphis | 14.8 |
| 16 | Philadelphia | 15.5 |
| 17 | New Orleans | 16.0 |
| 18 | Chicago | 16.5 |
| 19 | Baltimore | 16.8 |
| 20 | Cleveland | 16.8 |
| 21 | Detroit | 20.9 |
| 22 | District of Columbia | 21.0 |

In general, infant mortality in the United States' largest cities tends to be more serious than for the nation as a whole. Only five of the twenty-two largest cities had 1984 infant mortality rates equal to or less than the national average (10.8 deaths per 1,000 live births).

TABLE 2.22B

## Infant Mortality Rates for Cities of 500,000+ Population, White,* 1984

| Rank | City Name | Rate |
|---|---|---|
| 1 | Memphis | 7.8 |
| 2 | Columbus | 8.3 |
| 3 | San Jose | 8.3 |
| 4 | San Francisco | 8.5 |
| 5 | San Diego | 8.8 |
| 6 | Los Angeles | 9.2 |
| 7 | Philadelphia | 9.2 |
| 8 | Indianapolis | 9.4 |
| 9 | Phoenix | 9.4 |
| 10 | Jacksonville | 9.5 |
| 11 | Dallas | 9.7 |
| 12 | Cleveland | 10.2 |
| 13 | Boston | 10.4 |
| 14 | Houston | 10.6 |
| 15 | New Orleans | 10.8 |
| 16 | Chicago | 11.1 |
| 17 | Milwaukee | 11.7 |
| 18 | New York City | 11.7 |
| 19 | San Antonio | 12.5 |
| 20 | Baltimore | 13.2 |
| 21 | Detroit | 13.8 |

The disparity between black and white infant mortality rates in the United States' twenty-two largest cities in 1984 was startling. The highest white infant mortality rate among the cities (13.8 deaths per 1,000 live births in Detroit) was nearly identical to the lowest large city black rate that year (13.5 deaths per 1,000 live births in Columbus). In seven cities black infant mortality rates were more than twice as high as white rates.

* Washington, D.C. was not ranked because there were too few white infant deaths to calculate a reliable rate.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.22C

## Infant Mortality Rates for Cities of 500,000+ Population, Nonwhite,* 1984

| *Rank* | *City Name* | *Rate* |
|---|---|---|
| 1 | San Francisco | 9.0 |
| 2 | San Diego | 11.9 |
| 3 | Columbus | 12.8 |
| 4 | Boston | 13.4 |
| 5 | New York City | 14.6 |
| 6 | Houston | 14.6 |
| 7 | Dallas | 15.2 |
| 8 | Los Angeles | 15.6 |
| 9 | Jacksonville | 16.3 |
| 10 | New Orleans | 17.9 |
| 11 | Milwaukee | 18.1 |
| 12 | Baltimore | 18.5 |
| 13 | Memphis | 19.2 |
| 14 | Chicago | 21.5 |
| 15 | Philadelphia | 21.8 |
| 16 | Cleveland | 23.0 |
| 17 | Detroit | 23.3 |
| 18 | Indianapolis | 23.6 |
| 19 | District of Columbia | 24.1 |

In 1984 there was a substantial disparity in infant mortality rates among cities. The District of Columbia's nonwhite infant mortality rate, the highest among the twenty-two largest cities in 1984, was nearly three times greater than the nonwhite rate in San Francisco, the city with the lowest rate that year. Similarly, Indianapolis, the city with the highest black infant mortality rate, had a rate that was 1.8 times higher than the black rate in Columbus and 1.6 times higher than the rate in Dallas.

TABLE 2.22D

## Infant Mortality Rates for Cities of 500,000+ Population, Black,* 1984

| *Rank* | *City Name* | *Rate* |
|---|---|---|
| 1 | Columbus | 13.5 |
| 2 | Boston | 14.6 |
| 3 | New York City | 15.6 |
| 4 | Dallas | 15.7 |
| 5 | Houston | 16.7 |
| 6 | Jacksonville | 16.8 |
| 7 | San Diego | 18.1 |
| 8 | New Orleans | 18.5 |
| 9 | Milwaukee | 18.5 |
| 10 | Baltimore | 18.7 |
| 11 | Memphis | 19.3 |
| 12 | Los Angeles | 19.9 |
| 13 | Philadelphia | 22.3 |
| 14 | Chicago | 22.6 |
| 15 | Cleveland | 23.2 |
| 16 | Detroit | 23.7 |
| 17 | District of Columbia | 24.3 |
| 18 | Indianapolis | 24.5 |

Infant mortality rates can vary dramatically even within states. For example, in 1984 there was a remarkable difference in infant mortality rates between Columbus, Ohio and Cleveland, Ohio. A black infant born in Cleveland was 1.7 times more likely to die in the first year of life than one born in Columbus.

*The following cities were not ranked because there were too few infant deaths to calculate a reliable rate: for nonwhites, Phoenix, San Antonio, and San Jose; for blacks, Phoenix, San Antonio, San Francisco, and San Jose.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.23A

## Percent of All Births to Mothers Under 20, for Cities of 500,000+ Population, All Races, 1984

| Rank | City Name | Rate |
|---|---|---|
| 1 | Staten Island | 6.1 |
| 2 | Queens | 8.0 |
| 3 | San Francisco | 8.1 |
| 4 | San Diego | 9.6 |
| 5 | San Jose | 10.7 |
| 6 | Manhattan | 11.1 |
| 7 | New York City* | 12.1 |
| 8 | Los Angeles | 12.5 |
| 9 | Boston | 13.3 |
| 10 | Brooklyn | 13.4 |
| 11 | Columbus | 14.4 |
| 12 | Jacksonville | 16.1 |
| 13 | Phoenix | 16.1 |
| 14 | Houston | 16.2 |
| 15 | Indianapolis | 16.6 |
| 16 | Bronx | 17.2 |
| 17 | Milwaukee | 17.6 |
| 18 | Philadelphia | 17.9 |
| 19 | District of Columbia | 18.0 |
| 20 | Memphis | 18.5 |
| 21 | San Antonio | 18.6 |
| 22 | New Orleans | 18.7 |
| 23 | Dallas | 19.1 |
| 24 | Chicago | 19.1 |
| 25 | Cleveland | 19.6 |
| 26 | Detroit | 20.4 |
| 27 | Baltimore | 23.7 |

There were substantial disparities among the nation's largest cities in the percentage of births to teens of all races in 1984. The proportion in Baltimore is nearly four times higher than that in Staten Island. Baltimore had the highest proportion of births to teens in 1980 (26.2 percent), in 1982 (24.2 percent), and in 1984 (23.7 percent).

TABLE 2.23B

## Percent of All Births to Mothers Under 20, for Cities of 500,000+ Population, White, 1984

| Rank | City Name | Rate |
|---|---|---|
| 1 | District of Columbia | 4.1 |
| 2 | Staten Island | 4.6 |
| 3 | Queens | 5.1 |
| 4 | San Francisco | 6.3 |
| 5 | New Orleans | 7.7 |
| 6 | Manhattan | 8.2 |
| 7 | San Diego | 8.6 |
| 8 | Memphis | 8.9 |
| 9 | New York City* | 9.5 |
| 10 | Milwaukee | 10.0 |
| 11 | Boston | 10.0 |
| 12 | Brooklyn | 10.3 |
| 13 | Chicago | 11.4 |
| 14 | Philadelphia | 11.6 |
| 15 | Columbus | 11.7 |
| 16 | Los Angeles | 11.7 |
| 17 | San Jose | 11.8 |
| 18 | Jacksonville | 12.4 |
| 19 | Detroit | 13.0 |
| 20 | Indianapolis | 13.1 |
| 21 | Dallas | 14.2 |
| 22 | Houston | 14.3 |
| 23 | Phoenix | 14.9 |
| 24 | Baltimore | 15.1 |
| 25 | Cleveland | 15.2 |
| 26 | Bronx | 16.8 |
| 27 | San Antonio | 18.3 |

The disparities between the percentage of black births to teens and the percentage of white births to teens varied greatly among cities. For example, the proportion of births to teens was five times greater for blacks than for whites in the District of Columbia, three times greater for blacks than for whites in Milwaukee and in New Orleans, and only a small fraction greater for blacks than for whites in the Bronx and in San Jose.

*These tables include data on births to teens for New York City as a whole and, in addition, break out the data for the five boroughs of the city of New York (Bronx, Brooklyn, Manhattan, Queens, and Staten Island).

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 2.23C

## Percent of All Births to Mothers Under 20, for Cities of 500,000+ Population, Nonwhite, 1984

| Rank | City Name | Rate |
|---|---|---|
| 1 | San Jose | 7.6 |
| 2 | San Francisco | 9.6 |
| 3 | San Diego | 12.0 |
| 4 | Queens | 12.6 |
| 5 | Staten Island | 14.3 |
| 6 | Los Angeles | 14.6 |
| 7 | Manhattan | 15.2 |
| 8 | New York City* | 15.7 |
| 9 | Brooklyn | 16.6 |
| 10 | Boston | 17.4 |
| 11 | Bronx | 17.8 |
| 12 | Houston | 20.1 |
| 13 | Columbus | 21.1 |
| 14 | District of Columbia | 21.2 |
| 15 | San Antonio | 21.8 |
| 16 | New Orleans | 22.8 |
| 17 | Detroit | 23.0 |
| 18 | Jacksonville | 23.0 |
| 19 | Cleveland | 23.6 |
| 20 | Philadelphia | 24.2 |
| 21 | Memphis | 24.3 |
| 22 | Phoenix | 24.6 |
| 23 | Indianapolis | 25.9 |
| 24 | Chicago | 26.3 |
| 25 | Dallas | 27.5 |
| 26 | Baltimore | 27.8 |
| 27 | Milwaukee | 29.0 |

The composition of a city's nonwhite population may be reflected in its trends in births to teens. For example, cities with large Asian populations, such as San Jose and San Francisco, had the lowest proportions of births to teens in 1984. This pattern is consistent with national trends in Asian births to teens.

TABLE 2.23D

## Percent of All Births to Mothers Under 20, for Cities of 500,000+ Population, Black, 1984

| Rank | City Name | Rate |
|---|---|---|
| 1 | San Jose | 14.9 |
| 2 | Queens | 16.0 |
| 3 | Brooklyn | 17.5 |
| 4 | New York City* | 17.6 |
| 5 | San Diego | 17.7 |
| 6 | Manhattan | 18.1 |
| 7 | Staten Island | 18.4 |
| 8 | Bronx | 18.7 |
| 9 | Los Angeles | 19.5 |
| 10 | Boston | 19.8 |
| 11 | District of Columbia | 21.5 |
| 12 | San Francisco | 21.9 |
| 13 | Columbus | 22.6 |
| 14 | Houston | 23.0 |
| 15 | Detroit | 23.2 |
| 16 | New Orleans | 23.5 |
| 17 | Jacksonville | 23.5 |
| 18 | San Antonio | 23.7 |
| 19 | Cleveland | 24.0 |
| 20 | Memphis | 24.6 |
| 21 | Philadelphia | 25.3 |
| 22 | Indianapolis | 26.7 |
| 23 | Chicago | 27.6 |
| 24 | Baltimore | 28.1 |
| 25 | Phoenix | 28.1 |
| 26 | Dallas | 29.0 |
| 27 | Milwaukee | 30.2 |

Some cities had startlingly high proportions of black births to teens. In Philadelphia and Indianapolis one in four black births was to a teen mother in 1984. In Dallas and Milwaukee births to teens accounted for nearly one-third of all black births.

*These tables include data on births to teens for New York City as a whole and, in addition, break out the data for the five boroughs of the city of New York (Bronx, Brooklyn, Manhattan, Queens, and Staten Island).

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# State Fact Sheets

# ALABAMA

## State Fact Sheet, 1984

| | White | Nonwhite | | Total |
|---|---|---|---|---|
| **Births** | | Black | Total | |
| To all women | 38,291 | 20,553 | 20,926 | 59,217 |
| To all women age 19 and under | 5,519 | 5,213 | 5,243 | 10,762 |
| To women under age 15 | 62 | 202 | 204 | 266 |
| **Teen Births** | | | | |
| *(As percentage of all births)* | | | | |
| To women age 19 and under | 14.4% | 25.4% | 25.1% | 18.2% |
| To women under age 15 | 0.2 | 1.0 | 1.0 | 0.4 |
| **Low-Birthweight Births** | | | | |
| *Percentage of births that are low birthweight:* | | | | |
| To all women | 5.7% | 12.1% | 12.0% | 7.9% |
| To women age 19 and under | 7.0 | 14.6 | 14.6 | 10.7 |
| *Percentage of all low-birthweight births:* | | | | |
| To women age 19 and under | 17.6% | 30.6% | 30.4% | 24.5% |
| **Prenatal Care** | | | | |
| *Percentage of babies born to women who began prenatal care in the first trimester:* | | | | |
| To all women | 81.5% | 58.8% | 59.0% | 73.6% |
| To women age 19 and under | 60.0 | 42.4 | 42.4 | 51.5 |
| *Percentage of babies born to women who began prenatal care in the third trimester or not at all:* | | | | |
| To all women | 3.9% | 9.5% | 9.5% | 5.9% |
| To women age 19 and under | 8.9 | 15.3 | 15.3 | 12.0 |
| **Infant Mortality** | | | | |
| *Infant deaths per 1,000 live births* | | | | |
| Total infant deaths | 9.7 | 19.2 | 18.9 | 12.9 |
| Neonatal deaths | 6.9 | 12.2 | 12.1 | 8.7 |
| Postneonatal deaths | 2.7 | 7.0 | 6.8 | 4.2 |

To meet the Surgeon General's 1990 goal for infant mortality for all races, Alabama will have to improve its rate of progress slightly. It will meet the goal for whites, but for nonwhites and blacks will have to increase its rate of progress by 1.5 times. The state will meet the goal for neonatal mortality. To meet the goal for postneonatal mortality, the state will have to double its current rate of progress. To meet the goal for low-birthweight births for all races, Alabama will have to improve its rate of progress by 6 times, and for blacks and nonwhites by a multiple of 10. The state will have to improve its rate of progress by 1.5 times for whites to meet the low birthweight goal. To meet the goal for prenatal care, the state will have to multiply its current rate of progress by 7.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# ALABAMA

## Medicaid, AFDC, and WIC Fact Sheet, 1986

### Medicaid Coverage Standards

| *Benefits provided to:* | *Yes* | *No* |
|---|---|---|
| • All children under age 18 who meet AFDC financial eligibility requirements | ☐ | ■ |
| • Medically needy children and pregnant women | ☐ | ■ |

### AFDC Coverage Standards

*Program includes benefits to:*

| | | |
|---|---|---|
| • Pregnant women, with no other children, from the sixth month or later | ☐ | ■ |
| • Two-parent unemployed families | ☐ | ■ |

### State-Funded Cash Assistance For Pregnant Women

*State offers non-AFDC cash assistance to pregnant women:*

| | | |
|---|---|---|
| • From medical verification if prior to sixth month | ☐ | ■ |
| • Based on pregnancy status alone* | ☐ | ■ |

### AFDC Financial Standards

*AFDC monthly standard of need for a family of three:*

$384.00

- As a percent of the monthly federal poverty level ($760.00):

51%

*AFDC monthly benefit level for a family of three:*

$118.00

- As a percent of the monthly federal poverty level ($760.00):

16%

- As a percent of the monthly standard of need ($384.00):

31%

### WIC Coverage

Women and children served as a percentage of the eligible population:

41%

*Some states that have elected to make cash payments to pregnant women prior to the sixth month of pregnancy set additional eligibility criteria such as disability, thereby disqualifying many pregnant women. Other states require only financial eligibility and proof of pregnancy.

# ALASKA

## State Fact Sheet, 1984

| | White | Nonwhite | | Total |
|---|---|---|---|---|
| **Births** | | Black | Total | |
| To all women | 8,921 | 512 | 3,534 | 12,455 |
| To all women age 19 and under | 649 | 70 | 550 | 1,199 |
| To women under age 15 | 4 | — | 4 | 8 |
| **Teen Births** | | | | |
| *(As percentage of all births)* | | | | |
| To women age 19 and under | 7.3% | 13.7% | 15.6% | 9.6% |
| To women under age 15 | — | — | 0.1 | 0.1 |
| **Low-Birthweight Births** | | | | |
| *Percentage of births that are low birthweight:* | | | | |
| To all women | 4.3% | 7.1% | 6.1% | 4.8% |
| To women age 19 and under | 5.9 | — | 6.6 | 6.2 |
| *Percentage of all low-birthweight births:* | | | | |
| To women age 19 and under | 9.8% | — | 16.8% | 12.3% |
| **Prenatal Care** | | | | |
| *Percentage of babies born to women who began prenatal care in the first trimester:* | | | | |
| To all women | 78.8% | 69.8% | 67.4% | 75.7% |
| To women age 19 and under | 58.4 | 46.2 | 56.5 | 57.5 |
| *Percentage of babies born to women who began prenatal care in the third trimester or not at all:* | | | | |
| To all women | 3.6% | — | 8.0% | 4.8% |
| To women age 19 and under | 7.9 | — | 13.4 | 10.4 |
| **Infant Mortality** | | | | |
| *Infant deaths per 1,000 live births* | | | | |
| Total infant deaths | 9.3 | — | 16.1 | 11.2 |
| Neonatal deaths | 4.7 | — | — | 5.7 |
| Postneonatal deaths | 4.6 | — | — | 5.5 |

Alaska will meet the Surgeon General's 1990 goal for infant mortality for all races and whites but will have to increase the rate of progress by 7 times for nonwhites. The state already has met the goal for neonatal mortality but will not meet the goal for postneonatal mortality because it is moving in the wrong direction. It already has met the goals for low-birthweight births for all races, whites, nonwhites, and blacks. To meet the goal for prenatal care, the state will have to increase its current rate of progress by 3.5 times.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# ALASKA

## Medicaid, AFDC, and WIC Fact Sheet, 1986

### Medicaid Coverage Standards

| *Benefits provided to:* | *Yes* | *No* |
|---|---|---|
| • All children under age 18 who meet AFDC financial eligibility requirements | ■ | □ |
| • Medically needy children and pregnant women | □ | ■ |

### AFDC Coverage Standards

*Program includes benefits to:*

| | | |
|---|---|---|
| • Pregnant women, with no other children, from the sixth month or later | ■ | □ |
| • Two-parent unemployed families | □ | ■ |

### State-Funded Cash Assistance For Pregnant Women

*State offers non-AFDC cash assistance to pregnant women:*

| | | |
|---|---|---|
| • From medical verification if prior to sixth month | ■ | □ |
| • Based on pregnancy status alone* | ■ | □ |

### AFDC Financial Standards

*AFDC monthly standard of need for a family of three:*

$740.00

- As a percent of the monthly federal poverty level ($950.00):

78%

*AFDC monthly benefit level for a family of three:*

$740.00

- As a percent of the monthly federal poverty level ($950.00):

78%

- As a percent of the monthly standard of need ($740.00):

100%

### WIC Coverage

Women and children served as a percentage of the eligible population:

28%

*Some states that have elected to make cash payments to pregnant women prior to the sixth month of pregnancy set additional eligibility criteria such as disability, thereby disqualifying many pregnant women. Other states require only financial eligibility and proof of pregnancy.

*PART 3*

# Appendix

TABLE 3.1

# Infant Mortality Rates, by Race, U.S., 1940-1984

| Year | All Races | White | Nonwhite | | Ratio of Black to White |
|---|---|---|---|---|---|
| | | | Black | Total | |
| 1940 | 47.0 | 43.2 | 72.9 | 73.8 | 1.69 |
| 1941 | 45.3 | 41.2 | 74.1 | 74.8 | 1.80 |
| 1942 | 40.4 | 37.3 | 64.2 | 64.6 | 1.72 |
| 1943 | 40.4 | 37.5 | 61.5 | 62.5 | 1.64 |
| 1944 | 39.8 | 36.9 | 59.3 | 60.3 | 1.61 |
| 1945 | 38.3 | 35.6 | 56.2 | 57.0 | 1.58 |
| 1946 | 33.8 | 31.8 | 48.8 | 49.5 | 1.53 |
| 1947 | 32.2 | 30.1 | 47.7 | 48.5 | 1.58 |
| 1948 | 32.0 | 29.9 | 45.7 | 46.5 | 1.53 |
| 1949 | 31.3 | 28.9 | 46.8 | 47.3 | 1.62 |
| 1950 | 29.2 | 26.8 | 43.9 | 44.5 | 1.64 |
| 1951 | 28.4 | 25.8 | 44.3 | 44.8 | 1.72 |
| 1952 | 28.4 | 25.5 | 46.9 | 47.0 | 1.84 |
| 1953 | 27.8 | 25.0 | 44.5 | 44.7 | 1.78 |
| 1954 | 26.6 | 23.9 | 42.9 | 42.9 | 1.79 |
| 1955 | 26.4 | 23.6 | 43.1 | 42.8 | 1.83 |
| 1956 | 26.0 | 23.2 | 42.4 | 42.1 | 1.83 |
| 1957 | 26.3 | 23.3 | 44.2 | 43.7 | 1.90 |
| 1958 | 27.1 | 23.8 | 46.3 | 45.7 | 1.95 |
| 1959 | 26.4 | 23.2 | 44.8 | 44.0 | 1.93 |
| 1960 | 26.0 | 22.9 | 44.3 | 43.2 | 1.93 |
| 1961 | 25.3 | 22.4 | 41.8 | 40.7 | 1.87 |
| 1962 | 25.3 | 22.3 | 42.6 | 41.4 | 1.91 |
| 1963 | 25.2 | 22.2 | 42.8 | 41.5 | 1.93 |
| 1964 | 24.8 | 21.6 | 42.3 | 41.1 | 1.96 |
| 1965 | 24.7 | 21.5 | 41.7 | 40.3 | 1.94 |
| 1966 | 23.7 | 20.6 | 40.2 | 38.8 | 1.95 |
| 1967 | 22.4 | 19.7 | 37.5 | 35.9 | 1.90 |
| 1968 | 21.8 | 19.2 | 36.2 | 34.5 | 1.89 |
| 1969 | 20.9 | 18.4 | 34.8 | 32.9 | 1.89 |
| 1970 | 20.0 | 17.8 | 32.6 | 30.9 | 1.83 |
| 1971 | 19.1 | 17.1 | 30.3 | 28.5 | 1.77 |
| 1972 | 18.5 | 16.4 | 29.6 | 27.7 | 1.80 |
| 1973 | 17.7 | 15.8 | 28.1 | 26.2 | 1.78 |
| 1974 | 16.7 | 14.8 | 26.8 | 24.9 | 1.81 |
| 1975 | 16.1 | 14.2 | 26.2 | 24.2 | 1.85 |
| 1976 | 15.2 | 13.3 | 25.5 | 23.5 | 1.92 |
| 1977 | 14.1 | 12.3 | 23.6 | 21.7 | 1.92 |
| 1978 | 13.8 | 12.0 | 23.1 | 21.1 | 1.93 |
| 1979 | 13.1 | 11.4 | 21.8 | 19.8 | 1.91 |
| 1980 | 12.6 | 11.0 | 21.4 | 19.1 | 1.95 |
| 1981 | 11.9 | 10.5 | 20.0 | 17.8 | 1.90 |
| 1982 | 11.5 | 10.1 | 19.6 | 17.3 | 1.94 |
| 1983 | 11.2 | 9.7 | 19.2 | 16.8 | 1.98 |
| 1984 | 10.8 | 9.4 | 18.4 | 16.1 | 1.96 |

*Source: National Center for Health Statistics.*

TABLE 3.2

# Neonatal Mortality Rates, by Race, U.S., Selected Years, 1950-1984

| Year | All Races | White | Nonwhite | | Ratio of Black to White |
|---|---|---|---|---|---|
| | | | Black | Total | |
| 1950 | 20.5 | 19.4 | 27.8 | 27.5 | 1.43 |
| 1955 | 19.1 | 17.7 | 27.8 | 27.2 | 1.57 |
| 1960 | 18.7 | 17.2 | 27.8 | 26.9 | 1.62 |
| 1961 | 18.4 | 16.9 | 26.2 | 26.2 | 1.55 |
| 1962 | 18.3 | 16.9 | 27.1 | 26.1 | 1.60 |
| 1963 | 18.2 | 16.7 | 27.0 | 26.1 | 1.62 |
| 1964 | 17.9 | 16.2 | 27.4 | 26.5 | 1.69 |
| 1965 | 17.7 | 16.1 | 26.5 | 25.4 | 1.65 |
| 1966 | 17.2 | 15.6 | 25.9 | 24.8 | 1.66 |
| 1967 | 16.5 | 15.0 | 25.0 | 23.8 | 1.67 |
| 1968 | 16.1 | 14.7 | 24.3 | 23.0 | 1.65 |
| 1969 | 15.6 | 14.2 | 23.9 | 22.5 | 1.68 |
| 1970 | 15.1 | 13.8 | 22.8 | 21.4 | 1.65 |
| 1971 | 14.2 | 13.0 | 21.0 | 19.6 | 1.62 |
| 1972 | 13.6 | 12.4 | 20.7 | 19.2 | 1.67 |
| 1973 | 13.0 | 11.8 | 19.3 | 17.9 | 1.64 |
| 1974 | 12.3 | 11.1 | 18.7 | 17.2 | 1.68 |
| 1975 | 11.6 | 10.4 | 18.3 | 16.8 | 1.76 |
| 1976 | 10.9 | 9.7 | 17.9 | 16.3 | 1.85 |
| 1977 | 9.9 | 8.7 | 16.1 | 14.7 | 1.85 |
| 1978 | 9.5 | 8.4 | 15.5 | 14.0 | 1.85 |
| 1979 | 8.9 | 7.9 | 14.3 | 12.9 | 1.81 |
| 1980 | 8.5 | 7.5 | 14.1 | 12.5 | 1.88 |
| 1981 | 8.0 | 7.1 | 13.4 | 11.8 | 1.89 |
| 1982 | 7.7 | 6.8 | 13.1 | 11.3 | 1.93 |
| 1983 | 7.3 | 6.4 | 12.4 | 10.8 | 1.94 |
| 1984 | 7.0 | 6.2 | 11.8 | 10.2 | 1.90 |

*Source: National Center for Health Statistics.*

TABLE 3.3

## Postneonatal Mortality Rates, by Race, U.S., Selected Years, 1950-1984

| Year | All Races | White | Nonwhite | | Ratio of Black to White |
|---|---|---|---|---|---|
| | | | Black | Total | |
| 1950 | 8.7 | 7.4 | 16.1 | 17.0 | 2.18 |
| 1955 | 7.3 | 5.9 | 15.3 | 15.6 | 2.59 |
| 1960 | 7.3 | 5.7 | 16.5 | 16.3 | 2.89 |
| 1961 | 6.9 | 5.5 | 14.7 | 14.5 | 2.67 |
| 1962 | 7.0 | 5.4 | 15.5 | 15.3 | 2.87 |
| 1963 | 7.0 | 5.5 | 15.8 | 15.4 | 2.87 |
| 1964 | 6.9 | 5.4 | 14.8 | 14.6 | 2.74 |
| 1965 | 7.0 | 5.4 | 15.2 | 14.9 | 2.81 |
| 1966 | 6.5 | 5.0 | 14.3 | 14.0 | 2.86 |
| 1967 | 5.9 | 4.7 | 12.5 | 12.1 | 2.66 |
| 1968 | 5.7 | 4.5 | 11.9 | 11.5 | 2.64 |
| 1969 | 5.3 | 4.2 | 10.8 | 10.4 | 2.57 |
| 1970 | 4.9 | 4.0 | 9.9 | 9.5 | 2.48 |
| 1971 | 4.9 | 4.1 | 9.3 | 8.9 | 2.27 |
| 1972 | 4.9 | 4.0 | 8.9 | 8.5 | 2.23 |
| 1973 | 4.7 | 4.0 | 8.8 | 8.3 | 2.20 |
| 1974 | 4.4 | 3.7 | 8.1 | 7.7 | 2.19 |
| 1975 | 4.5 | 3.8 | 7.9 | 7.4 | 2.08 |
| 1976 | 4.3 | 3.6 | 7.6 | 7.2 | 2.11 |
| 1977 | 4.2 | 3.6 | 7.6 | 7.0 | 2.11 |
| 1978 | 4.3 | 3.6 | 7.6 | 7.1 | 2.11 |
| 1979 | 4.2 | 3.5 | 7.5 | 6.9 | 2.14 |
| 1980 | 4.1 | 3.5 | 7.3 | 6.6 | 2.09 |
| 1981 | 3.9 | 3.4 | 6.6 | 6.0 | 1.94 |
| 1982 | 3.8 | 3.3 | 6.5 | 6.0 | 1.97 |
| 1983 | 3.9 | 3.3 | 6.8 | 6.0 | 2.06 |
| 1984 | 3.8 | 3.2 | 6.6 | 5.9 | 2.06 |

*Source: National Center for Health Statistics.*

TABLE 3.4

## Percentage of Infants Born at Low Birthweight, by Race, U.S., Selected Years, 1950-1984

| Year | All Races | White | Nonwhite | | Ratio of Black to White |
|---|---|---|---|---|---|
| | | | Black | Total | |
| 1950 | 7.5 | 7.1 | — | 10.2 | — |
| 1955 | 7.6 | 6.8 | — | 11.7 | — |
| 1960 | 7.7 | 6.8 | — | 12.8 | — |
| 1961 | 7.8 | 6.9 | — | 13.0 | — |
| 1962 | 8.0 | 7.0 | — | 13.1 | — |
| 1963 | 8.2 | 7.1 | — | 13.6 | — |
| 1964 | 8.2 | 7.1 | — | 13.9 | — |
| 1965 | 8.3 | 7.2 | — | 13.8 | — |
| 1966 | 8.3 | 7.2 | — | 13.9 | — |
| 1967 | 8.2 | 7.1 | — | 13.6 | — |
| 1968 | 8.2 | 7.1 | — | 13.7 | — |
| 1969 | 8.1 | 7.0 | 14.1 | 13.5 | 2.01 |
| 1970 | 7.9 | 6.8 | 13.9 | 13.3 | 2.04 |
| 1971 | 7.7 | 6.6 | 13.4 | 12.7 | 2.03 |
| 1972 | 7.7 | 6.5 | 13.6 | 12.9 | 2.09 |
| 1973 | 7.6 | 6.4 | 13.3 | 12.5 | 2.08 |
| 1974 | 7.4 | 6.3 | 13.1 | 12.4 | 2.08 |
| 1975 | 7.4 | 6.3 | 13.1 | 12.2 | 2.08 |
| 1976 | 7.3 | 6.1 | 13.0 | 12.1 | 2.13 |
| 1977 | 7.1 | 5.9 | 12.8 | 11.9 | 2.17 |
| 1978 | 7.1 | 5.9 | 12.8 | 11.9 | 2.17 |
| 1979 | 6.9 | 5.8 | 12.6 | 11.6 | 2.17 |
| 1980 | 6.8 | 5.7 | 12.5 | 11.5 | 2.19 |
| 1981 | 6.8 | 5.7 | 12.5 | 11.4 | 2.19 |
| 1982 | 6.8 | 5.6 | 12.4 | 11.2 | 2.21 |
| 1983 | 6.8 | 5.6 | 12.6 | 11.2 | 2.25 |
| 1984 | 6.7 | 5.6 | 12.4 | 11.1 | 2.21 |

*Source: National Center for Health Statistics.*

TABLE 3.5

## Percentage of Infants Born at Very Low Birthweight, by Race, U.S., 1979-1984

| Year | All Races | White | Black |
|---|---|---|---|
| 1979 | 1.15 | 0.90 | 2.35 |
| 1980 | 1.15 | 0.90 | 2.43 |
| 1981 | 1.16 | 0.90 | 2.47 |
| 1982 | 1.17 | 0.91 | 2.51 |
| 1983 | 1.18 | 0.93 | 2.54 |
| 1984 | 1.19 | 0.92 | 2.56 |

*Source: National Center for Health Statistics.*

TABLE 3.6

## Percentage of Babies Born to Women Receiving First Trimester Care, by Race, U.S., 1969-1984

| Year | All Races | White | Nonwhite | |
|---|---|---|---|---|
| | | | Black | Total |
| 1969 | 68.0 | 72.4 | 42.7 | 44.5 |
| 1970 | 67.9 | 72.4 | 44.3 | 46.0 |
| 1971 | 68.6 | 73.0 | 46.6 | 48.1 |
| 1972 | 69.4 | 73.6 | 49.0 | 50.6 |
| 1973 | 70.8 | 74.9 | 51.4 | 52.9 |
| 1974 | 72.1 | 75.9 | 53.9 | 55.3 |
| 1975 | 72.3 | 75.9 | 55.8 | 57.0 |
| 1976 | 73.5 | 76.8 | 57.7 | 58.8 |
| 1977 | 74.1 | 77.3 | 59.0 | 60.1 |
| 1978 | 74.9 | 78.2 | 60.2 | 61.4 |
| 1979 | 75.9 | 79.1 | 61.6 | 62.9 |
| 1980 | 76.3 | 79.3 | 62.7 | 63.8 |
| 1981 | 76.3 | 79.4 | 62.4 | 63.8 |
| 1982 | 76.1 | 79.3 | 61.5 | 63.2 |
| 1983 | 76.2 | 79.4 | 61.5 | 63.4 |
| 1984 | 76.5 | 79.3 | 62.2 | 64.1 |

*Source: National Center for Health Statistics.*

TABLE 3.7

## Percentage of Babies Born to Women Receiving Late or No Prenatal Care, by Race, U.S., 1969-1984

| Year | All Races | White | Nonwhite | |
|---|---|---|---|---|
| | | | Black | Total |
| 1969 | 8.1 | 6.3 | 18.2 | 17.7 |
| 1970 | 7.9 | 6.2 | 16.6 | 16.2 |
| 1971 | 7.2 | 5.8 | 14.6 | 14.1 |
| 1972 | 7.0 | 5.5 | 13.2 | 13.1 |
| 1973 | 6.7 | 5.4 | 12.4 | 12.3 |
| 1974 | 6.2 | 5.0 | 11.4 | 11.2 |
| 1975 | 6.0 | 5.0 | 10.5 | 10.4 |
| 1976 | 5.7 | 4.8 | 9.9 | 9.8 |
| 1977 | 5.6 | 4.7 | 9.6 | 9.5 |
| 1978 | 5.4 | 4.5 | 9.2 | 9.1 |
| 1979 | 5.1 | 4.3 | 8.9 | 8.8 |
| 1980 | 5.1 | 4.3 | 8.8 | 8.8 |
| 1981 | 5.2 | 4.3 | 9.1 | 8.9 |
| 1982 | 5.5 | 4.5 | 9.6 | 9.3 |
| 1983 | 5.6 | 4.6 | 9.7 | 9.4 |
| 1984 | 5.6 | 4.7 | 9.6 | 9.3 |

Note: Late care is defined as starting in the third trimester.

*Source: National Center for Health Statistics.*

TABLE 3.8

# Births to Mothers Under Age 20 as a Percentage of Total Births, by Race, U.S., Selected Years, 1950-1984

| Year | All Races | White | Nonwhite | |
|---|---|---|---|---|
| | | | Black | Total |
| 1950 | 11.94 | 10.46 | 21.22 | 21.72 |
| 1955 | 12.10 | 10.83 | 19.56 | 19.05 |
| 1960 | 13.9. | 12.79 | 20.25 | — |
| 1961 | 14.27 | 13.17 | 20.18 | — |
| 1962 | 14.58 | 13.62 | 20.62 | — |
| 1963 | 14.49 | 13.40 | 21.18 | — |
| 1964 | 14.73 | 13.26 | 22.25 | 23.11 |
| 1965 | 15.92 | 14.28 | 23.95 | 25.16 |
| 1966 | 17.45 | 15.62 | 26.39 | 27.78 |
| 1967 | 17.18 | 14.98 | 27.91 | 29.46 |
| 1968 | 17.15 | 14.75 | 29.05 | 30.85 |
| 1969 | 17.08 | 14.62 | 29.21 | 31.04 |
| 1970 | 17.59 | 15.13 | 29.45 | 31.29 |
| 1971 | 17.98 | 15.44 | 29.65 | 31.67 |
| 1972 | 19.28 | 16.51 | 31.48 | 33.82 |
| 1973 | 19.66 | 16.84 | 31.95 | 34.44 |
| 1974 | 19.24 | 16.50 | 31.29 | 33.85 |
| 1975 | 18.91 | 16.26 | 30.34 | 32.90 |
| 1976 | 18.01 | 15.51 | 28.72 | 31.21 |
| 1977 | 17.15 | 14.74 | 27.34 | 29.72 |
| 1978 | 16.62 | 14.34 | 26.01 | 28.47 |
| 1979 | 16.03 | 13.82 | 25.07 | 27.50 |
| 1980 | 15.56 | 13.53 | 23.84 | 26.48 |
| 1981 | 14.79 | 12.86 | 22.63 | 25.29 |
| 1982 | 14.22 | 12.32 | 21.86 | 24.62 |
| 1983 | 13.71 | 11.78 | 21.35 | 24.25 |
| 1984 | 13.01 | 11.11 | 20.75 | 23.64 |

*Source: National Center for Health Statistics.*

TABLE 3.9

# Infant Mortality Rates, All Races, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 16.1 | 14.4 | 15.1 | 13.0 | 13.8 | 13.1 | 12.9 | -0.53 | -3.9 | -0.65 |
| Alaska | 14.4 | 15.9 | 12.3 | 12.7 | 11.1 | 12.4 | 11.2 | -0.53 | -2.2 | -0.37 |
| Arizona | 13.1 | 13.6 | 12.4 | 11.8 | 9.3 | 9.5 | 9.5 | -0.60 | -0.5 | -0.08 |
| Arkansas | 16.4 | 13.4 | 12.7 | 11.9 | 10.1 | 10.7 | 10.9 | -0.92 | -1.9 | -0.32 |
| California | 11.8 | 11.2 | 11.1 | 10.2 | 9.9 | 9.7 | 9.4 | -0.40 | -0.4 | -0.07 |
| Colorado | 11.2 | 10.6 | 10.1 | 10.0 | 9.1 | 10.0 | 10.2 | -0.17 | -1.2 | -0.20 |
| Connecticut | 11.6 | 12.1 | 11.2 | 12.1 | 11.1 | 10.1 | 10.4 | -0.20 | -1.4 | -0.23 |
| Delaware | 13.2 | 17.0 | 13.9 | 13.4 | 14.1 | 10.0 | 10.8 | -0.40 | -1.8 | -0.30 |
| District of Columbia | 27.3 | 22.2 | 25.0 | 25.1 | 21.2 | 19.3 | 21.0 | -1.05 | -12.0 | -2.00 |
| Florida | 14.1 | 14.9 | 14.6 | 13.3 | 12.8 | 12.2 | 10.8 | -0.55 | -1.8 | -0.30 |
| Georgia | 15.4 | 15.1 | 14.5 | 13.8 | 12.7 | 13.4 | 12.9 | -0.42 | -3.9 | -0.65 |
| Hawaii | 11.1 | 10.0 | 10.3 | 9.8 | 8.8 | 9.4 | 9.9 | -0.20 | -0.9 | -0.15 |
| Idaho | 11.7 | 10.0 | 10.7 | 9.2 | 9.9 | 10.8 | 9.8 | -0.32 | -0.8 | -0.13 |
| Illinois | 15.7 | 15.2 | 14.8 | 13.9 | 13.6 | 12.4 | 12.1 | -0.60 | -3.1 | -0.52 |
| Indiana | 13.1 | 13.0 | 11.9 | 11.7 | 11.4 | 11.4 | 11.1 | -0.33 | -2.1 | -0.35 |
| Iowa | 12.6 | 10.6 | 11.8 | 10.0 | 10.2 | 8.9 | 8.8 | 0.00 | 0.0 | 0.00 |
| Kansas | 12.5 | 11.3 | 10.4 | 11.4 | 10.4 | 10.3 | 10.1 | -0.40 | -1.1 | -0.18 |
| Kentucky | 12.7 | 11.5 | 12.9 | 12.2 | 12.0 | 11.6 | 11.5 | -0.20 | -2.5 | -0.42 |
| Louisiana | 17.3 | 15.6 | 14.3 | 13.7 | 13.0 | 13.5 | 12.1 | -0.87 | -3.1 | -0.52 |
| Maine | 10.4 | 9.9 | 9.2 | 10.9 | 9.0 | 8.7 | 8.4 | 0.00 | 0.0 | 0.00 |
| Maryland | 14.7 | 14.5 | 14.0 | 12.6 | 11.9 | 11.8 | 11.8 | -0.48 | -2.8 | -0.47 |
| Massachusetts | 11.1 | 10.9 | 10.5 | 9.7 | 10.1 | 9.1 | 9.0 | 0.00 | 0.0 | 0.00 |
| Michigan | 13.8 | 13.3 | 12.8 | 13.1 | 12.1 | 11.8 | 11.7 | -0.35 | -2.7 | -0.45 |
| Minnesota | 12.0 | 10.8 | 10.0 | 10.3 | 9.5 | 9.8 | 8.9 | 0.00 | 0.0 | 0.00 |
| Mississippi | 18.7 | 17.6 | 17.0 | 15.4 | 15.4 | 15.1 | 14.4 | -0.72 | -5.4 | -0.90 |
| Missouri | 14.8 | 13.7 | 12.4 | 12.6 | 11.7 | 10.7 | 10.4 | -0.73 | -1.4 | -0.23 |
| Montana | 11.6 | 10.7 | 12.4 | 10.7 | 10.1 | 9.0 | 8.8 | 0.00 | 0.0 | 0.00 |
| Nebraska | 13.0 | 11.6 | 11.5 | 9.9 | 10.0 | 9.9 | 9.6 | -0.57 | -0.6 | -0.10 |
| Nevada | 12.5 | 12.5 | 10.7 | 11.2 | 10.2 | 10.7 | 10.5 | -0.33 | -1.5 | -0.25 |
| New Hampshire | 10.4 | 10.6 | 9.9 | 9.7 | 11.0 | 8.6 | 10.2 | -0.03 | -1.2 | -0.20 |
| New Jersey | 13.0 | 12.9 | 12.5 | 10.7 | 11.7 | 11.5 | 10.9 | -0.35 | -1.9 | -0.32 |
| New Mexico | 14.1 | 14.0 | 11.5 | 9.8 | 11.3 | 10.0 | 9.6 | -0.75 | -0.6 | -0.10 |
| New York | 14.0 | 13.6 | 12.5 | 12.4 | 12.1 | 11.6 | 11.0 | -0.50 | -2.0 | -0.33 |
| North Carolina | 16.6 | 15.1 | 14.5 | 13.1 | 13.7 | 13.2 | 12.4 | -0.70 | -3.4 | -0.57 |
| North Dakota | 13.5 | 11.9 | 12.1 | 11.2 | 10.6 | 8.9 | 8.1 | 0.00 | 0.0 | 0.00 |
| Ohio | 13.3 | 12.8 | 12.8 | 12.3 | 11.5 | 11.2 | 10.4 | -0.48 | -1.4 | -0.23 |
| Oklahoma | 14.3 | 12.5 | 12.7 | 11.9 | 12.3 | 10.9 | 11.0 | -0.55 | -2.0 | -0.33 |
| Oregon | 12.9 | 10.9 | 12.2 | 10.9 | 10.5 | 9.6 | 9.9 | -0.50 | -0.9 | -0.15 |
| Pennsylvania | 13.7 | 13.3 | 13.2 | 11.9 | 11.6 | 11.3 | 10.4 | -0.55 | -1.4 | -0.23 |
| Rhode Island | 13.6 | 14.1 | 11.0 | 11.8 | 10.0 | 11.7 | 9.9 | -0.62 | -0.9 | -0.15 |
| South Carolina | 18.6 | 17.1 | 15.6 | 16.1 | 16.1 | 15.0 | 14.7 | -0.65 | -5.7 | -0.95 |
| South Dakota | 13.5 | 11.2 | 10.9 | 11.5 | 10.2 | 10.8 | 10.0 | -0.58 | -1.0 | -0.17 |
| Tennessee | 14.8 | 13.6 | 13.5 | 12.6 | 12.0 | 12.8 | 11.8 | -0.50 | -2.8 | -0.47 |
| Texas | 14.3 | 12.9 | 12.2 | 11.6 | 10.9 | 11.1 | 10.5 | -0.63 | -1.5 | -0.25 |
| Utah | 11.4 | 10.7 | 10.4 | 9.8 | 11.0 | 8.8 | 9.1 | -0.38 | -0.1 | -0.02 |
| Vermont | 13.6 | 8.5 | 10.7 | 7.7 | 9.3 | 8.7 | 8.7 | 0.00 | 0.0 | 0.00 |
| Virginia | 13.8 | 14.6 | 13.6 | 12.5 | 12.8 | 11.9 | 12.1 | -0.28 | -3.1 | -0.52 |
| Washington | 12.5 | 11.5 | 11.8 | 10.5 | 10.6 | 9.5 | 10.2 | -0.38 | -1.2 | -0.20 |
| West Virginia | 15.1 | 13.8 | 11.8 | 13.0 | 11.4 | 10.9 | 11.0 | -0.68 | -2.0 | -0.33 |
| Wisconsin | 11.2 | 10.8 | 10.3 | 10.4 | 9.5 | 9.6 | 9.9 | -0.22 | -0.9 | -0.15 |
| Wyoming | 13.0 | 13.2 | 9.8 | 10.6 | 9.8 | 9.8 | 11.1 | -0.32 | -2.1 | -0.35 |
| United States Total | 13.8 | 13.1 | 12.6 | 11.9 | 11.5 | 11.2 | 10.8 | -0.50 | -1.8 | -0.30 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.10

# Infant Mortality Rates, White, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 12.1 | 11.4 | 11.6 | 10.2 | 10.3 | 10.3 | 9.7 | -0.40 | -0.7 | -0.12 |
| Alaska | 13.5 | 13.4 | 9.4 | 11.1 | 11.1 | 10.7 | 9.3 | -0.70 | -0.3 | -0.05 |
| Arizona | 12.4 | 12.5 | 11.8 | 11.0 | 9.1 | 8.9 | 8.8 | 0.00 | 0.0 | 0.00 |
| Arkansas | 14.3 | 11.4 | 10.3 | 9.8 | 8.0 | 9.1 | 9.2 | -0.85 | -0.2 | -0.03 |
| California | 11.2 | 10.8 | 10.6 | 9.9 | 9.6 | 9.4 | 9.1 | -0.35 | -0.1 | -0.02 |
| Colorado | 11.0 | 10.5 | 9.8 | 10.1 | 9.1 | 10.0 | 9.9 | -0.18 | -0.9 | -0.15 |
| Connecticut | 10.0 | 1.9 | 10.2 | 10.6 | 9.8 | 8.9 | 9.2 | -0.13 | -0.2 | -0.03 |
| Delaware | 9.9 | 13.1 | 9.8 | 10.0 | 11.2 | 7.3 | 8.4 | 0.00 | 0.0 | 0.00 |
| District of Columbia | — | — | — | — | — | — | — | — | — | — |
| Florida | 11.8 | 12.4 | 11.8 | 10.4 | 10.1 | 9.9 | 8.5 | 0.00 | 0.0 | 0.00 |
| Georgia | 11.8 | 11.7 | 10.8 | 10.3 | 9.6 | 9.9 | 10.0 | -0.30 | -1.0 | -0.17 |
| Hawaii | 10.5 | 10.1 | 11.6 | 9.6 | 8.9 | 10.3 | 7.7 | 0.00 | 0.0 | 0.00 |
| Idaho | 11.8 | 10.0 | 10.7 | 9.4 | 10.2 | 10.7 | 9.8 | -0.33 | -0.8 | -0.13 |
| Illinois | 12.8 | 12.1 | 11.7 | 11.2 | 10.8 | 9.7 | 9.5 | -0.55 | -0.5 | -0.08 |
| Indiana | 11.9 | 12.0 | 10.5 | 10.8 | 10.4 | 10.7 | 10.2 | -0.28 | -1.2 | -0.20 |
| Iowa | 12.3 | 10.3 | 11.5 | 9.8 | 10.0 | 8.6 | 8.8 | 0.00 | 0.0 | 0.00 |
| Kansas | 11.7 | 10.6 | 9.5 | 10.6 | 10.4 | 10.0 | 9.4 | -0.38 | -0.4 | -0.07 |
| Kentucky | 12.0 | 10.7 | 12.0 | 11.8 | 11.4 | 11.0 | 10.9 | -0.18 | -1.9 | -0.32 |
| Louisiana | 12.7 | 12.1 | 10.5 | 10.2 | 9.4 | 9.8 | 8.9 | 0.00 | 0.0 | 0.00 |
| Maine | 10.5 | 9.7 | 9.4 | 11.1 | 9.0 | 8.7 | 8.4 | 0.00 | 0.0 | 0.00 |
| Maryland | 11.7 | 11.6 | 11.6 | 10.4 | 8.9 | 8.9 | 9.6 | -0.32 | -0.8 | -0.13 |
| Massachusetts | 10.5 | 10.5 | 10.1 | 9.3 | 9.6 | 8.5 | 8.6 | 0.00 | 0.0 | 0.00 |
| Michigan | 11.8 | 11.5 | 10.6 | 10.9 | 9.8 | 9.6 | 9.4 | -0.40 | -0.4 | -0.07 |
| Minnesota | 11.6 | 10.4 | 9.6 | 9.9 | 9.1 | 9.6 | 8.9 | 0.00 | 0.0 | 0.00 |
| Mississippi | 11.5 | 11.9 | 11.1 | 10.5 | 10.4 | 10.7 | 10.0 | -0.25 | -1.0 | -0.17 |
| Missouri | 12.2 | 12.1 | 11.1 | 11.7 | 10.1 | 9.2 | 9.0 | 0.00 | 0.0 | 0.00 |
| Montana | 10.4 | 10.6 | 11.8 | 10.1 | 10.2 | 8.6 | 8.9 | 0.00 | 0.0 | 0.00 |
| Nebraska | 12.1 | 11.0 | 10.7 | 9.5 | 9.6 | 9.5 | 9.2 | -0.48 | -0.20 | -0.03 |
| Nevada | 11.9 | 11.2 | 10.0 | 10.4 | 9.7 | 10.4 | 10.5 | -0.23 | -1.5 | -0.25 |
| New Hampshire | 10.5 | 10.7 | 9.9 | 9.8 | 11.0 | 8.6 | 10.2 | -0.05 | -1.2 | -0.20 |
| New Jersey | 10.5 | 10.5 | 10.3 | 9.0 | 9.6 | 9.5 | 9.3 | -0.20 | -0.3 | -0.05 |
| New Mexico | 13.4 | 12.9 | 11.3 | 9.7 | 11.2 | 9.8 | 9.4 | -0.67 | -0.4 | -0.07 |
| New York | 11.9 | 11.9 | 10.8 | 10.6 | 10.6 | 9.9 | 9.8 | -0.35 | -0.8 | -0.13 |
| North Carolina | 13.0 | 11.2 | 12.1 | 10.7 | 10.8 | 10.5 | 9.9 | -0.52 | -0.9 | -0.15 |
| North Dakota | 13.4 | 11.1 | 11.7 | 10.7 | 9.8 | 8.5 | 7.7 | 0.00 | 0.0 | 0.00 |
| Ohio | 12.1 | 11.6 | 11.2 | 10.8 | 10.3 | 9.8 | 9.3 | -0.47 | -0.3 | -0.05 |
| Oklahoma | 13.4 | 11.8 | 12.1 | 11.5 | 12.3 | 10.7 | 11.1 | -0.38 | -2.1 | -0.35 |
| Oregon | 12.9 | 10.8 | 12.2 | 10.8 | 10.4 | 9.6 | 10.0 | -0.48 | -1.0 | -0.17 |
| Pennsylvania | 12.5 | 12.0 | 11.9 | 10.7 | 10.3 | 9.8 | 8.8 | 0.00 | 0.0 | 0.00 |
| Rhode Island | 12.2 | 12.5 | 10.9 | 11.5 | 9.3 | 11.0 | 9.4 | -0.47 | -0.4 | -0.07 |
| South Carolina | 13.3 | 12.4 | 10.8 | 12.4 | 11.9 | 11.3 | 11.0 | -0.38 | -2.0 | -0.33 |
| South Dakota | 12.1 | 9.6 | 9.0 | 10.2 | 8.4 | 8.3 | 8.8 | 0.00 | 0.0 | 0.00 |
| Tennessee | 13.1 | 11.5 | 11.9 | 10.2 | 10.1 | 10.7 | 9.8 | -0.55 | -0.8 | -0.13 |
| Texas | 12.9 | 11.5 | 11.2 | 10.7 | 10.0 | 10.4 | 9.7 | -0.53 | -0.7 | -0.12 |
| Utah | 11.3 | 10.7 | 10.5 | 9.7 | 11.0 | 8.9 | 9.0 | 0.00 | 0.0 | 0.00 |
| Vermont | 13.5 | 8.6 | 10.7 | 7.6 | 9.4 | 8.5 | 8.8 | 0.00 | 0.0 | 0.00 |
| Virginia | 11.5 | 12.5 | 11.9 | 10.7 | 10.7 | 9.6 | 9.9 | -0.27 | -0.9 | -0.15 |
| Washington | 12.3 | 11.6 | 11.5 | 10.2 | 10.5 | 9.2 | 9.9 | -0.40 | -0.9 | -0.15 |
| West Virginia | 14.9 | 13.4 | 11.4 | 12.7 | 11.4 | 10.7 | 10.8 | -0.68 | -1.8 | -0.30 |
| Wisconsin | 10.9 | 10.3 | 9.7 | 9.8 | 8.7 | 9.0 | 9.2 | -0.28 | -0.2 | -0.03 |
| Wyoming | 13.4 | 13.2 | 9.3 | 10.8 | 9.9 | 9.9 | 11.2 | -0.37 | -2.2 | -0.37 |
| United States Total | 12.0 | 11.4 | 11.0 | 10.5 | 10.1 | 9.7 | 9.4 | -0.43 | -0.4 | -0.07 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.11

# Infant Mortality Rates, Black, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 23.7 | 19.9 | 21.6 | 18.2 | 20.4 | 18.5 | 19.2 | -0.75 | -7.2 | -1.20 |
| Alaska | — | — | — | — | — | — | — | — | — | — |
| Arizona | 18.7 | 24.5 | 18.4 | 21.1 | — | 20.7 | 16.9 | -0.30 | -4.9 | -0.82 |
| Arkansas | 22.6 | 19.6 | 20.0 | 18.3 | 16.9 | 15.6 | 16.7 | -0.98 | -4.7 | -0.78 |
| California | 19.9 | 17.9 | 18.0 | 15.5 | 15.9 | 16.7 | 15.6 | -0.72 | -3.6 | -0.60 |
| Colorado | 17.1 | 15.9 | 19.1 | — | 12.4 | 15.5 | 17.0 | -0.02 | -5.0 | -0.83 |
| Connecticut | 22.0 | 21.2 | 19.1 | 22.4 | 21.1 | 19.6 | 19.3 | -0.45 | -7.3 | -1.22 |
| Delaware | 23.4 | 30.1 | 27.9 | 24.4 | 23.9 | 17.3 | 19.4 | -0.67 | -7.4 | -1.23 |
| District of Columbia | 30.2 | 25.6 | 26.7 | 26.7 | 24.1 | 21.3 | 24.3 | -0.98 | -12.3 | -2.05 |
| Florida | 20.8 | 22.4 | 22.8 | 22.0 | 21.1 | 19.3 | 18.4 | -0.40 | -6.4 | -1.07 |
| Georgia | 22.1 | 21.4 | 21.0 | 19.9 | 18.2 | 19.8 | 18.5 | -0.60 | -6.5 | -1.08 |
| Hawaii | — | — | — | — | — | — | — | — | — | — |
| Idaho | — | — | — | — | — | — | — | — | — | — |
| Illinois | 26.7 | 26.8 | 26.3 | 24.4 | 24.6 | 23.1 | 22.0 | -0.78 | -10.0 | -1.67 |
| Indiana | 23.4 | 22.2 | 23.4 | 19.6 | 20.2 | 18.1 | 19.1 | -0.72 | -7.1 | -1.18 |
| Iowa | — | — | 27.2 | — | — | — | — | — | — | — |
| Kansas | 22.0 | 19.2 | 20.6 | 20.9 | 17.7 | 15.3 | 18.5 | -0.58 | -6.5 | -1.08 |
| Kentucky | 19.9 | 19.9 | 22.0 | 17.1 | 18.3 | 18.1 | 18.4 | -0.25 | -6.4 | -1.07 |
| Louisiana | 24.6 | 21.2 | 20.6 | 19.9 | 19.2 | 19.9 | 17.4 | -1.20 | -5.4 | -0.90 |
| Maine | — | — | — | — | — | — | — | — | — | — |
| Maryland | 22.5 | 21.6 | 20.4 | 18.2 | 19.3 | 18.6 | 17.0 | -0.92 | -5.0 | -0.83 |
| Massachusetts | 20.1 | 16.4 | 16.8 | 16.0 | 18.6 | 16.8 | 14.2 | -0.98 | -2.2 | -0.37 |
| Michigan | 24.6 | 23.0 | 24.2 | 24.9 | 24.6 | 23.1 | 23.5 | -0.18 | -11.5 | -1.92 |
| Minnesota | 26.7 | 23.4 | 20.0 | 25.9 | 18.2 | 22.5 | — | -0.84 | -10.5 | -1.50 |
| Mississippi | 26.4 | 23.6 | 23.7 | 20.6 | 20.8 | 20.0 | 19.5 | -1.15 | -7.5 | -1.25 |
| Missouri | 29.0 | 23.2 | 20.7 | 18.7 | 20.6 | 19.1 | 18.3 | -1.82 | -6.3 | -1.05 |
| Montana | — | — | — | — | — | — | — | — | — | — |
| Nebraska | 28.1 | — | 25.2 | — | — | — | — | — | — | — |
| Nevada | — | — | — | 22.8 | — | — | — | — | — | — |
| New Hampshire | — | — | — | — | — | — | — | — | — | — |
| New Jersey | 22.8 | 22.5 | 21.9 | 18.3 | 20.4 | 19.4 | 18.4 | -0.73 | -6.4 | -1.07 |
| New Mexico | — | — | — | — | — | — | — | — | — | — |
| New York | 21.9 | 20.7 | 20.0 | 19.3 | 18.1 | 18.1 | 16.2 | -0.95 | -4.2 | -0.70 |
| North Carolina | 24.9 | 24.2 | 20.0 | 19.1 | 20.6 | 19.6 | 18.8 | -1.02 | -6.8 | -1.13 |
| North Dakota | — | — | — | — | — | — | — | — | — | — |
| Ohio | 21.5 | 20.6 | 23.0 | 22.1 | 19.3 | 19.5 | 17.7 | -0.63 | -5.7 | -0.95 |
| Oklahoma | 21.5 | 18.7 | 21.8 | 18.4 | 16.8 | 14.9 | 14.8 | -1.12 | -2.8 | -0.47 |
| Oregon | — | — | — | — | — | — | — | — | — | — |
| Pennsylvania | 22.1 | 22.5 | 23.1 | 21.1 | 20.8 | 21.1 | 21.3 | -0.13 | -9.3 | -1.55 |
| Rhode Island | — | — | — | — | — | — | — | — | — | — |
| South Carolina | 26.5 | 24.2 | 22.9 | 21.8 | 22.7 | 20.9 | 20.7 | -0.97 | -8.7 | -1.45 |
| South Dakota | — | — | — | — | — | — | — | — | — | — |
| Tennessee | 21.2 | 20.9 | 19.3 | 21.2 | 19.3 | 20.3 | 18.9 | -0.38 | -6.9 | -1.15 |
| Texas | 22.6 | 21.3 | 18.8 | 17.8 | 16.6 | 16.3 | 15.8 | -1.13 | -3.8 | -0.63 |
| Utah | — | — | — | — | — | — | — | — | — | — |
| Vermont | — | — | — | — | — | — | — | — | — | — |
| Virginia | 21.7 | 21.3 | 19.8 | 18.8 | 20.1 | 20.0 | 19.6 | -0.35 | -7.6 | -1.27 |
| Washington | 21.2 | 12.5 | 16.4 | 15.5 | 16.9 | 18.5 | 21.3 | 0.02 | -9.3 | -1.55 |
| West Virginia | — | — | — | — | — | — | — | — | — | — |
| Wisconsin | 15.2 | 18.8 | 18.5 | 17.5 | 20.2 | 16.4 | 18.7 | 0.58 | -6.7 | -1.12 |
| Wyoming | — | — | — | — | — | — | — | — | — | — |
| United States Total | 23.1 | 21.8 | 21.4 | 20.0 | 19.6 | 19.2 | 18.4 | -0.78 | -6.4 | -1.07 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.12

# Infant Mortality Rates, Nonwhite, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Change in Rate 1978-1984: Total needed | Change in Rate 1978-1984: Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 23.4 | 19.7 | 21.4 | 18.1 | 20.0 | 18.3 | 18.9 | -0.75 | -6.9 | -1.15 |
| Alaska | 16.7 | 22.0 | 18.9 | 16.4 | 14.9 | 16.5 | 16.1 | -0.10 | -4.1 | -0.68 |
| Arizona | 16.4 | 19.7 | 15.8 | 15.9 | 10.3 | 12.3 | 13.2 | -0.53 | -1.2 | -0.20 |
| Arkansas | 22.1 | 19.1 | 19.4 | 17.7 | 16.1 | 15.3 | 16.0 | -1.02 | -4.0 | -0.67 |
| California | 14.5 | 13.3 | 13.0 | 11.4 | 10.8 | 11.0 | 10.6 | 0.00 | 0.0 | 0.00 |
| Colorado | 13.3 | 11.6 | 13.7 | 9.0 | 8.9 | 10.7 | 12.5 | -0.13 | -0.5 | -0.08 |
| Connecticut | 22.0 | 20.0 | 17.6 | 21.2 | 18.9 | 17.6 | 17.2 | -0.80 | -5.2 | -0.87 |
| Delaware | 23.2 | 29.2 | 26.8 | 23.3 | 23.2 | 17.6 | 18.6 | -0.77 | -6.6 | -1.10 |
| District of Columbia | 29.7 | 25.2 | 26.3 | 26.6 | 24.3 | 21.0 | 24.1 | -0.93 | -12.1 | -2.02 |
| Florida | 20.1 | 21.6 | 22.0 | 21.2 | 20.4 | 18.5 | 17.7 | -0.40 | -5.7 | -0.95 |
| Georgia | 21.5 | 20.9 | 20.7 | 19.6 | 17.9 | 19.5 | 18.2 | -0.55 | -6.2 | -1.03 |
| Hawaii | 11.3 | 10.0 | 9.9 | 9.8 | 8.7 | 9.1 | 10.6 | 0.00 | 0.0 | 0.00 |
| Idaho | — | — | — | — | — | — | — | — | — | — |
| Illinois | 25.1 | 25.0 | 24.7 | 22.5 | 22.8 | 21.4 | 20.5 | -0.77 | -8.5 | -1.42 |
| Indiana | 22.3 | 21.1 | 22.0 | 18.6 | 18.9 | 17.0 | 17.8 | -0.75 | -5.8 | -0.97 |
| Iowa | 21.0 | 18.3 | 20.8 | — | — | — | — | — | — | — |
| Kansas | 19.7 | 17.0 | 17.9 | 17.9 | 14.4 | 13.0 | 15.8 | -0.65 | -3.8 | -0.63 |
| Kentucky | 19.1 | 18.7 | 20.3 | 15.9 | 16.9 | 16.5 | 17.3 | -0.30 | -5.3 | -0.88 |
| Louisiana | 24.3 | 20.8 | 20.3 | 19.3 | 18.7 | 19.3 | 16.9 | -1.23 | -4.9 | -0.82 |
| Maine | — | — | — | — | — | — | — | — | — | — |
| Maryland | 21.3 | 20.3 | 19.1 | 17.1 | 18.1 | 17.5 | 15.9 | -0.90 | -3.9 | -0.65 |
| Massachusetts | 17.0 | 14.1 | 14.3 | 13.7 | 14.7 | 14.1 | 12.3 | -0.78 | -0.3 | -0.05 |
| Michigan | 23.2 | 21.6 | 22.7 | 23.3 | 22.9 | 21.7 | 22.0 | -0.20 | -10.0 | -1.67 |
| Minnesota | 18.3 | 17.5 | 16.0 | 15.7 | 14.0 | 13.2 | 8.7 | 0.00 | 0.0 | 0.00 |
| Mississippi | 26.1 | 23.5 | 23.3 | 20.6 | 20.9 | 19.8 | 19.2 | -1.15 | -7.2 | -1.20 |
| Missouri | 28.2 | 22.1 | 19.5 | 17.5 | 19.7 | 18.2 | 17.3 | -1.82 | -5.3 | -0.88 |
| Montana | 21.5 | — | — | — | — | — | — | — | — | — |
| Nebraska | 25.7 | 20.0 | 21.7 | 15.9 | 14.9 | — | — | — | — | — |
| Nevada | — | 19.8 | 14.3 | 15.2 | 13.1 | 12.0 | — | — | — | — |
| New Hampshire | — | — | — | — | — | — | — | — | — | — |
| New Jersey | 21.7 | 21.2 | 19.9 | 16.8 | 19.0 | 18.3 | 16.7 | -0.83 | -4.7 | -0.78 |
| New Mexico | 17.4 | 19.5 | 12.6 | 10.3 | 11.5 | 11.2 | 10.6 | 0.00 | 0.0 | 0.00 |
| New York | 20.9 | 19.2 | 17.8 | 18.2 | 16.8 | 16.7 | 14.8 | -1.02 | -2.8 | -0.47 |
| North Carolina | 23.9 | 23.3 | 19.4 | 18.3 | 19.7 | 19.0 | 17.9 | -1.00 | -5.9 | -0.98 |
| North Dakota | — | — | — | — | — | — | — | — | — | — |
| Ohio | 20.6 | 19.8 | 21.9 | 20.9 | 18.5 | 18.7 | 16.9 | -0.62 | -4.9 | -0.82 |
| Oklahoma | 17.8 | 15.2 | 15.3 | 13.3 | 12.3 | 11.3 | 10.6 | 0.00 | 0.0 | 0.00 |
| Oregon | — | 11.7 | 12.3 | 11.5 | 11.9 | — | — | — | — | — |
| Pennsylvania | 21.2 | 21.3 | 21.9 | 19.5 | 19.4 | 20.0 | 20.0 | -0.20 | -8.0 | -1.33 |
| Rhode Island | — | 30.9 | — | — | — | — | — | — | — | — |
| South Carolina | 26.0 | 23.8 | 22.5 | 21.6 | 22.2 | 20.5 | 20.2 | -0.97 | -8.2 | -1.37 |
| South Dakota | 22.4 | 21.3 | 22.3 | 19.7 | 20.2 | 23.8 | 16.1 | -1.05 | -4.1 | -0.68 |
| Tennessee | 20.7 | 20.4 | 18.8 | 20.7 | 18.7 | 19.8 | 18.5 | -0.37 | -6.5 | -1.08 |
| Texas | 21.5 | 20.2 | 17.5 | 16.6 | 15.2 | 14.7 | 14.4 | -1.18 | -2.4 | -0.40 |
| Utah | — | — | — | — | — | — | — | — | — | — |
| Vermont | — | — | — | — | — | — | — | — | — | — |
| Virginia | 20.1 | 20.1 | 18.4 | 17.5 | 18.7 | 18.3 | 18.3 | -0.30 | -6.3 | -1.05 |
| Washington | 15.0 | 10.4 | 13.6 | 12.7 | 11.9 | 11.6 | 12.4 | -0.43 | -0.4 | -0.07 |
| West Virginia | — | — | — | — | — | — | — | — | — | — |
| Wisconsin | 14.2 | 16.2 | 16.3 | 16.4 | 17.1 | 15.4 | 16.7 | 0.42 | -4.7 | -0.78 |
| Wyoming | — | — | — | — | — | — | — | — | — | — |
| United States Total | 21.2 | 19.8 | 19.1 | 17.8 | 17.3 | 16.8 | 16.1 | -0.85 | -4.1 | -0.68 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.13

# Neonatal Mortality Rates, All Races, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 11.0 | 9.4 | 9.9 | 8.4 | 9.2 | 8.3 | 8.7 | -0.38 | -2.2 | -0.37 |
| Alaska | 9.4 | 9.7 | 6.5 | 8.0 | 6.5 | 6.6 | 5.7 | 0.00 | 0.0 | 0.00 |
| Arizona | 9.0 | 8.9 | 8.3 | 7.4 | 5.7 | 5.8 | 5.7 | 0.00 | 0.0 | 0.00 |
| Arkansas | 10.5 | 8.0 | 7.6 | 7.0 | 5.8 | 6.2 | 6.9 | -0.60 | -0.4 | -0.07 |
| California | 7.7 | 7.4 | 7.2 | 6.5 | 6.3 | 6.2 | 6.0 | 0.00 | 0.0 | 0.00 |
| Colorado | 6.9 | 6.4 | 6.6 | 6.5 | 5.7 | 5.9 | 5.8 | 0.00 | 0.0 | 0.00 |
| Connecticut | 9.3 | 9.3 | 8.1 | 9.5 | 8.6 | 7.8 | 7.5 | -0.30 | -1.0 | -0.17 |
| Delaware | 9.6 | 13.6 | 10.0 | 10.0 | 10.3 | 6.8 | 7.6 | -0.33 | -1.1 | -0.18 |
| District of Columbia | 20.2 | 17.5 | 18.3 | 19.5 | 15.6 | 14.1 | 16.0 | -0.70 | -9.5 | -1.58 |
| Florida | 9.3 | 9.9 | 9.8 | 8.9 | 9.0 | 7.7 | 6.9 | -0.40 | -0.4 | -0.07 |
| Georgia | 10.3 | 10.0 | 9.5 | 8.8 | 8.3 | 9.0 | 8.7 | -0.27 | -2.2 | -0.37 |
| Hawaii | 7.6 | 6.8 | 7.2 | 7.2 | 5.7 | 6.3 | 6.5 | 0.00 | 0.0 | 0.00 |
| Idaho | 7.3 | 6.6 | 6.2 | 5.3 | 6.3 | 5.8 | 5.0 | 0.00 | 0.0 | 0.00 |
| Illinois | 10.9 | 10.4 | 10.0 | 9.8 | 9.3 | 8.2 | 8.1 | -0.47 | -1.6 | -0.27 |
| Indiana | 8.6 | 9.2 | 7.9 | 8.0 | 7.7 | 7.5 | 7.1 | -0.25 | -0.6 | -0.10 |
| Iowa | 8.9 | 7.2 | 7.9 | 6.5 | 6.3 | 5.6 | 5.9 | 0.00 | 0.0 | 0.00 |
| Kansas | 8.7 | 7.9 | 6.8 | 8.1 | 6.9 | 6.1 | 6.5 | 0.00 | 0.0 | 0.00 |
| Kentucky | 8.6 | 7.7 | 8.2 | 8.0 | 7.8 | 7.9 | 7.4 | -0.20 | -0.9 | -0.15 |
| Louisiana | 12.0 | 10.3 | 10.0 | 9.3 | 8.4 | 9.0 | 8.0 | -0.67 | -1.5 | -0.25 |
| Maine | 6.1 | 5.7 | 5.8 | 6.8 | 6.2 | 5.9 | 5.1 | 0.00 | 0.0 | 0.00 |
| Maryland | 11.1 | 10.3 | 10.2 | 9.1 | 8.4 | 8.1 | 8.1 | -0.50 | -1.6 | -0.27 |
| Massachusetts | 8.1 | 8.1 | 7.7 | 6.9 | 7.6 | 6.4 | 6.1 | 0.00 | 0.0 | 0.00 |
| Michigan | 9.2 | 9.0 | 8.9 | 9.1 | 8.7 | 8.0 | 8.1 | -0.18 | -1.6 | -0.27 |
| Minnesota | 8.3 | 7.2 | 6.2 | 6.6 | 5.9 | 6.2 | 5.5 | 0.00 | 0.0 | 0.00 |
| Mississippi | 12.3 | 11.1 | 11.0 | 10.5 | 10.2 | 9.3 | 9.0 | -0.55 | -2.5 | -0.42 |
| Missouri | 10.8 | 9.5 | 8.2 | 8.7 | 7.5 | 7.2 | 6.4 | 0.00 | 0.0 | 0.00 |
| Montana | 7.3 | 7.1 | 7.7 | 6.3 | 6.5 | 4.3 | 4.5 | 0.00 | 0.0 | 0.00 |
| Nebraska | 9.1 | 7.9 | 7.5 | 6.1 | 6.9 | 6.5 | 6.2 | 0.00 | 0.0 | 0.00 |
| Nevada | 8.6 | 6.6 | 6.7 | 6.5 | 6.3 | 5.8 | 6.0 | 0.00 | 0.0 | 0.00 |
| New Hampshire | 8.0 | 7.7 | 7.5 | 6.3 | 8.6 | 5.8 | 7.1 | -0.15 | -0.6 | -0.10 |
| New Jersey | 9.3 | 9.2 | 8.6 | 7.3 | 8.2 | 7.8 | 7.5 | -0.30 | -1.0 | -0.17 |
| New Mexico | 9.0 | 8.9 | 7.3 | 5.9 | 6.6 | 5.5 | 6.0 | 0.00 | 0.0 | 0.00 |
| New York | 10.1 | 9.7 | 8.7 | 8.6 | 8.5 | 7.8 | 7.5 | -0.43 | -1.0 | -0.17 |
| North Carolina | 11.4 | 10.3 | 10.0 | 8.8 | 9.5 | 8.7 | 8.1 | -0.55 | -1.6 | -0.27 |
| North Dakota | 9.6 | 9.0 | 7.7 | 7.3 | 6.8 | 6.1 | 4.5 | 0.00 | 0.0 | 0.00 |
| Ohio | 9.2 | 8.8 | 8.7 | 8.6 | 7.9 | 7.7 | 6.8 | -0.40 | -0.3 | -0.05 |
| Oklahoma | 9.0 | 8.0 | 8.1 | 7.2 | 7.4 | 6.8 | 7.0 | -0.33 | -0.5 | -0.08 |
| Oregon | 7.7 | 6.6 | 7.0 | 6.9 | 6.2 | 5.4 | 4.8 | 0.00 | 0.0 | 0.00 |
| Pennsylvania | 10.5 | 9.7 | 9.7 | 8.5 | 8.2 | 7.9 | 7.2 | -0.55 | -0.7 | -0.12 |
| Rhode Island | 10.6 | 10.2 | 8.5 | 9.3 | 8.0 | 9.1 | 7.0 | -0.60 | -0.5 | -0.08 |
| South Carolina | 12.4 | 11.3 | 10.9 | 10.9 | 10.7 | 9.8 | 9.8 | -0.43 | -3.3 | -0.55 |
| South Dakota | 9.4 | 5.8 | 5.7 | 7.6 | 7.0 | 5.8 | 5.5 | 0.00 | 0.0 | 0.00 |
| Tennessee | 10.5 | 9.1 | 9.1 | 8.9 | 8.0 | 8.4 | 8.0 | -0.42 | -1.5 | -0.25 |
| Texas | 9.8 | 8.6 | 8.2 | 7.6 | 7.0 | 6.9 | 6.6 | -0.53 | -0.1 | -0.02 |
| Utah | 7.8 | 6.8 | 6.6 | 5.8 | 6.8 | 5.4 | 5.6 | 0.00 | 0.0 | 0.00 |
| Vermont | 9.1 | 6.3 | 6.0 | 4.3 | 6.1 | 6 2 | 5.5 | 0.00 | 0.0 | 0.00 |
| Virginia | 9.7 | 10.7 | 9.8 | 9.0 | 9.3 | 8.3 | 8.7 | -0.17 | -2.2 | -0.37 |
| Washington | 7.9 | 7.1 | 7.0 | 6.3 | 6.0 | 5.4 | 5.4 | 0.00 | 0.0 | 0.00 |
| West Virginia | 10.3 | 9.1 | 8.0 | 8.8 | 7.2 | 7.0 | 7.1 | -0.53 | -0.6 | -0.10 |
| Wisconsin | 7.6 | 7.1 | 6.7 | 6.9 | 6.2 | 6.3 | 6.3 | 0.00 | 0.0 | 0.00 |
| Wyoming | 8.1 | 8.4 | 6.2 | 8.1 | 5.9 | 5.1 | 7.1 | -0.17 | -0.6 | -0.10 |
| United States Total | 9.5 | 8.9 | 8.5 | 8.0 | 7.7 | 7.3 | 7.0 | -0.42 | -0.5 | -0.08 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.14

# Neonatal Mortality Rates, White, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| Alabama | 8.7 | 7.8 | 7.8 | 6.8 | 7.4 | 6.9 | 6.9 |
| Alaska | 9.6 | 8.5 | 5.3 | 7.2 | 6.0 | 5.8 | 4.7 |
| Arizona | 9.0 | 8.7 | 8.3 | 7.3 | 6.1 | 5.7 | 5.6 |
| Arkansas | 9.4 | 7.2 | 6.5 | 6.1 | 4.8 | 5.6 | 5.7 |
| California | 7.3 | 7.1 | 6.9 | 6.3 | 6.1 | 6.0 | 5.8 |
| Colorado | 6.8 | 6.4 | 6.4 | 6.5 | 5.6 | 5.7 | 5.6 |
| Connecticut | 8.1 | 8.3 | 7.1 | 8.3 | 7.7 | 6.8 | 6.6 |
| Delaware | 6.9 | 9.9 | 6.3 | 7.6 | 8.7 | 4.8 | 6.1 |
| District of Columbia | — | — | — | — | — | — | — |
| Florida | 8.1 | 8.6 | 8.3 | 7.1 | 7.2 | 6.4 | 5.7 |
| Georgia | 8.2 | 8.2 | 7.5 | 6.6 | 6.5 | 6.8 | 6.6 |
| Hawaii | 7.0 | 7.2 | 8.3 | 8.2 | — | 7.0 | — |
| Idaho | 7.4 | 6.6 | 6.1 | 5.5 | 6.4 | 5.8 | 5.0 |
| Illinois | 9.4 | 8.7 | 8.1 | 8.2 | 7.7 | 6.7 | 6.6 |
| Indiana | 8.0 | 9.5 | 7.1 | 7.7 | 6.9 | 7.2 | 6.6 |
| Iowa | 8.7 | 7.1 | 7.7 | 6.4 | 6.2 | 5.5 | 5.9 |
| Kansas | 8.1 | 7.5 | 6.2 | 7.6 | 6.7 | 6.0 | 6.0 |
| Kentucky | 8.0 | 7.2 | 7.8 | 7.6 | 7.4 | 7.7 | 6.9 |
| Louisiana | 9.4 | 8.4 | 7.3 | 7.0 | 6.3 | 6.6 | 5.9 |
| Maine | 6.2 | 5.8 | 5.9 | 7.0 | 6.2 | 5.9 | 5.0 |
| Maryland | 8.7 | 8.4 | 8.5 | 7.5 | 6.3 | 6.0 | 6.7 |
| Massachusetts | 7.8 | 7.9 | 7.5 | 6.7 | 7.2 | 6.1 | 5.9 |
| Michigan | 7.8 | 7.7 | 7.3 | 7.5 | 6.9 | 6.4 | 6.4 |
| Minnesota | 8.1 | 7.1 | 6.1 | 6.4 | 5.8 | 6.2 | 5.5 |
| Mississippi | 8.3 | 8.1 | 7.7 | 7.0 | 6.9 | 7.0 | 7.0 |
| Missouri | 9.0 | 8.4 | 7.9 | 8.2 | 6.3 | 6.1 | 5.5 |
| Montana | 6.9 | 7.5 | 7.4 | 6.5 | 6.8 | 4.0 | 4.6 |
| Nebraska | 8.4 | 7.6 | 7.1 | 5.8 | 6.7 | 6.5 | 5.9 |
| Nevada | 8.1 | 5.9 | 6.4 | 6.0 | 6.1 | 5.8 | 6.1 |
| New Hampshire | 8.2 | 7.7 | 7.5 | 6.3 | 8.7 | 5.8 | 7.1 |
| New Jersey | 7.8 | 7.7 | 7.6 | 6.4 | 7.1 | 6.6 | 6.8 |
| New Mexico | 9.0 | 8.8 | 7.5 | 6.1 | 6.9 | 5.5 | 6.2 |
| New York | 8.8 | 8.6 | 7.7 | 7.4 | 7.6 | 7.0 | 6.9 |
| North Carolina | 9.2 | 8.0 | 8.4 | 7.1 | 7.2 | 7.0 | 6.7 |
| North Dakota | 10.0 | 8.4 | 7.7 | 7.0 | 6.6 | 5.9 | 4.5 |
| Ohio | 8.3 | 7.9 | 7.8 | 7.5 | 7.1 | 6.8 | 6.1 |
| Oklahoma | 8.7 | 8.0 | 7.7 | 7.1 | 7.4 | 6.8 | 7.2 |
| Oregon | 7.7 | 6.6 | 6.9 | 6.9 | 6.2 | 5.4 | 4.9 |
| Pennsylvania | 9.7 | 8.9 | 8.8 | 7.7 | 7.4 | 6.9 | 6.1 |
| Rhode Island | 9.8 | 9.3 | 8.9 | 9.0 | 7.6 | 8.7 | 6.7 |
| South Carolina | 9.4 | 8.8 | 7.6 | 8.1 | 8.1 | 7.1 | 7.8 |
| South Dakota | 9.3 | 5.5 | 5.2 | 7.2 | 6.3 | 5.3 | 5.0 |
| Tennessee | 9.1 | 7.6 | 8.1 | 7.0 | 6.6 | 7.0 | 6.4 |
| Texas | 8.9 | 7.8 | 7.6 | 7.0 | 6.5 | 6.4 | 6.2 |
| Utah | 7.7 | 7.0 | 6.6 | 5.7 | 6.9 | 5.4 | 5.4 |
| Vermont | 8.9 | 6.3 | 6.0 | 4.3 | 6.2 | 6.1 | 5.5 |
| Virginia | 8.0 | 9.3 | 8.4 | 7.6 | 7.6 | 6.4 | 7.2 |
| Washington | 7.8 | 7.2 | 7.1 | 6.4 | 6.0 | 5.4 | 5.3 |
| West Virginia | 10.1 | 8.8 | 7.8 | 8.6 | 7.1 | 6.9 | 7.0 |
| Wisconsin | 7.6 | 6.9 | 6.5 | 6.7 | 5.8 | 6.1 | 5.8 |
| Wyoming | 8.3 | 8.6 | 6.1 | 8.4 | 5.9 | 5.0 | 7.0 |
| United States Total | 8.4 | 7.9 | 7.5 | 7.1 | 6.8 | 6.4 | 6.2 |

*Source: National Center for Health Statistics.*

TABLE 3.15

# Neonatal Mortality Rates, Black, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| Alabama | 15.2 | 12.4 | 13.6 | 11.5 | 12.9 | 10.9 | 12.2 |
| Alaska | — | — | — | — | — | — | — |
| Arizona | — | 15.0 | — | 15.7 | — | — | — |
| Arkansas | 13.8 | 10.6 | 11.3 | 9.6 | 9.0 | 7.9 | 10.8 |
| California | 13.7 | 11.4 | 11.6 | 9.9 | 10.0 | 11.3 | 9.7 |
| Colorado | — | — | — | — | — | — | — |
| Connecticut | 18.3 | 16.7 | 15.7 | 17.6 | 15.8 | 15.3 | 14.2 |
| Delaware | 17.3 | 25.4 | 22.4 | 18.0 | 16.1 | — | — |
| District of Columbia | 22.2 | 20.0 | 19.4 | 20.1 | 18.2 | 15.1 | 18.7 |
| Florida | 12.9 | 14.0 | 14.4 | 14.4 | 14.6 | 11.6 | 10.9 |
| Georgia | 14.2 | 13.4 | 13.1 | 12.7 | 11.7 | 13.2 | 12.7 |
| Hawaii | — | — | — | — | — | — | — |
| Idaho | — | — | — | — | — | — | — |
| Illinois | 16.9 | 17.1 | 16.9 | 16.1 | 15.9 | 13.8 | 13.8 |
| Indiana | 14.6 | 15.2 | 15.0 | 11.4 | 14.3 | 11.0 | 12.3 |
| Iowa | — | — | — | — | — | — | — |
| Kansas | 14.9 | 13.3 | 14.2 | 14.6 | 11.0 | — | 11.8 |
| Kentucky | 14.4 | 12.9 | 13.6 | 12.5 | 12.3 | 10.9 | 12.5 |
| Louisiana | 16.1 | 13.4 | 14.5 | 13.3 | 11.9 | 13.0 | 11.6 |
| Maine | — | — | — | — | — | — | — |
| Maryland | 17.3 | 15.2 | 14.8 | 13.1 | 13.7 | 13.3 | 11.8 |
| Massachusetts | 14.1 | 12.2 | 11.9 | 11.0 | 13.7 | 12.1 | 8.8 |
| Michigan | 16.1 | 15.8 | 17.1 | 17.6 | 18.4 | 16.2 | 16.9 |
| Minnesota | — | — | — | 19.1 | — | — | — |
| Mississippi | 16.7 | 14.4 | 14.6 | 14.2 | 13.7 | 11.8 | 11.4 |
| Missouri | 20.4 | 16.2 | 12.9 | 12.1 | 12.6 | 13.3 | 11.5 |
| Montana | — | — | — | — | — | — | — |
| Nebraska | — | — | — | — | — | — | — |
| Nevada | — | — | — | — | — | — | — |
| New Hampshire | — | — | — | — | — | — | — |
| New Jersey | 15.4 | 15.0 | 13.2 | 11.6 | 12.6 | 12.3 | 11.0 |
| New Mexico | — | — | — | — | — | — | — |
| New York | 14.8 | 14.5 | 13.4 | 13.3 | 12.0 | 11.4 | 10.0 |
| North Carolina | 16.5 | 15.8 | 13.7 | 12.9 | 15.2 | 12.7 | 11.8 |
| North Dakota | — | — | — | — | — | — | — |
| Ohio | 15.1 | 13.9 | 14.4 | 15.6 | 13.2 | 13.1 | 11.1 |
| Oklahoma | 12.3 | 10.5 | 14.3 | 10.2 | 10.8 | 9.4 | 9.2 |
| Oregon | — | — | — | — | — | — | — |
| Pennsylvania | 16.0 | 15.4 | 15.9 | 14.4 | 14.1 | 14.4 | 14.6 |
| Rhode Island | — | — | — | — | — | — | — |
| South Carolina | 16.9 | 15.1 | 15.7 | 15.0 | 14.9 | 14.1 | 13.1 |
| South Dakota | — | — | — | — | — | — | — |
| Tennessee | 15.4 | 14.4 | 12.8 | 15.5 | 13.1 | 13.4 | 13.5 |
| Texas | 15.6 | 13.5 | 12.4 | 12.1 | 10.3 | 10.6 | 9.7 |
| Utah | — | — | — | — | — | — | — |
| Vermont | — | — | — | — | — | — | — |
| Virginia | 15.6 | 15.3 | 14.7 | 14.0 | 15.0 | 14.8 | 13.6 |
| Washington | — | — | — | — | 10.5 | 9.9 | 12.6 |
| West Virginia | — | — | — | — | — | — | — |
| Wisconsin | 9.4 | 11.2 | 10.7 | 10.4 | 12.5 | 9.4 | 12.2 |
| Wyoming | — | — | — | — | — | — | — |
| United States Total | 15.5 | 14.3 | 14.1 | 13.4 | 13.1 | 12.4 | 11.8 |

*Source: National Center for Health Statistics.*

TABLE 3.16

# Neonatal Mortality Rates, Nonwhite, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| Alabama | 15.0 | 12.3 | 13.5 | 11.3 | 12.6 | 10.9 | 12.1 |
| Alaska | — | 12.5 | — | 10.0 | — | 6.7 | — |
| Arizona | 9.2 | 10.3 | 8.4 | 8.0 | 3.7 | 8.4 | 5.8 |
| Arkansas | 13.5 | 10.3 | 11.0 | 9.4 | 8.6 | 7.9 | 10.3 |
| California | 9.8 | 8.6 | 8.5 | 7.3 | 6.9 | 7.3 | 6.5 |
| Colorado | — | — | 9.0 | — | — | 7.8 | 8.1 |
| Connecticut | 17.1 | 15.7 | 14.5 | 16.4 | 14.0 | 13.7 | 12.7 |
| Delaware | 17.3 | 24.7 | 21.5 | 17.3 | 15.8 | 12.6 | — |
| District of Columbia | 21.8 | 19.7 | 19.1 | 20.1 | 18.3 | 14.8 | 18.5 |
| Florida | 12.5 | 13.5 | 13.9 | 13.8 | 14.1 | 11.2 | 10.5 |
| Georgia | 13.8 | 13.1 | 12.9 | 12.5 | 11.5 | 12.9 | 12.5 |
| Hawaii | 7.9 | 6.7 | 6.8 | 6.9 | 5.8 | 6.1 | 7.0 |
| Idaho | — | — | — | — | — | — | — |
| Illinois | 16.0 | 15.9 | 15.9 | 14.9 | 14.8 | 12.9 | 12.8 |
| Indiana | 13.9 | 14.5 | 14.0 | 10.8 | 13.4 | 10.2 | 11.3 |
| Iowa | — | — | — | — | — | — | — |
| Kansas | 13.2 | 11.6 | 12.0 | 12.3 | 9.0 | 6.7 | 10.3 |
| Kentucky | 13.7 | 12.1 | 12.5 | 11.6 | 11.5 | 9.9 | 11.8 |
| Louisiana | 15.9 | 13.2 | 14.2 | 12.9 | 11.7 | 12.6 | 11.2 |
| Maine | — | — | — | — | — | — | — |
| Maryland | 16.2 | 14.2 | 13.9 | 12.4 | 12.8 | 12.4 | 11.0 |
| Massachusetts | 11.9 | 10.4 | 10.3 | 9.4 | 10.7 | 9.9 | 7.6 |
| Michigan | 15.3 | 14.8 | 16.1 | 16.5 | 17.0 | 15.0 | 15.6 |
| Minnesota | 11.0 | 9.2 | 8.2 | 10.1 | 7.6 | 7.0 | — |
| Mississippi | 16.5 | 14.4 | 14.4 | 14.2 | 13.7 | 11.7 | 11.2 |
| Missouri | 19.7 | 15.4 | 12.0 | 11.3 | 12.0 | 12.6 | 11.0 |
| Montana | — | — | — | — | — | — | — |
| Nebraska | 17.9 | — | — | — | — | — | — |
| Nevada | — | — | — | — | — | — | — |
| New Hampshire | — | — | — | — | — | — | — |
| New Jersey | 14.8 | 14.2 | 12.1 | 10.6 | 11.9 | 11.7 | 10.2 |
| New Mexico | 8.9 | 9.5 | — | — | — | — | — |
| New York | 14.1 | 13.5 | 11.9 | 12.3 | 11.2 | 10.4 | 9.1 |
| North Carolina | 15.9 | 15.1 | 13.3 | 12.3 | 14.3 | 12.4 | 11.2 |
| North Dakota | — | — | — | — | — | — | — |
| Ohio | 14.5 | 13.4 | 13.7 | 14.8 | 12.7 | 12.5 | 10.7 |
| Oklahoma | 10.3 | 7.8 | 9.7 | 7.5 | 7.5 | 6.9 | 6.5 |
| Oregon | — | — | — | — | — | — | — |
| Pennsylvania | 15.4 | 14.6 | 15.0 | 13.2 | 13.1 | 13.6 | 13.7 |
| Rhode Island | — | — | — | — | — | — | — |
| South Carolina | 16.6 | 14.9 | 15.4 | 14.9 | 14.5 | 13.8 | 12.8 |
| South Dakota | — | — | — | — | — | — | — |
| Tennessee | 15.0 | 14.0 | 12.5 | 15.2 | 12.7 | 12.9 | 13.1 |
| Texas | 14.9 | 12.7 | 11.5 | 11.2 | 9.5 | 9.4 | 8.7 |
| Utah | — | — | — | — | — | — | — |
| Vermont | — | — | — | — | — | — | — |
| Virginia | 14.5 | 14.5 | 13.7 | 13.0 | 14.0 | 13.6 | 12.8 |
| Washington | 8.5 | 6.2 | 6.9 | 6.1 | 6.2 | 5.6 | 6.4 |
| West Virginia | — | — | — | — | — | — | — |
| Wisconsin | 8.5 | 9.4 | 9.4 | 9.5 | 10.5 | 8.5 | 10.8 |
| Wyoming | — | — | — | — | — | — | — |
| United States Total | 14.0 | 12.9 | 12.5 | 11.8 | 11.3 | 10.8 | 10.2 |

*Source: National Center for Health Statistics.*

TABLE 3.17

# Postneonatal Mortality Rates, All Races, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 5.1 | 5.0 | 5.2 | 4.6 | 4.6 | 4.8 | 4.2 | -0.15 | -1.7 | -0.28 |
| Alaska | 5.0 | 6.2 | 5.8 | 4.7 | 4.6 | 5.8 | 5.5 | -0.08 | -3.0 | -0.50 |
| Arizona | 4.1 | 4.7 | 4.1 | 4.4 | 3.6 | 3.8 | 3.9 | -0.03 | -1.4 | -0.23 |
| Arkansas | 5.9 | 5.4 | 5.1 | 4.9 | 4.3 | 4.5 | 4.0 | -0.32 | -1.5 | -0.25 |
| California | 4.1 | 3.8 | 3.9 | 3.7 | 3.6 | 3.5 | 3.5 | -0.10 | -1.0 | -0.17 |
| Colorado | 4.3 | 4.2 | 3.5 | 3.5 | 3.4 | 4.1 | 4.3 | 0.00 | -1.8 | -0.30 |
| Connecticut | 2.3 | 2.8 | 3.1 | 2.6 | 2.5 | 2.3 | 2.9 | 0.10 | -0.4 | -0.07 |
| Delaware | 3.6 | 3.4 | 3.9 | 3.4 | 3.8 | — | 3.2 | -0.07 | -0.7 | -0.12 |
| District of Columbia | 7.1 | 5.0 | 6.7 | 5.6 | 5.6 | 5.2 | 5.0 | -0.35 | -2.5 | -0.42 |
| Florida | 4.8 | 5.0 | 4.8 | 4.4 | 3.8 | 4.5 | 3.9 | -0.15 | -1.4 | -0.23 |
| Georgia | 5.2 | 5.1 | 5.0 | 5.0 | 4.4 | 4.4 | 4.2 | -0.17 | -1.7 | -0.28 |
| Hawaii | 3.5 | 3.2 | 3.1 | 2.6 | 3.1 | 3.1 | 3.4 | -0.02 | -0.9 | -0.15 |
| Idaho | 4.4 | 3.4 | 4.5 | 3.9 | 3.6 | 5.0 | 4.7 | 0.05 | -2.2 | -0.37 |
| Illinois | 4.8 | 4.8 | 4.8 | 4.1 | 4.3 | 4.2 | 4.0 | -0.13 | -1.5 | -0.25 |
| Indiana | 4.5 | 3.8 | 4.0 | 3.7 | 3.7 | 3.9 | 4.0 | -0.08 | -1.5 | -0.25 |
| Iowa | 3.7 | 3.4 | 3.9 | 3.5 | 3.9 | 3.3 | 2.9 | -0.13 | -0.4 | -0.07 |
| Kansas | 3.8 | 3.4 | 3.6 | 3.3 | 3.5 | 4.2 | 3.6 | -0.03 | -1.1 | -0.18 |
| Kentucky | 4.1 | 3.8 | 4.7 | 4.2 | 4.2 | 3.7 | 4.2 | 0.02 | -1.7 | -0.28 |
| Louisiana | 5.3 | 5.3 | 4.3 | 4.4 | 4.6 | 4.5 | 4.0 | -0.22 | -1.5 | -0.25 |
| Maine | 4.3 | 4.0 | 3.4 | 4.1 | 2.8 | 2.8 | 3.3 | -0.17 | -0.8 | -0.13 |
| Maryland | 3.6 | 4.2 | 3.8 | 3.5 | 3.5 | 3.7 | 3.7 | 0.02 | -1.2 | 0.20 |
| Massachusetts | 3.0 | 2.8 | 2.8 | 2.8 | 2.5 | 2.7 | 2.9 | -0.02 | -0.4 | -0.07 |
| Michigan | 4.6 | 4.3 | 3.9 | 4.0 | 3.4 | 3.8 | 3.7 | -0.15 | -1.2 | -0.20 |
| Minnesota | 3.7 | 3.6 | 3.8 | 3.7 | 3.6 | 3.6 | 3.4 | -0.05 | -0.9 | -0.15 |
| Mississippi | 6.4 | 6.6 | 6.0 | 4.9 | 5.2 | 5.8 | 5.4 | -0.17 | -2.9 | -0.48 |
| Missouri | 4.0 | 4.2 | 4.2 | 3.9 | 4.2 | 3.5 | 4.0 | 0.00 | -1.5 | -0.25 |
| Montana | 4.3 | 3.6 | 4.7 | 4.4 | 3.6 | 4.7 | 4.4 | 0.02 | -1.9 | -0.32 |
| Nebraska | 3.9 | 3.7 | 4.0 | 3.8 | 3.1 | 3.4 | 3.5 | -0.07 | -1.0 | -0.17 |
| Nevada | 3.9 | 5.9 | 4.0 | 4.7 | 3.9 | 4.9 | 4.5 | 0.10 | -2.0 | -0.33 |
| New Hampshire | — | 2.9 | 2.4 | 3.4 | 2.4 | 2.8 | 3.1 | — | — | — |
| New Jersey | 3.7 | 3.7 | 3.9 | 3.4 | 3.5 | 3.7 | 3.4 | -0.05 | -0.9 | -0.15 |
| New Mexico | 5.1 | 5.1 | 4.2 | 3.5 | 4.7 | 4.5 | 3.6 | -0.25 | -1.1 | -0.18 |
| New York | 3.9 | 3.9 | 3.8 | 3.6 | 3.5 | 3.5 | 3.5 | -0.07 | -1.0 | -0.17 |
| North Carolina | 5.2 | 4.8 | 4.5 | 4.3 | 4.2 | 4.5 | 4.3 | -0.15 | -1.8 | -0.30 |
| North Dakota | 3.0 | 2.9 | 4.4 | 3.9 | 3.8 | 2.8 | 3.6 | -0.05 | -1.1 | -0.18 |
| Ohio | 4.1 | 4.0 | 4.1 | 3.7 | 3.6 | 3.5 | 3.7 | -0.07 | -1.2 | -0.20 |
| Oklahoma | 5.3 | 4.5 | 4.6 | 4.7 | 4.9 | 4.1 | 3.9 | -0.23 | -1.4 | -0.23 |
| Oregon | 5.2 | 4.3 | 5.2 | 4.0 | 4.3 | 4.2 | 5.1 | -0.02 | -2.6 | -0.43 |
| Pennsylvania | 3.2 | 3.6 | 3.5 | 3.4 | 3.4 | 3.4 | 3.2 | 0.00 | -0.7 | -0.12 |
| Rhode Island | 3.0 | 3.9 | 2.5 | 2.5 | 2.0 | 2.6 | 2.9 | -0.02 | -0.4 | -0.07 |
| South Carolina | 6.2 | 5.8 | 4.7 | 5.2 | 5.4 | 5.2 | 4.9 | -0.22 | -2.4 | -0.40 |
| South Dakota | 4.1 | 5.4 | 5.2 | 3.9 | 3.2 | 5.0 | 4.5 | 0.07 | -2.0 | -0.33 |
| Tennessee | 4.3 | 4.5 | 4.4 | 3.7 | 4.0 | 4.4 | 3.9 | -0.07 | -1.4 | -0.23 |
| Texas | 4.5 | 4.3 | 4.0 | 4.0 | 3.9 | 4.2 | 3.9 | -0.10 | -1.4 | -0.23 |
| Utah | 3.6 | 3.9 | 3.8 | 4.0 | 4.2 | 3.4 | 3.6 | 0.00 | -1.1 | -0.18 |
| Vermont | 4.5 | — | 3.7 | — | — | — | — | — | — | — |
| Virginia | 4.1 | 3.9 | 3.8 | 3.5 | 3.5 | 3.6 | 3.5 | -0.10 | -1.0 | -0.17 |
| Washington | 4.6 | 4.4 | 4.8 | 4.2 | 4.6 | 4.1 | 4.8 | 0.03 | -2.3 | -0.38 |
| West Virginia | 4.8 | 4.7 | 3.8 | 4.2 | 4.2 | 3.9 | 3.9 | -0.15 | -1.4 | -0.23 |
| Wisconsin | 3.6 | 3.7 | 3.6 | 3.5 | 3.3 | 3.3 | 3.6 | 0.00 | -1.1 | -0.18 |
| Wyoming | 4.9 | 4.8 | 3.6 | — | 3.9 | 4.7 | 4.0 | -0.15 | -1.5 | -0.25 |
| United States Total | 4.3 | 4.2 | 4.1 | 3.9 | 3.8 | 3.9 | 3.8 | -0.08 | -1.3 | -0.22 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.18

## Postneonatal Mortality Rates, White, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| Alabama | 3.4 | 3.6 | 3.8 | 3.4 | 2.9 | 3.4 | 2.7 |
| Alaska | — | 4.9 | — | — | — | 4.9 | 4.6 |
| Arizona | 3.4 | 3.8 | 3.5 | 3.7 | 3.0 | 3.2 | 3.2 |
| Arkansas | 4.9 | 4.2 | 3.8 | 3.7 | 3.2 | 3.5 | 3.5 |
| California | 3.9 | 3.7 | 3.7 | 3.6 | 3.5 | 3.4 | 3.3 |
| Colorado | 4.2 | 4.1 | 3.4 | 3.6 | 3.5 | 4.3 | 4.3 |
| Connecticut | 1.9 | 2.6 | 3.1 | 2.3 | 2.1 | 3.1 | 2.7 |
| Delaware | — | — | — | — | — | — | — |
| District of Columbia | — | — | — | — | — | — | — |
| Florida | 3.7 | 3.8 | 3.5 | 3.3 | 2.9 | 3.5 | 2.8 |
| Georgia | 3.6 | 3.5 | 3.3 | 3.7 | 3.1 | 3.1 | 3.3 |
| Hawaii | — | — | — | — | — | — | — |
| Idaho | 4.4 | 3.4 | 4.6 | 3.9 | 3.8 | 4.9 | 4.8 |
| Illinois | 3.4 | 3.4 | 3.6 | 3.0 | 3.1 | 3.0 | 2.9 |
| Indiana | 3.9 | 3.5 | 3.4 | 3.1 | 3.5 | 3.5 | 3.6 |
| Iowa | 3.6 | 3.2 | 3.8 | 3.4 | 3.8 | 3.1 | 2.9 |
| Kansas | 3.6 | 3.1 | 3.3 | 3.0 | 3.7 | 4.0 | 3.3 |
| Kentucky | 4.0 | 3.5 | 4.2 | 4.2 | 4.0 | 3.3 | 4.0 |
| Louisiana | 3.3 | 3.7 | 3.2 | 3.2 | 3.1 | 3.2 | 3.0 |
| Maine | 4.3 | 3.9 | 3.5 | 4.1 | 2.8 | 2.8 | 3.4 |
| Maryland | 3.0 | 3.2 | 3.1 | 2.9 | 2.6 | 2.9 | 3.1 |
| Massachusetts | 2.7 | 2.6 | 2.6 | 2.6 | 2.4 | 2.4 | 2.7 |
| Michigan | 4.0 | 2.8 | 3.3 | 3.4 | 2.9 | 3.2 | 3.0 |
| Minnesota | 3.5 | 3.3 | 3.5 | 3.5 | 3.3 | 3.4 | 3.4 |
| Mississippi | 3.2 | 3.8 | 3.4 | 3.5 | 3.5 | 3.7 | 3.0 |
| Missouri | 3.2 | 3.7 | 3.7 | 3.5 | 3.5 | 3.1 | 3.5 |
| Montana | 3.5 | 3.1 | 4.4 | 3.6 | 3.4 | 4.6 | 4.3 |
| Nebraska | 3.7 | 3.4 | 3.6 | 3.7 | 2.9 | 3.0 | 3.4 |
| Nevada | 3.8 | 5.3 | 3.6 | 4.4 | 3.6 | 4.6 | 4.4 |
| New Hampshire | — | 3.0 | 2.4 | 3.5 | 2.3 | 2.8 | 3.1 |
| New Jersey | 2.7 | 2.8 | 2.7 | 2.6 | 2.5 | 2.9 | 2.5 |
| New Mexico | 4.4 | 4.1 | 3.8 | 3.6 | 4.3 | 4.3 | 3.2 |
| New York | 3.1 | 3.3 | 3.1 | 3.2 | 3.0 | 2.9 | 2.8 |
| North Carolina | 3.8 | 3.2 | 3.7 | 3.6 | 3.6 | 3.5 | 3.2 |
| North Dakota | 3.4 | 2.7 | 4.0 | 3.7 | 3.2 | — | 3.2 |
| Ohio | 3.8 | 3.7 | 3.4 | 3.3 | 3.2 | 3.0 | 3.2 |
| Oklahoma | 4.7 | 3.8 | 4.4 | 4.4 | 4.9 | 3.9 | 3.9 |
| Oregon | 5.2 | 4.2 | 5.3 | 3.9 | 4.2 | 4.2 | 5.0 |
| Pennsylvania | 2.8 | 3.1 | 3.1 | 3.0 | 3.9 | 2.9 | 2.7 |
| Rhode Island | — | 3.2 | — | — | — | — | 2.7 |
| South Carolina | 3.9 | 3.6 | 3.2 | 4.3 | 3.8 | 4.2 | 3.3 |
| South Dakota | 2.8 | 4.1 | 3.8 | 3.0 | — | 3.0 | 3.8 |
| Tennessee | 4.0 | 3.9 | 3.8 | 3.2 | 3.5 | 3.7 | 3.4 |
| Texas | 4.0 | 3.7 | 3.6 | 3.7 | 3.5 | 4.0 | 3.6 |
| Utah | 3.6 | 3.7 | 3.9 | 4.0 | 4.1 | 3.5 | 3.6 |
| Vermont | 4.6 | — | 4.7 | — | — | — | — |
| Virginia | 3.5 | 3.2 | 3.5 | 3.1 | 3.1 | 3.2 | 2.8 |
| Washington | 4.5 | 4.4 | 4.4 | 3.8 | 4.5 | 3.8 | 4.6 |
| West Virginia | 4.8 | 4.6 | 3.6 | 4.1 | 4.3 | 3.8 | 3.8 |
| Wisconsin | 3.3 | 3.4 | 3.2 | 3.1 | 2.9 | 2.9 | 3.4 |
| Wyoming | 5.1 | 4.6 | 3.2 | — | 4.0 | 4.9 | 4.2 |
| United States Total | 3.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.3 | 3.3 |

*Source: National Center for Health Statistics.*

TABLE 3.19

# Postneonatal Mortality Rates, Black, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| Alabama | 8.5 | 7.5 | 8.0 | 6.7 | 7.5 | 7.6 | 7.0 |
| Alaska | — | — | — | — | — | — | — |
| Arizona | — | — | — | — | — | — | — |
| Arkansas | 8.8 | 9.0 | 8.7 | 8.7 | 7.9 | 7.7 | 6.0 |
| California | 6.2 | 6.5 | 6.4 | 5.6 | 5.9 | 5.4 | 5.9 |
| Colorado | — | — | — | — | — | — | — |
| Connecticut | — | — | — | — | — | — | — |
| Delaware | — | — | — | — | — | — | — |
| District of Columbia | 8.0 | 5.6 | 7.3 | 6.6 | 5.9 | 6.2 | 5.5 |
| Florida | 7.9 | 8.4 | 8.4 | 7.6 | 6.5 | 7.7 | 7.5 |
| Georgia | 6.9 | 8.0 | 7.9 | 7.2 | 6.5 | 6.6 | 5.9 |
| Hawaii | — | — | — | — | — | — | — |
| Idaho | — | — | — | — | — | — | — |
| Illinois | 9.8 | 9.7 | 9.4 | 8.3 | 8.7 | 9.3 | 8.2 |
| Indiana | 8.8 | 7.0 | 8.4 | 8.2 | 5.9 | 7.1 | 6.8 |
| Iowa | — | — | — | — | — | — | — |
| Kansas | — | — | — | — | — | — | — |
| Kentucky | 7.6 | 6.3 | 7.0 | 8.4 | 5.4 | 4.4 | — |
| Louisiana | 8.5 | 7.8 | 6.1 | 6.6 | 7.3 | 6.9 | 5.8 |
| Maine | — | — | — | — | — | — | — |
| Maryland | 5.2 | 6.4 | 5.6 | 5.1 | 5.6 | 5.3 | 5.2 |
| Massachusetts | — | — | — | — | — | — | 5.4 |
| Michigan | 8.5 | 7.2 | 7.1 | 7.3 | 6.2 | 6.9 | 6.6 |
| Minnesota | — | — | — | — | — | — | — |
| Mississippi | 9.7 | 9.2 | 9.1 | 6.4 | 7.1 | 8.2 | 8.0 |
| Missouri | 8.8 | 7.0 | 7.8 | 6.6 | 8.0 | 5.8 | 6.8 |
| Montana | — | — | — | — | — | — | — |
| Nebraska | — | — | — | — | — | — | — |
| Nevada | — | — | — | — | — | — | — |
| New Hampshire | — | — | — | — | — | — | — |
| New Jersey | 7.4 | 7.5 | 8.7 | 6.7 | 7.8 | 7.1 | 7.4 |
| New Mexico | — | — | — | — | — | — | — |
| New York | 7.1 | 6.2 | 6.6 | 6.6 | 6.1 | 6.7 | 6.2 |
| North Carolina | 8.4 | 8.4 | 6.3 | 6.2 | 5.4 | 6.9 | 7.0 |
| North Dakota | — | — | — | — | — | — | — |
| Ohio | 6.4 | 6.7 | 8.6 | 6.5 | 6.1 | 6.4 | 6.6 |
| Oklahoma | 9.2 | 8.2 | 7.5 | 8.2 | 6.0 | 5.5 | 5.6 |
| Oregon | — | — | — | — | — | — | — |
| Pennsylvania | 6.1 | 7.1 | 7.2 | 6.7 | 6.7 | 6.7 | 6.6 |
| Rhode Island | — | — | — | — | — | — | — |
| South Carolina | 9.6 | 9.1 | 7.2 | 6.8 | 7.8 | 6.8 | 7.6 |
| South Dakota | — | — | — | — | — | — | — |
| Tennessee | 5.8 | 6.5 | 6.5 | 5.7 | 6.2 | 6.9 | 5.4 |
| Texas | 7.0 | 7.8 | 6.4 | 5.6 | 6.3 | 5.7 | 6.1 |
| Utah | — | — | — | — | — | — | — |
| Vermont | — | — | — | — | — | — | — |
| Virginia | 6.1 | 6.0 | 5.1 | 4.8 | 5.1 | 5.2 | 6.0 |
| Washington | — | — | — | — | — | — | — |
| West Virginia | — | — | — | — | — | — | — |
| Wisconsin | 5.8 | 7.6 | 7.8 | 7.1 | 7.7 | 7.0 | 6.5 |
| Wyoming | — | — | — | — | — | — | — |
| United States Total | 7.6 | 7.5 | 7.3 | 6.6 | 6.5 | 6.8 | 6.5 |

*Source: National Center for Health Statistics.*

TABLE 3.20

## Postneonatal Mortality Rates, Nonwhite, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| Alabama | 8.4 | 7.4 | 7.9 | 6.8 | 7.4 | 7.4 | 6.8 |
| Alaska | — | — | — | — | — | — | — |
| Arizona | 7.2 | 9.4 | 7.4 | 7.9 | 6.6 | 5.6 | 7.4 |
| Arkansas | 8.6 | 8.8 | 9.4 | 8.3 | 7.5 | 7.4 | 5.7 |
| California | 4.7 | 4.7 | 4.5 | 4.1 | 3.9 | 3.7 | 4.0 |
| Colorado | — | — | — | — | — | — | — |
| Connecticut | — | — | — | — | — | — | — |
| Delaware | — | — | — | — | — | — | — |
| District of Columbia | 7.9 | 5.5 | 7.2 | 6.5 | 6.0 | 6.2 | 5.6 |
| Florida | 7.6 | 8.1 | 8.1 | 7.4 | 6.3 | 7.3 | 7.2 |
| Georgia | 7.7 | 7.8 | 7.8 | 7.1 | 6.4 | 6.6 | 5.7 |
| Hawaii | 3.4 | 3.3 | 3.1 | 2.9 | 2.9 | 3.0 | 3.6 |
| Idaho | — | — | — | — | — | — | — |
| Illinois | 9.1 | 9.1 | 8.8 | 7.6 | 8.0 | 8.5 | 7.7 |
| Indiana | 8.4 | 6.6 | 8.0 | 7.8 | 5.5 | 6.8 | 6.5 |
| Iowa | — | — | — | — | — | — | — |
| Kansas | — | — | — | — | — | — | — |
| Kentucky | 5.4 | 6.6 | 7.8 | — | 5.4 | 6.6 | — |
| Louisiana | 8.4 | 7.6 | 6.1 | 6.4 | 7.0 | 6.7 | 5.6 |
| Maine | — | — | — | — | — | — | — |
| Maryland | 5.1 | 6.1 | 5.2 | 4.7 | 5.3 | 5.1 | 4.9 |
| Massachusetts | 5.1 | — | — | 4.3 | 4.0 | 4.2 | 4.7 |
| Michigan | 7.9 | 6.8 | 6.6 | 6.8 | 5.9 | 6.7 | 6.4 |
| Minnesota | — | — | 7.8 | 5.6 | 6.4 | — | — |
| Mississippi | 9.6 | 9.1 | 8.9 | 6.4 | 7.2 | 8.1 | 8.0 |
| Missouri | 8.5 | 6.7 | 7.5 | 6.2 | 7.7 | 5.6 | 6.3 |
| Montana | — | — | — | — | — | — | — |
| Nebraska | — | — | — | — | — | — | — |
| Nevada | — | — | — | — | — | — | — |
| New Hampshire | — | — | — | — | — | — | — |
| New Jersey | 6.9 | 7.0 | 7.8 | 6.2 | 7.1 | 6.6 | 6.5 |
| New Mexico | 8.5 | 10.0 | — | — | — | — | — |
| New York | 6.8 | 5.7 | 5.9 | 5.9 | 5.6 | 6.3 | 5.7 |
| North Carolina | 8.0 | 8.2 | 6.1 | 6.0 | 5.4 | 6.6 | 6.7 |
| North Dakota | — | — | — | — | — | — | — |
| Ohio | 6.1 | 6.4 | 8.2 | 6.1 | 5.8 | 6.2 | 6.3 |
| Oklahoma | 7.5 | 7.4 | 5.6 | 5.8 | 4.8 | 4.4 | 4.1 |
| Oregon | — | — | — | — | — | — | — |
| Pennsylvania | 5.8 | 6.7 | 6.9 | 6.3 | 6.3 | 6.4 | 6.3 |
| Rhode Island | — | — | — | — | — | — | — |
| South Carolina | 9.4 | 8.9 | 7.1 | 6.7 | 7.7 | 6.7 | 7.4 |
| South Dakota | — | — | — | — | — | 15.2 | — |
| Tennessee | 5.7 | 5.6 | 6.3 | 5.5 | 6.0 | 6.9 | 5.3 |
| Texas | 6.6 | 7.5 | 6.0 | 5.4 | 5.7 | 5.3 | 5.7 |
| Utah | — | — | — | — | — | — | — |
| Vermont | — | — | — | — | — | — | — |
| Virginia | 5.6 | 5.6 | 4.7 | 4.5 | 4.7 | 4.7 | 5.5 |
| Washington | 6.5 | — | 6.7 | 6.6 | 5.7 | 6.0 | 6.0 |
| West Virginia | — | — | — | — | — | — | — |
| Wisconsin | 5.7 | 6.8 | 6.9 | 6.9 | 6.6 | 6.9 | 5.9 |
| Wyoming | — | — | — | — | — | — | — |
| United States Total | 7.1 | 6.9 | 6.6 | 6.0 | 6.0 | 6.0 | 5.8 |

*Source: National Center for Health Statistics.*

TABLE 3.21

# Percentage of Infants Born at Low Birthweight, All Races, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 8.4 | 8.0 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | -0.08 | -2.9 | -0.48 |
| Alaska | 5.3 | 5.7 | 5.4 | 4.9 | 4.9 | 4.7 | 4.8 | 0.00 | 0.0 | 0.00 |
| Arizona | 6.1 | 6.0 | 6.2 | 6.1 | 5.9 | 6.1 | 6.1 | 0.00 | -1.1 | -0.18 |
| Arkansas | 7.9 | 7.1 | 7.6 | 7.4 | 7.4 | 7.8 | 7.5 | -0.07 | -2.5 | -0.42 |
| California | 6.4 | 6.0 | 5.9 | 5.9 | 5.9 | 6.0 | 5.9 | -0.08 | -0.9 | -0.15 |
| Colorado | 8.2 | 8.2 | 8.2 | 8.0 | 7.7 | 7.9 | 7.6 | -0.10 | -2.6 | -0.43 |
| Connecticut | 6.7 | 7.2 | 6.7 | 6.8 | 6.8 | 6.4 | 6.6 | -0.02 | -1.6 | -0.27 |
| Delaware | 7.2 | 7.6 | 7.7 | 7.8 | 7.3 | 7.2 | 7.4 | 0.03 | -2.4 | -0.40 |
| District of Columbia | 13.1 | 12.7 | 12.8 | 13.3 | 13.4 | 13.1 | 12.5 | -0.10 | -7.5 | -1.25 |
| Florida | 7.8 | 7.8 | 7.6 | 7.4 | 7.5 | 7.4 | 7.4 | -0.07 | -2.4 | -0.40 |
| Georgia | 8.7 | 8.6 | 8.6 | 8.5 | 8.5 | 8.4 | 8.3 | -0.07 | -3.3 | -0.55 |
| Hawaii | 7.2 | 7.0 | 7.1 | 6.8 | 7.3 | 7.0 | 7.2 | 0.00 | -2.2 | -0.37 |
| Idaho | 5.6 | 5.2 | 5.3 | 5.1 | 5.3 | 5.6 | 5.1 | -0.08 | -0.1 | -0.02 |
| Illinois | 7.4 | 7.4 | 7.2 | 7.4 | 7.2 | 7.2 | 7.1 | -0.05 | -2.1 | -0.35 |
| Indiana | 6.5 | 6.5 | 6.3 | 6.3 | 6.4 | 6.3 | 6.3 | -0.03 | -1.3 | -0.22 |
| Iowa | 5.3 | 5.2 | 5.0 | 5.0 | 4.8 | 5.0 | 4.9 | 0.00 | 0.0 | 0.00 |
| Kansas | 6.3 | 6.4 | 5.8 | 6.3 | 6.2 | 6.1 | 6.1 | -0.03 | -1.1 | -0.18 |
| Kentucky | 7.1 | 7.0 | 6.8 | 7.0 | 6.9 | 6.9 | 6.9 | -0.03 | -1.9 | -0.32 |
| Louisiana | 8.9 | 8.2 | 8.6 | 8.5 | 8.4 | 8.6 | 8.5 | -0.07 | -3.5 | -0.58 |
| Maine | 5.4 | 5.2 | 5.2 | 5.3 | 5.1 | 5.6 | 5.5 | 0.02 | -0.5 | -0.08 |
| Maryland | 7.8 | 7.7 | 8.2 | 7.7 | 7.4 | 7.7 | 7.4 | -0.07 | -2.4 | -0.40 |
| Massachusetts | 6.5 | 6.1 | 6.1 | 6.0 | 5.9 | 5.9 | 5.9 | -0.10 | -0.9 | -0.15 |
| Michigan | 7.2 | 7.0 | 6.9 | 6.9 | 6.9 | 7.0 | 7.0 | -0.03 | -2.0 | -0.33 |
| Minnesota | 5.3 | 5.1 | 5.1 | 5.3 | 4.9 | 5.1 | 4.9 | 0.00 | 0.0 | 0.00 |
| Mississippi | 8.8 | 8.7 | 8.7 | 8.6 | 8.8 | 8.8 | 8.7 | -0.02 | -3.7 | -0.62 |
| Missouri | 7.0 | 6.7 | 6.6 | 6.7 | 6.6 | 6.7 | 6.7 | -0.05 | -1.7 | -0.28 |
| Montana | 5.9 | 5.6 | 5.6 | 5.5 | 5.6 | 5.6 | 5.8 | -0.02 | -0.8 | -0.13 |
| Nebraska | 5.8 | 5.6 | 5.6 | 5.5 | 5.5 | 5.4 | 5.4 | -0.07 | -0.4 | -0.07 |
| Nevada | 7.4 | 7.3 | 6.6 | 7.0 | 6.4 | 7.0 | 6.7 | -0.12 | -1.7 | -0.28 |
| New Hampshire | 5.6 | 5.9 | 5.4 | 5.0 | 5.2 | 5.1 | 5.0 | -0.10 | 0.0 | 0.00 |
| New Jersey | 7.5 | 7.3 | 7.2 | 7.1 | 6.9 | 7.2 | 7.0 | -0.08 | -2.0 | -0.33 |
| New Mexico | 8.6 | 8.3 | 7.6 | 7.4 | 7.8 | 7.6 | 7.6 | -0.17 | -2.6 | -0.43 |
| New York | 7.7 | 7.6 | 7.4 | 7.4 | 7.2 | 7.2 | 7.0 | -0.12 | -2.0 | -0.33 |
| North Carolina | 8.1 | 8.1 | 7.9 | 7.9 | 8.0 | 7.8 | 7.8 | -0.05 | -2.8 | -0.47 |
| North Dakota | 5.4 | 5.1 | 4.9 | 4.5 | 4.8 | 4.7 | 4.8 | 0.00 | 0.0 | 0.00 |
| Ohio | 7.0 | 6.8 | 6.8 | 6.7 | 6.6 | 6.7 | 6.4 | -0.10 | -1.4 | -0.23 |
| Oklahoma | 7.1 | 6.5 | 6.8 | 6.6 | 6.8 | 6.7 | 6.3 | -0.13 | -1.3 | -0.22 |
| Oregon | 5.1 | 5.2 | 4.9 | 4.8 | 4.9 | 5.0 | 5.2 | 0.02 | -0.2 | -0.03 |
| Pennsylvania | 6.9 | 6.8 | 6.5 | 6.5 | 6.5 | 6.7 | 6.6 | -0.05 | -1.6 | -0.27 |
| Rhode Island | 6.4 | 6.6 | 6.3 | 5.9 | 6.1 | 6.4 | 6.0 | -0.07 | -1.0 | -0.17 |
| South Carolina | 8.9 | 8.8 | 8.6 | 8.9 | 8.9 | 8.6 | 8.8 | -0.02 | -3.8 | -0.63 |
| South Dakota | 5.2 | 5.0 | 5.1 | 5.3 | 5.1 | 5.1 | 5.1 | -0.02 | -0.1 | -0.02 |
| Tennessee | 8.1 | 7.9 | 8.0 | 8.0 | 7.9 | 8.0 | 7.9 | -0.03 | -2.9 | -0.48 |
| Texas | 7.3 | 7.0 | 6.9 | 6.9 | 6.9 | 6.9 | 6.8 | -0.08 | -1.8 | -0.30 |
| Utah | 5.7 | 5.5 | 5.2 | 5.3 | 5.6 | 5.6 | 5.6 | -0.02 | -0.6 | -0.10 |
| Vermont | 6.2 | 6.1 | 5.9 | 6.2 | 5.9 | 5.9 | 6.1 | -0.02 | -1.1 | -0.18 |
| Virginia | 7.4 | 7.5 | 7.5 | 7.3 | 7.2 | 7.2 | 7.2 | -0.03 | -2.2 | -0.37 |
| Washington | 5.6 | 5.2 | 5.1 | 5.2 | 5.1 | 5.2 | 5.1 | -0.08 | -0.1 | -0.02 |
| West Virginia | 6.8 | 6.8 | 6.7 | 7.1 | 6.7 | 6.7 | 6.9 | 0.02 | -1.9 | -0.32 |
| Wisconsin | 5.6 | 5.5 | 5.4 | 5.3 | 5.0 | 5.4 | 5.1 | -0.08 | -0.1 | -0.02 |
| Wyoming | 7.8 | 7.5 | 7.3 | 6.6 | 7.2 | 7.1 | 7.1 | -0.12 | -2.1 | -0.35 |
| United States Total | 7.1 | 6.9 | 6.8 | 6.8 | 6.8 | 6.8 | 6.7 | -0.07 | -1.7 | -0.28 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.22

# Percentage of Infants Born at Low Birthweight, White, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Change in Rate 1978-1984: Total needed | Change in Rate 1978-1984: Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 6.2 | 5.8 | 5.6 | 5.9 | 5.7 | 6.0 | 5.7 | -0.08 | -0.7 | -0.12 |
| Alaska | 4.8 | 5.2 | 5.0 | 4.5 | 4.2 | 4.5 | 4.3 | 0.00 | 0.0 | 0.00 |
| Arizona | 5.8 | 5.8 | 5.9 | 5.8 | 5.8 | 5.8 | 5.9 | 0.02 | -0.9 | -0.15 |
| Arkansas | 6.1 | 5.7 | 5.9 | 5.8 | 5.8 | 6.1 | 6.0 | -0.02 | -1.0 | -0.17 |
| California | 5.6 | 5.3 | 5.2 | 5.2 | 5.2 | 5.3 | 5.1 | -0.08 | -0.1 | -0.02 |
| Colorado | 7.8 | 7.8 | 7.9 | 7.8 | 7.4 | 7.6 | 7.3 | -0.08 | -2.3 | -0.38 |
| Connecticut | 5.8 | 6.3 | 6.1 | 5.8 | 5.8 | 5.6 | 5.6 | -0.03 | -0.6 | -0.10 |
| Delaware | 5.4 | 5.9 | 5.4 | 5.5 | 5.7 | 5.3 | 6.1 | 0.12 | -1.1 | -0.18 |
| District of Columbia | 6.7 | 5.8 | 6.3 | 5.8 | 5.8 | 6.7 | 5.1 | -0.27 | -0.1 | -0.02 |
| Florida | 6.2 | 6.1 | 6.0 | 5.9 | 5.9 | 5.9 | 6.0 | -0.03 | -1.0 | -0.17 |
| Georgia | 6.1 | 6.3 | 6.4 | 6.0 | 6.1 | 6.1 | 5.9 | -0.03 | -0.9 | -0.15 |
| Hawaii | 5.6 | 5.7 | 6.0 | 5.7 | 6.4 | 5.8 | 6.1 | 0.08 | -1.1 | -0.18 |
| Idaho | 5.6 | 5.1 | 5.3 | 5.0 | 5.3 | 5.5 | 5.0 | 0.00 | 0.0 | 0.00 |
| Illinois | 5.6 | 5.6 | 5.4 | 5.5 | 5.5 | 5.3 | 5.3 | -0.05 | -0.3 | -0.05 |
| Indiana | 5.8 | 5.8 | 5.6 | 5.6 | 5.7 | 5.6 | 5.7 | -0.02 | -0.7 | -0.12 |
| Iowa | 5.1 | 4.8 | 4.8 | 4.8 | 4.6 | 4.9 | 4.7 | 0.00 | 0.0 | 0.00 |
| Kansas | 5.8 | 5.8 | 5.3 | 5.7 | 5.6 | 5.5 | 5.5 | -0.05 | -0.5 | -0.08 |
| Kentucky | 6.4 | 6.5 | 6.3 | 6.6 | 6.5 | 6.4 | 6.4 | 0.00 | -1.4 | -0.23 |
| Louisiana | 6.3 | 6.0 | 6.0 | 5.9 | 5.8 | 5.8 | 5.7 | -0.10 | -0.7 | -0.12 |
| Maine | 5.3 | 5.2 | 5.2 | 5.3 | 5.1 | 5.6 | 5.4 | 0.02 | -0.4 | -0.07 |
| Maryland | 5.9 | 5.8 | 6.1 | 5.8 | 5.4 | 5.5 | 5.4 | -0.08 | -0.4 | -0.07 |
| Massachusetts | 6.1 | 5.7 | 5.7 | 5.6 | 5.5 | 5.4 | 5.5 | -0.10 | -0.5 | -0.08 |
| Michigan | 5.9 | 5.8 | 5.7 | 5.7 | 5.6 | 5.6 | 5.5 | -0.07 | -0.5 | -0.08 |
| Minnesota | 5.1 | 4.9 | 4.9 | 5.0 | 4.7 | 4.9 | 4.7 | 0.00 | 0.0 | 0.00 |
| Mississippi | 6.0 | 5.7 | 5.8 | 5.6 | 6.0 | 5.9 | 6.0 | 0.00 | -1.0 | -0.17 |
| Missouri | 5.8 | 5.6 | 5.6 | 5.7 | 5.5 | 5.5 | 5.6 | -0.03 | -0.6 | -0.10 |
| Montana | 5.9 | 5.6 | 5.5 | 5.5 | 5.6 | 5.5 | 5.7 | -0.03 | -0.7 | -0.12 |
| Nebraska | 5.4 | 5.2 | 5.2 | 5.0 | 5.0 | 5.0 | 5.0 | 0.00 | 0.0 | 0.00 |
| Nevada | 6.6 | 6.6 | 6.0 | 6.4 | 5.8 | 6.5 | 6.1 | -0.08 | -1.1 | -0.18 |
| New Hampshire | 5.6 | 5.9 | 5.3 | 5.0 | 5.2 | 5.0 | 5.0 | 0.00 | 0.0 | 0.00 |
| New Jersey | 5.8 | 5.8 | 5.8 | 5.6 | 5.4 | 5.7 | 5.7 | -0.02 | -0.7 | -0.12 |
| New Mexico | 8.6 | 8.1 | 7.6 | 7.4 | 7.9 | 7.6 | 7.8 | -0.13 | -2.8 | -0.47 |
| New York | 6.3 | 6.3 | 6.1 | 6.1 | 5.9 | 5.9 | 5.7 | -0.10 | -0.7 | -0.12 |
| North Carolina | 6.3 | 6.2 | 6.1 | 6.0 | 6.0 | 5.9 | 6.1 | -0.03 | -1.1 | -0.18 |
| North Dakota | 5.1 | 4.9 | 4.8 | 4.4 | 4.7 | 4.6 | 4.5 | 0.00 | 0.0 | 0.00 |
| Ohio | 6.0 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.5 | -0.08 | -0.5 | -0.08 |
| Oklahoma | 6.4 | 6.0 | 6.2 | 6.2 | 6.3 | 6.1 | 5.8 | -0.10 | -0.8 | -0.13 |
| Oregon | 5.0 | 5.0 | 4.7 | 4.6 | 4.7 | 4.8 | 5.0 | 0.00 | 0.0 | 0.00 |
| Pennsylvania | 5.8 | 5.8 | 5.6 | 5.5 | 5.5 | 5.6 | 5.5 | -0.05 | -0.5 | -0.08 |
| Rhode Island | 5.8 | 6.2 | 5.9 | 5.4 | 5.5 | 6.0 | 5.6 | -0.03 | -0.6 | -0.10 |
| South Carolina | 6.0 | 6.2 | 5.9 | 6.2 | 6.2 | 6.1 | 6.2 | 0.03 | -1.2 | -0.20 |
| South Dakota | 5.1 | 5.0 | 4.8 | 4.9 | 4.8 | 4.8 | 4.8 | 0.00 | 0.0 | 0.00 |
| Tennessee | 6.7 | 6.5 | 6.4 | 6.4 | 6.4 | 6.5 | 6.4 | -0.05 | -1.4 | -0.23 |
| Texas | 6.2 | 6.1 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | -0.03 | -1.0 | -0.17 |
| Utah | 5.7 | 5.4 | 5.1 | 5.3 | 5.5 | 5.5 | 5.4 | -0.05 | -0.4 | -0.07 |
| Vermont | 6.2 | 6.1 | 6.0 | 6.2 | 5.9 | 5.9 | 6.2 | 0.00 | -1.2 | -0.20 |
| Virginia | 5.9 | 6.0 | 5.8 | 5.8 | 5.6 | 5.7 | 5.7 | -0.03 | -0.7 | -0.12 |
| Washington | 5.3 | 4.9 | 4.8 | 4.9 | 4.7 | 5.0 | 4.7 | 0.00 | 0.0 | 0.00 |
| West Virginia | 6.6 | 6.5 | 6.4 | 6.9 | 6.6 | 6.5 | 6.6 | 0.00 | -1.6 | -0.27 |
| Wisconsin | 5.1 | 5.0 | 4.8 | 4.7 | 4.5 | 4.8 | 4.6 | 0.00 | 0.0 | 0.00 |
| Wyoming | 7.7 | 7.4 | 7.2 | 6.5 | 7.1 | 7.0 | 7.1 | -0.10 | -2.1 | -0.35 |
| United States Total | 5.9 | 5.8 | 5.7 | 5.7 | 5.6 | 5.7 | 5.6 | -0.05 | -0.6 | -0.10 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.23

# Percentage of Infants Born at Low Birthweight, Black, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 12.4 | 11.8 | 12.0 | 11.8 | 11.9 | 11.6 | 12.1 | -0.05 | -3.1 | -0.52 |
| Alaska | 8.7 | — | — | 7.5 | 8.6 | — | 7.1 | 0.00 | 0.0 | 0.00 |
| Arizona | 11.5 | 11.3 | 11.1 | 11.4 | 9.1 | 12.7 | 11.9 | 0.07 | -2.9 | -0.48 |
| Arkansas | 13.0 | 11.3 | 12.7 | 12.3 | 12.3 | 13.1 | 12.3 | -0.12 | -3.3 | -0.55 |
| California | 12.0 | 11.0 | 11.4 | 11.2 | 11.0 | 11.4 | 11.4 | -0.10 | -2.4 | -0.40 |
| Colorado | 15.4 | 14.2 | 14.4 | 12.3 | 12.4 | 13.3 | 13.0 | -0.40 | -4.0 | -0.67 |
| Connecticut | 13.3 | 13.5 | 11.5 | 14.3 | 13.4 | 12.6 | 12.9 | -0.07 | -3.9 | -0.65 |
| Delaware | 13.1 | 13.0 | 15.6 | 14.9 | 12.6 | 12.7 | 11.8 | -0.22 | -2.8 | -0.47 |
| District of Columbia | 14.3 | 14.0 | 14.0 | 14.9 | 15.1 | 14.6 | 14.2 | -0.02 | -5.2 | -0.87 |
| Florida | 12.3 | 12.4 | 12.2 | 11.9 | 11.9 | 12.0 | 11.9 | -0.07 | -2.9 | -0.46 |
| Georgia | 13.3 | 12.6 | 12.4 | 12.8 | 12.7 | 12.7 | 12.6 | -0.12 | -3.6 | -0.60 |
| Hawaii | 8.3 | 9.1 | 10.1 | 9.1 | 9.4 | 10.9 | 9.0 | 0.00 | 0.0 | 0.00 |
| Idaho | — | — | — | — | — | — | — | — | — | — |
| Illinois | 13.6 | 13.8 | 13.6 | 14.2 | 13.6 | 13.9 | 13.8 | 0.03 | -4.8 | -0.80 |
| Indiana | 12.1 | 12.5 | 12.1 | 11.9 | 12.0 | 12.2 | 11.7 | -0.07 | -2.7 | -0.45 |
| Iowa | 13.1 | 11.0 | 12.2 | 10.0 | 10.9 | 11.9 | 10.6 | -0.42 | -1.6 | -0.27 |
| Kansas | 12.1 | 12.5 | 11.6 | 12.2 | 12.2 | 12.0 | 12.1 | 0.00 | -3.1 | -0.52 |
| Kentucky | 13.1 | 12.3 | 11.9 | 11.5 | 11.3 | 12.3 | 12.0 | -0.18 | -3.0 | -0.50 |
| Louisiana | 12.8 | 12.6 | 12.8 | 12.8 | 12.8 | 13.4 | 13.1 | 0.05 | -4.1 | -0.68 |
| Maine | — | — | — | — | — | — | — | — | — | — |
| Maryland | 12.4 | 12.0 | 13.0 | 12.1 | 12.1 | 12.7 | 12.0 | -0.07 | -3.0 | -0.50 |
| Massachusetts | 11.7 | 11.1 | 10.9 | 10.9 | 11.0 | 11.4 | 11.0 | -0.12 | -2.0 | -0.33 |
| Michigan | 13.5 | 13.4 | 12.9 | 13.2 | 13.8 | 14.2 | 14.2 | 0.12 | -5.2 | -0.87 |
| Minnesota | 12.0 | 10.5 | 12.1 | 11.8 | 10.4 | 12.3 | 10.6 | -0.23 | -1.6 | -0.27 |
| Mississippi | 11.8 | 12.0 | 11.8 | 11.8 | 12.0 | 12.0 | 11.7 | -0.02 | -2.7 | -0.45 |
| Missouri | 13.4 | 12.6 | 12.9 | 12.5 | 12.6 | 13.1 | 12.6 | -0.13 | -3.6 | -0.60 |
| Montana | — | — | — | — | — | — | — | — | — | — |
| Nebraska | 13.5 | 12.4 | 12.6 | 12.7 | 12.9 | 11.3 | 11.6 | -0.32 | -2.6 | -0.43 |
| Nevada | 13.0 | 12.4 | 11.6 | 12.5 | 11.6 | 10.3 | 10.2 | -0.47 | -1.2 | -0.20 |
| New Hampshire | — | — | — | — | — | — | — | — | — | — |
| New Jersey | 13.6 | 13.2 | 12.7 | 13.3 | 12.9 | 12.8 | 12.4 | -0.20 | -3.4 | -0.57 |
| New Mexico | 15.6 | 15.2 | 7.8 | 11.3 | 11.7 | 12.5 | 9.8 | -0.97 | -0.8 | -0.13 |
| New York | 13.0 | 12.9 | 12.4 | 12.3 | 12.1 | 12.0 | 11.7 | -0.22 | -2.7 | -0.45 |
| North Carolina | 12.2 | 12.5 | 12.2 | 12.1 | 12.4 | 12.4 | 12.2 | 0.00 | -3.2 | -0.53 |
| North Dakota | — | — | — | — | — | — | — | — | — | — |
| Ohio | 13.4 | 13.0 | 12.9 | 13.0 | 12.6 | 13.1 | 12.2 | -0.20 | -3.2 | -0.53 |
| Oklahoma | 13.1 | 11.8 | 12.3 | 11.3 | 12.6 | 11.9 | 11.5 | -0.27 | -2.5 | -0.42 |
| Oregon | 10.4 | 11.0 | 10.4 | 10.2 | 10.6 | 9.7 | 10.9 | 0.09 | -1.9 | -0.32 |
| Pennsylvania | 13.5 | 13.8 | 13.0 | 13.4 | 13.2 | 13.8 | 13.9 | 0.07 | -4.9 | -0.82 |
| Rhode Island | 13.4 | 11.4 | 11.5 | 11.2 | 12.4 | 11.0 | 11.6 | -0.30 | -2.6 | -0.43 |
| South Carolina | 13.2 | 12.7 | 12.6 | 12.8 | 13.0 | 12.6 | 12.7 | -0.08 | -3.7 | -0.62 |
| South Dakota | — | — | — | — | — | — | — | — | — | — |
| Tennessee | 13.3 | 12.7 | 13.6 | 13.7 | 13.2 | 13.3 | 13.2 | -0.02 | -4.2 | -0.70 |
| Texas | 13.1 | 12.6 | 12.4 | 12.8 | 12.2 | 12.6 | 12.2 | -0.15 | -3.2 | -0.53 |
| Utah | — | — | — | — | 11.2 | 10.3 | — | — | — | — |
| Vermont | — | — | — | — | — | — | — | — | — | — |
| Virginia | 12.0 | 11.8 | 12.3 | 12.0 | 12.2 | 12.1 | 12.0 | 0.00 | -3.0 | -0.50 |
| Washington | 10.6 | 9.4 | 10.2 | 10.3 | 10.1 | 9.3 | 10.5 | -0.02 | -1.5 | -0.25 |
| West Virginia | 11.9 | 13.1 | 12.3 | 11.7 | 10.0 | 11.1 | 13.4 | 0.25 | -4.4 | -0.73 |
| Wisconsin | 12.5 | 12.7 | 12.7 | 12.6 | 12.1 | 12.8 | 12.1 | -0.07 | -3.1 | -0.52 |
| Wyoming | — | — | — | — | — | — | — | — | — | — |
| United States Total | 12.9 | 12.6 | 12.5 | 12.5 | 12.4 | 12.6 | 12.4 | -0.08 | -3.4 | -0.57 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.24

# Percentage of Infants Born at Low Birthweight, Nonwhite, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Change in Rate 1978-1984: Total needed | Change in Rate 1978-1984: Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 12.3 | 11.8 | 11.9 | 11.8 | 11.8 | 11.6 | 12.0 | -0.05 | -3.0 | -0.50 |
| Alaska | 6.7 | 7.1 | 6.3 | 5.9 | 6.5 | 5.0 | 6.1 | 0.00 | 0.0 | 0.00 |
| Arizona | 7.6 | 7.0 | 7.4 | 7.8 | 6.6 | 7.3 | 7.4 | 0.00 | 0.0 | 0.00 |
| Arkansas | 12.8 | 11.1 | 12.5 | 12.1 | 12.0 | 12.8 | 12.0 | -0.13 | -3.0 | -0.50 |
| California | 9.9 | 9.1 | 9.1 | 8.9 | 8.6 | 8.7 | 8.7 | 0.00 | 0.0 | 0.00 |
| Colorado | 12.7 | 12.5 | 12.4 | 10.6 | 11.2 | 11.6 | 11.0 | -0.28 | -2.0 | -0.33 |
| Connecticut | 12.7 | 12.9 | 11.0 | 13.2 | 12.6 | 11.8 | 12.2 | -0.08 | -3.2 | -0.53 |
| Delaware | 12.8 | 12.7 | 15.1 | 14.6 | 12.6 | 12.5 | 11.4 | -0.23 | -2.4 | -0.40 |
| District of Columbia | 14.2 | 14.0 | 13.9 | 14.8 | 15.1 | 14.5 | 14.2 | 0.00 | -5.2 | -0.87 |
| Florida | 12.0 | 12.1 | 11.9 | 11.7 | 11.7 | 11.8 | 11.6 | -0.07 | -2.6 | -0.43 |
| Georgia | 13.1 | 12.4 | 12.3 | 12.7 | 12.5 | 12.6 | 12.5 | -0.10 | -3.5 | -0.58 |
| Hawaii | 7.7 | 7.4 | 7.4 | 7.2 | 7.6 | 7.5 | 7.6 | 0.00 | 0.0 | 0.00 |
| Idaho | 6.9 | 8.7 | 7.1 | 7.4 | 6.2 | 6.8 | 7.9 | 0.00 | 0.0 | 0.00 |
| Illinois | 13.1 | 13.2 | 13.0 | 13.5 | 12.9 | 13.3 | 13.1 | 0.00 | -4.1 | -0.68 |
| Indiana | 11.9 | 12.2 | 11.7 | 11.4 | 11.6 | 11.8 | 11.2 | -0.12 | -2.2 | -0.37 |
| Iowa | 11.5 | 15.2 | 10.5 | 8.5 | 9.0 | 9.4 | 8.8 | 0.00 | 0.0 | 0.00 |
| Kansas | 10.9 | 11.4 | 10.2 | 10.7 | 11.0 | 10.9 | 10.9 | 0.00 | -1.9 | -0.32 |
| Kentucky | 12.7 | 11.6 | 11.5 | 11.3 | 10.8 | 11.6 | 11.7 | -0.17 | -2.7 | -0.45 |
| Louisiana | 12.7 | 11.6 | 12.6 | 12.6 | 12.5 | 13.1 | 12.8 | 0.02 | -3.8 | -0.63 |
| Maine | — | — | — | — | — | — | — | — | — | — |
| Maryland | 12.0 | 11.7 | 12.6 | 11.7 | 11.6 | 12.1 | 11.6 | -0.07 | -2.6 | -0.43 |
| Massachusetts | 10.6 | 10.2 | 10.0 | 10.0 | 9.9 | 10.1 | 9.8 | -0.13 | -0.8 | -0.13 |
| Michigan | 13.0 | 12.8 | 12.3 | 12.6 | 13.0 | 13.6 | 13.5 | 0.08 | -4.5 | -0.75 |
| Minnesota | 9.3 | 8.7 | 8.6 | 9.1 | 8.2 | 8.4 | 7.8 | 0.00 | 0.0 | 0.00 |
| Mississippi | 11.7 | 11.8 | 11.7 | 11.7 | 12.0 | 11.9 | 11.6 | -0.02 | -2.6 | -0.43 |
| Missouri | 13.0 | 12.3 | 12.3 | 12.2 | 12.2 | 12.7 | 12.3 | -0.12 | -3.3 | -0.55 |
| Montana | 6.3 | 5.9 | 6.7 | 6.0 | 5.8 | 6.4 | 6.9 | 0.00 | 0.0 | 0.00 |
| Nebraska | 11.3 | 10.2 | 11.1 | 11.2 | 11.2 | 10.0 | 9.7 | -0.27 | -0.7 | -0.12 |
| Nevada | 11.6 | 11.1 | 9.8 | 9.6 | 9.5 | 9.1 | 9.6 | -0.33 | -0.6 | -0.10 |
| New Hampshire | — | — | — | — | — | — | — | — | — | — |
| New Jersey | 13.1 | 12.7 | 12.1 | 12.5 | 12.2 | 12.2 | 11.6 | -0.25 | -2.6 | -0.43 |
| New Mexico | 8.7 | 9.4 | 7.3 | 7.1 | 7.4 | 7.4 | 6.6 | 0.00 | 0.0 | 0.00 |
| New York | 12.3 | 12.1 | 11.5 | 11.5 | 11.3 | 11.3 | 10.9 | -0.23 | -1.9 | -0.32 |
| North Carolina | 11.8 | 12.1 | 11.8 | 11.8 | 12.1 | 12.1 | 11.7 | -0.02 | -2.7 | -0.45 |
| North Dakota | 8.9 | 7.0 | 6.7 | 5.4 | 5.7 | 5.9 | 7.3 | 0.00 | 0.0 | 0.00 |
| Ohio | 12.9 | 12.7 | 12.6 | 12.6 | 12.1 | 12.7 | 11.8 | -0.18 | -2.8 | -0.47 |
| Oklahoma | 9.7 | 8.7 | 8.8 | 8.4 | 8.9 | 8.9 | 8.3 | 0.00 | 0.0 | 0.00 |
| Oregon | 7.9 | 8.1 | 8.2 | 8.1 | 7.8 | 7.4 | 7.4 | 0.00 | 0.0 | 0.00 |
| Pennsylvania | 13.1 | 13.4 | 12.5 | 12.9 | 12.6 | 13.2 | 13.3 | 0.03 | -4.3 | -0.72 |
| Rhode Island | 12.0 | 10.7 | 10.8 | 10.3 | 11.0 | 10.3 | 10.1 | -0.32 | -1.1 | -0.18 |
| South Carolina | 13.0 | 12.6 | 12.4 | 12.7 | 12.8 | 12.4 | 12.6 | -0.07 | -3.6 | -0.60 |
| South Dakota | 6.2 | 5.6 | 7.1 | 8.0 | 6.9 | 7.0 | 6.3 | 0.00 | 0.0 | 0.00 |
| Tennessee | 13.1 | 12.5 | 13.4 | 13.4 | 13.0 | 13.0 | 13.0 | -0.02 | -4.0 | -0.67 |
| Texas | 12.7 | 12.2 | 11.8 | 12.1 | 11.5 | 11.9 | 11.5 | -0.20 | -2.5 | -0.42 |
| Utah | 5.7 | 6.9 | 6.0 | 6.3 | 7.5 | 7.0 | 8.7 | 0.00 | 0.0 | 0.00 |
| Vermont | — | — | — | — | — | — | — | — | — | — |
| Virginia | 11.6 | 11.4 | 12.0 | 11.5 | 11.7 | 11.5 | 11.4 | -0.03 | -2.4 | -0.40 |
| Washington | 8.2 | 7.1 | 7.3 | 8.0 | 7.6 | 7.2 | 8.0 | 0.00 | 0.0 | 0.00 |
| West Virginia | 11.4 | 12.4 | 11.9 | 11.1 | 10.0 | 10.8 | 12.8 | 0.23 | -3.8 | -0.63 |
| Wisconsin | 11.0 | 11.0 | 11.1 | 10.9 | 10.3 | 11.2 | 10.3 | -0.12 | -1.3 | -0.22 |
| Wyoming | 9.5 | 9.6 | 8.3 | 7.5 | 8.3 | 8.5 | — | — | — | — |
| United States Total | 11.9 | 11.6 | 11.4 | 11.4 | 11.2 | 11.4 | 11.1 | -0.13 | -2.1 | -0.35 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.25

# Percentage of Babies Born to Women Receiving Early Prenatal Care, All Races, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 71.2 | 70.9 | 71.7 | 72.3 | 72.5 | 73.2 | 73.6 | 0.40 | 16.4 | 2.73 |
| Alaska | 71.6 | 74.4 | 75.1 | 75.0 | 76.6 | 75.2 | 75.7 | 0.68 | 14.3 | 2.38 |
| Arizona | 66.6 | 69.0 | 70.2 | 73.6 | 74.2 | 72.6 | 71.7 | 0.85 | 18.3 | 3.05 |
| Arkansas | 68.5 | 69.8 | 70.1 | 70.1 | 68.9 | 68.1 | 68.9 | 0.07 | 21.1 | 3.52 |
| California | 73.2 | 75.2 | 76.5 | 76.9 | 77.1 | 77.1 | 76.9 | 0.62 | 13.1 | 2.18 |
| Colorado | 76.7 | 77.2 | 78.9 | 78.2 | 76.1 | 76.4 | 77.2 | 0.08 | 12.8 | 2.13 |
| Connecticut | 86.3 | 86.8 | 86.8 | 86.1 | 85.8 | 85.7 | 85.6 | -0.12 | 4.4 | 0.73 |
| Delaware | 75.2 | 74.5 | 78.6 | 78.6 | 78.2 | 76.6 | 78.0 | 0.47 | 12.0 | 2.00 |
| District of Columbia | 58.1 | 62.7 | 67.5 | 65.6 | 61.4 | 59.0 | 60.3 | 0.37 | 29.7 | 4.95 |
| Florida | 69.8 | 69.2 | 69.3 | 69.3 | 67.9 | 68.2 | 67.7 | -0.35 | 22.3 | 3.72 |
| Georgia | 71.5 | 73.2 | 74.5 | 74.0 | 73.0 | 75.2 | 75.8 | 0.72 | 14.2 | 2.37 |
| Hawaii | 72.0 | 75.1 | 76.5 | 76.9 | 74.8 | 74.1 | 75.8 | 0.63 | 14.2 | 2.37 |
| Idaho | 74.2 | 75.2 | 75.6 | 76.4 | 75.8 | 75.7 | 76.5 | 0.38 | 13.5 | 2.25 |
| Illinois | 74.2 | 75.1 | 75.4 | 76.5 | 76.9 | 77.8 | 77.9 | 0.62 | 12.1 | 2.02 |
| Indiana | 77.3 | 78.3 | 78.7 | 78.5 | 77.7 | 77.2 | 78.0 | 0.12 | 12.0 | 2.00 |
| Iowa | 83.6 | 84.4 | 84.3 | 84.9 | 84.4 | 85.6 | 85.3 | 0.28 | 4.7 | 0.78 |
| Kansas | 78.9 | 79.8 | 80.8 | 80.6 | 80.4 | 81.2 | 81.5 | 0.43 | 8.5 | 1.42 |
| Kentucky | 69.6 | 70.7 | 72.1 | 73.9 | 74.9 | 75.0 | 75.6 | 1.00 | 14.4 | 2.40 |
| Louisiana | 75.1 | 76.3 | 78.1 | 77.8 | 77.3 | 78.3 | 77.6 | 0.42 | 12.4 | 2.07 |
| Maine | 78.6 | 80.5 | 80.9 | 81.5 | 81.6 | 84.0 | 82.8 | 0.70 | 7.2 | 1.20 |
| Maryland | 81.2 | 79.6 | 80.9 | 79.5 | 78.7 | 78.5 | 79.3 | -0.32 | 10.7 | 1.78 |
| Massachusetts | 87.8 | 88.5 | 88.9 | 89.1 | 88.0 | 85.6 | 85.6 | -0.37 | 4.4 | 0.73 |
| Michigan | 76.9 | 78.6 | 80.0 | 80.5 | 80.9 | 81.2 | 81.4 | 0.75 | 8.6 | 1.43 |
| Minnesota | 76.0 | 77.3 | 77.9 | 77.6 | 77.9 | 79.1 | 79.9 | 0.65 | 10.1 | 1.68 |
| Mississippi | 72.1 | 73.6 | 74.8 | 74.4 | 74.1 | 74.6 | 74.8 | 0.45 | 15.2 | 2.53 |
| Missouri | 75.2 | 78.5 | 79.3 | 78.9 | 79.1 | 79.2 | 79.9 | 0.78 | 10.1 | 1.68 |
| Montana | 78.4 | 77.6 | 79.2 | 79.5 | 78.9 | 79.2 | 79.0 | 0.10 | 11.0 | 1.83 |
| Nebraska | 77.7 | 78.6 | 79.6 | 79.8 | 79.7 | 80.6 | 79.9 | 0.37 | 10.1 | 1.68 |
| Nevada | 74.7 | 72.9 | 73.6 | 75.8 | 74.1 | 74.1 | 75.8 | 0.18 | 14.2 | 2.37 |
| New Hampshire | 80.5 | 82.4 | 84.1 | 84.5 | 83.9 | 84.8 | 84.6 | 0.68 | 5.4 | 0.90 |
| New Jersey | 77.4 | 78.2 | 79.1 | 79.6 | 80.0 | 80.7 | 82.0 | 0.77 | 8.0 | 1.33 |
| New Mexico | — | — | 60.1 | 60.0 | 60.9 | 61.5 | 61.2 | — | — | — |
| New York | 69.1 | 70.9 | 71.9 | 71.2 | 71.0 | 71.2 | 72.2 | 0.52 | 17.8 | 2.97 |
| North Carolina | 74.4 | 75.9 | 76.6 | 76.7 | 77.5 | 77.8 | 78.2 | 0.63 | 11.8 | 1.97 |
| North Dakota | 76.7 | 78.3 | 78.2 | 79.6 | 79.3 | 81.5 | 82.0 | 0.88 | 8.0 | 1.33 |
| Ohio | 78.8 | 79.9 | 80.5 | 80.3 | 81.0 | 81.0 | 81.7 | 0.48 | 8.3 | 1.38 |
| Oklahoma | 68.8 | 68.2 | 68.0 | 68.1 | 67.6 | 67.4 | 69.4 | 0.10 | 20.6 | 3.43 |
| Oregon | 74.2 | 76.3 | 78.0 | 77.6 | 76.9 | 77.5 | 77.1 | 0.48 | 12.9 | 2.15 |
| Pennsylvania | 79.8 | 79.0 | 79.5 | 79.6 | 79.4 | 79.0 | 78.9 | -0.15 | 11.1 | 1.85 |
| Rhode Island | 87.3 | 88.2 | 87.4 | 88.0 | 87.0 | 84.7 | 85.5 | -0.30 | 4.5 | 0.75 |
| South Carolina | 70.3 | 70.2 | 70.5 | 68.4 | 66.9 | 66.5 | 67.6 | -0.47 | 22.4 | 3.73 |
| South Dakota | 69.3 | 69.9 | 69.1 | 71.5 | 70.9 | 72.1 | 72.7 | 0.57 | 17.3 | 2.88 |
| Tennessee | 72.4 | 74.1 | 74.4 | 74.3 | 73.8 | 74.7 | 75.7 | 0.55 | 14.3 | 2.38 |
| Texas | 70.9 | 71.9 | 69.1 | 68.4 | 68.1 | 67.7 | 68.1 | -0.47 | 21.9 | 3.65 |
| Utah | 81.7 | 82.5 | 81.4 | 81.1 | 81.8 | 82.3 | 82.0 | 0.05 | 8.0 | 1.33 |
| Vermont | 78.7 | 79.2 | 78.0 | 77.6 | 81.6 | 82.9 | 82.3 | 0.60 | 7.7 | 1.28 |
| Virginia | 81.0 | 81.7 | 81.2 | 81.3 | 80.9 | 80.6 | 80.3 | -0.12 | 9.7 | 1.62 |
| Washington | 78.4 | 79.7 | 79.6 | 79.7 | 77.6 | 77.6 | 78.1 | -0.05 | 11.9 | 1.98 |
| West Virginia | 65.1 | 66.8 | 69.0 | 69.8 | 70.5 | 72.0 | 71.2 | 1.02 | 18.8 | 3.13 |
| Wisconsin | 82.1 | 82.5 | 83.2 | 83.7 | 83.6 | 83.8 | 84.1 | 0.33 | 5.9 | 0.98 |
| Wyoming | 76.1 | 75.5 | 75.9 | 78.1 | 78.6 | 78.7 | 80.6 | 0.75 | 9.4 | 1.57 |
| United States Total | 74.9 | 75.9 | 76.3 | 76.4 | 76.1 | 76.2 | 76.5 | 0.27 | 13.5 | 2.25 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.26

# Percentage of Babies Born to Women Receiving Early Prenatal Care, White, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 80.1 | 80.0 | 80.0 | 80.9 | 81.2 | 81 | 81.5 | 0.23 | 8.5 | 1.42 |
| Alaska | 76.3 | 78.1 | 78.5 | 79.2 | 80.1 | 79 | 78.8 | 0.42 | 11.2 | 1.87 |
| Arizona | 69.6 | 71.4 | 72.3 | 75.7 | 76.0 | 74.8 | 74.1 | 0.75 | 15.9 | 2.65 |
| Arkansas | 74.3 | 75.3 | 75.3 | 75.1 | 74.4 | 73.9 | 73.8 | -0.08 | 16.2 | 2.70 |
| California | 73.6 | 75.5 | 76.8 | 77.2 | 77.5 | 77.6 | 77.5 | 0.65 | 12.5 | 2.08 |
| Colorado | 77.5 | 78.0 | 79.7 | 79.1 | 77.1 | 77.2 | 77.9 | 0.07 | 12.1 | 2.02 |
| Connecticut | 88.3 | 88.8 | 89.0 | 88.6 | 88.4 | 88.7 | 88.5 | 0.03 | 1.5 | 0.25 |
| Delaware | 80.3 | 79.2 | 82.5 | 82.5 | 82.6 | 82.1 | 81.9 | 0.27 | 8.1 | 1.35 |
| District of Columbia | 70.9 | 74.6 | 78.5 | 78.9 | 76.0 | 76.0 | 75.7 | 0.80 | 14.3 | 2.38 |
| Florida | 75.8 | 75.0 | 75.2 | 75.2 | 73.7 | 74.1 | 73.3 | -0.42 | 16.7 | 2.78 |
| Georgia | 79.3 | 80.4 | 81.7 | 81.2 | 80.7 | 81.8 | 82.6 | 0.55 | 7.4 | 1.23 |
| Hawaii | 73.7 | 76.9 | 79.3 | 80.2 | 75.9 | 75.1 | 78.5 | 0.80 | 11.5 | 1.92 |
| Idaho | 74.6 | 75.4 | 75.9 | 76.8 | 76.1 | 76.0 | 76.8 | 0.37 | 13.2 | 2.20 |
| Illinois | 77.8 | 78.8 | 78.7 | 79.9 | 80.7 | 81.5 | 81.6 | 0.63 | 8.4 | 1.40 |
| Indiana | 78.7 | 79.8 | 80.4 | 80.2 | 79.6 | 79.5 | 79.9 | 0.20 | 10.1 | 1.68 |
| Iowa | 84.1 | 84.8 | 84.8 | 85.4 | 84.9 | 86.1 | 86.0 | 0.32 | 4.0 | 0.67 |
| Kansas | 80.0 | 80.9 | 81.9 | 82.1 | 82.1 | 82.8 | 83.1 | 0.52 | 6.9 | 1.15 |
| Kentucky | 71.7 | 73.1 | 74.1 | 75.6 | 76.6 | 76.6 | 77.2 | 0.92 | 12.8 | 2.13 |
| Louisiana | 85.0 | 85.3 | 85.3 | 85.2 | 85.2 | 85.9 | 85.8 | 0.13 | 4.2 | 0.70 |
| Maine | 78.7 | 80.6 | 81.1 | 81.7 | 82.0 | 84.1 | 82.9 | 0.70 | 7.1 | 1.18 |
| Maryland | 85.5 | 84.3 | 85.4 | 84.7 | 84.2 | 84.3 | 85.4 | -0.02 | 4.6 | 0.77 |
| Massachusetts | 88.4 | 89.2 | 89.6 | 89.9 | 88.8 | 86.6 | 86.6 | -0.30 | 3.4 | 0.57 |
| Michigan | 79.1 | 80.7 | 82.0 | 82.5 | 82.9 | 83.3 | 83.3 | 0.70 | 6.7 | 1.12 |
| Minnesota | 76.8 | 78.2 | 79.1 | 79.2 | 79.6 | 80.6 | 81.5 | 0.78 | 8.5 | 1.42 |
| Mississippi | 83.3 | 84.3 | 85.3 | 84.6 | 85.0 | 85.1 | 85.3 | 0.33 | 4.7 | 0.78 |
| Missouri | 80.4 | 80.7 | 81.4 | 81.2 | 81.2 | 81.7 | 82.3 | 0.32 | 7.7 | 1.28 |
| Montana | 80.2 | 79.6 | 81.1 | 81.8 | 81.1 | 81.6 | 81.7 | 0.25 | 8.3 | 1.38 |
| Nebraska | 78.8 | 79.7 | 80.6 | 80.9 | 81.1 | 81.9 | 81.6 | 0.47 | 8.4 | 1.40 |
| Nevada | 77.0 | 75.6 | 76.2 | 78.1 | 76.6 | 76.7 | 77.9 | 0.15 | 12.1 | 2.02 |
| New Hampshire | 80.6 | 82.5 | 84.1 | 84.6 | 84.1 | 84.9 | 84.7 | 0.68 | 5.3 | 0.88 |
| New Jersey | 82.4 | 82.5 | 83.5 | 83.8 | 83.9 | 84.6 | 85.5 | 0.52 | 4.5 | 0.75 |
| New Mexico | — | — | 63.4 | 63.1 | 63.6 | 64.2 | 63.5 | — | — | — |
| New York | 75.4 | 77.1 | 78.2 | 77.1 | 77.5 | 77.5 | 78.2 | 0.47 | 11.8 | 1.97 |
| North Carolina | 81.7 | 83.0 | 83.2 | 83.3 | 83.7 | 83.9 | 84.0 | 0.38 | 6.0 | 1.00 |
| North Dakota | 78.3 | 79.8 | 80.0 | 81.0 | 81.2 | 82.8 | 83.5 | 0.87 | 6.5 | 1.08 |
| Ohio | 81.0 | 82.0 | 82.5 | 82.5 | 83.2 | 83.5 | 84.1 | 0.52 | 5.9 | 0.98 |
| Oklahoma | 72.6 | 71.8 | 72.0 | 72.3 | 71.5 | 71.6 | 73.6 | 0.17 | 16.4 | 2.73 |
| Oregon | 74.8 | 76.9 | 78.8 | 78.7 | 77.9 | 78.3 | 77.8 | 0.50 | 12.2 | 2.03 |
| Pennsylvania | 82.4 | 81.9 | 82.3 | 82.5 | 82.3 | 81.9 | 81.9 | -0.08 | 8.1 | 1.35 |
| Rhode Island | 88.1 | 89.0 | 88.4 | 89.2 | 88.3 | 86.9 | 87.4 | -0.12 | 2.6 | 0.43 |
| South Carolina | 79.4 | 79.2 | 79.5 | 77.7 | 75.7 | 73.0 | 76.7 | -0.45 | 13.3 | 2.22 |
| South Dakota | 73.0 | 74.2 | 73.1 | 75.6 | 75.3 | 76.8 | 76.7 | 0.62 | 13.3 | 2.22 |
| Tennessee | 76.3 | 77.6 | 77.7 | 77.8 | 77.5 | 78.3 | 79.5 | 0.53 | 10.5 | 1.75 |
| Texas | 73.1 | 73.9 | 70.9 | 70.1 | 69.8 | 69.3 | 69.6 | -0.58 | 20.4 | 3.40 |
| Utah | 82.3 | 83.2 | 82.1 | 81.9 | 82.6 | 83.0 | 82.9 | 0.10 | 7.1 | 1.18 |
| Vermont | 78.8 | 79.2 | 78.0 | 77.7 | 81.6 | 83.0 | 82.4 | 0.60 | 7.6 | 1.27 |
| Virginia | 83.8 | 84.5 | 84.1 | 84.3 | 84.3 | 84.4 | 84.4 | 0.10 | 5.6 | 0.93 |
| Washington | 79.7 | 80.9 | 80.9 | 80.5 | 79.2 | 79.2 | 79.5 | -0.03 | 10.5 | 1.75 |
| West Virginia | 65.7 | 67.4 | 69.6 | 70.5 | 71.3 | 72.7 | 71.9 | 1.03 | 18.1 | 3.02 |
| Wisconsin | 83.4 | 84.0 | 84.7 | 85.3 | 85.2 | 85.6 | 86.1 | 0.45 | 3.9 | 0.65 |
| Wyoming | 76.5 | 76.2 | 76.5 | 78.5 | 79.1 | 79.3 | 81.0 | 0.75 | 9.0 | 1.50 |
| United States Total | 78.2 | 79.1 | 79.3 | 79.4 | 79.3 | 79.4 | 79.6 | 0.23 | 10.4 | 1.73 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.27

# Percentage of Babies Born to Women Receiving Early Prenatal Care, Black, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 54.7 | 54.6 | 56.7 | 56.5 | 56.5 | 58.0 | 58.8 | 0.68 | 31.2 | 5.20 |
| Alaska | 62.7 | 73.1 | 75.5 | 69.9 | 74.1 | 73.7 | 69.8 | 1.18 | 20.2 | 3.37 |
| Arizona | 58.5 | 61.5 | 59.7 | 67.8 | 71.7 | 69.0 | 64.9 | 1.07 | 25.1 | 4.18 |
| Arkansas | 51.4 | 53.6 | 54.7 | 55.0 | 51.6 | 49.6 | 53.2 | 0.30 | 36.8 | 6.13 |
| California | 70.6 | 73.1 | 74.3 | 74.7 | 73.4 | 72.6 | 71.9 | 0.22 | 18.1 | 3.02 |
| Colorado | 66.3 | 68.1 | 69.7 | 70.8 | 67.4 | 67.5 | 69.7 | 0.57 | 20.3 | 3.38 |
| Connecticut | 69.6 | 71.0 | 71.1 | 69.0 | 66.6 | 64.8 | 66.3 | -0.55 | 23.7 | 3.95 |
| Delaware | 59.0 | 59.1 | 66.0 | 66.2 | 63.1 | 59.9 | 64.4 | 0.90 | 25.6 | 4.27 |
| District of Columbia | 55.5 | 60.2 | 65.5 | 62.7 | 57.9 | 54.9 | 56.7 | 0.20 | 33.3 | 5.55 |
| Florida | 53.4 | 52.6 | 52.4 | 52.3 | 50.9 | 50.8 | 50.1 | -0.55 | 39.9 | 6.65 |
| Georgia | 58.3 | 60.6 | 62.1 | 61.5 | 59.6 | 63.1 | 63.2 | 0.82 | 26.8 | 4.47 |
| Hawaii | 68.8 | 69.8 | 74.8 | 75.9 | 72.4 | 70.6 | 73.0 | 0.70 | 17.0 | 2.83 |
| Idaho | 70.1 | 71.8 | 65.8 | 76.7 | 71.0 | 67.8 | 71.8 | 0.28 | 18.2 | 3.03 |
| Illinois | 61.3 | 62.9 | 64.6 | 64.8 | 63.9 | 64.8 | 65.3 | 0.67 | 24.7 | 4.12 |
| Indiana | 62.8 | 62.6 | 62.7 | 62.3 | 58.2 | 55.3 | 58.5 | -0.72 | 31.5 | 5.25 |
| Iowa | 69.6 | 74.5 | 73.6 | 73.6 | 72.3 | 73.7 | 73.3 | 0.62 | 16.7 | 2.78 |
| Kansas | 68.9 | 70.9 | 71.5 | 69.1 | 68.8 | 69.9 | 70.1 | 0.20 | 19.9 | 3.31 |
| Kentucky | 51.0 | 49.1 | 54.0 | 58.2 | 60.2 | 60.2 | 61.1 | 1.68 | 28.9 | 4.82 |
| Louisiana | 60.6 | 62.5 | 66.2 | 66.0 | 64.4 | 66.5 | 64.8 | 0.70 | 25.2 | 4.20 |
| Maine | 75.6 | 77.4 | 70.9 | 71.0 | 75.5 | 77.3 | 74.3 | -0.22 | 15.7 | 2.62 |
| Maryland | 70.8 | 69.0 | 70.5 | 67.7 | 66.3 | 65.1 | 65.2 | -0.93 | 24.8 | 4.13 |
| Massachusetts | 79.5 | 79.6 | 81.1 | 81.0 | 79.2 | 74.8 | 75.5 | -0.67 | 14.5 | 2.42 |
| Michigan | 66.0 | 68.5 | 70.1 | 69.3 | 71.0 | 70.8 | 72.3 | 1.05 | 17.7 | 2.95 |
| Minnesota | 65.4 | 64.4 | 65.2 | 63.4 | 60.8 | 65.1 | 63.4 | -0.33 | 26.6 | 4.43 |
| Mississippi | 60.4 | 62.4 | 63.5 | 63.6 | 62.1 | 63.2 | 63.5 | 0.52 | 26.5 | 4.42 |
| Missouri | 66.9 | 67.0 | 67.7 | 67.1 | 67.5 | 66.0 | 67.1 | 0.03 | 22.9 | 3.82 |
| Montana | 87.3 | 72.9 | 70.4 | 72.7 | 66.7 | 67.6 | 79.7 | -1.27 | 10.3 | 1.72 |
| Nebraska | 63.7 | 65.8 | 67.2 | 68.4 | 63.2 | 64.4 | 61.6 | -0.35 | 28.4 | 4.73 |
| Nevada | 61.3 | 52.7 | 55.3 | 61.0 | 56.7 | 57.9 | 62.4 | 0.18 | 27.6 | 4.60 |
| New Hampshire | 69.4 | 74.7 | 74.2 | 76.8 | 68.3 | 76.8 | 81.0 | 1.93 | 9.0 | 1.50 |
| New Jersey | 57.3 | 61.0 | 62.2 | 63.1 | 64.7 | 65.1 | 67.9 | 1.77 | 22.1 | 3.68 |
| New Mexico | — | — | 49.1 | 53.3 | 51.4 | 51.8 | 52.7 | — | — | — |
| New York | 46.0 | 48.1 | 49.9 | 49.6 | 48.4 | 48.7 | 50.6 | 0.77 | 39.4 | 6.57 |
| North Carolina | 58.5 | 60.6 | 62.0 | 62.3 | 63.8 | 64.0 | 64.8 | 1.05 | 25.2 | 4.20 |
| North Dakota | 82.9 | 70.4 | 67.0 | 75.4 | 65.9 | 79.5 | 74.2 | -1.45 | 15.8 | 2.63 |
| Ohio | 65.5 | 67.2 | 68.3 | 67.0 | 67.2 | 65.4 | 66.8 | 0.22 | 23.2 | 3.87 |
| Oklahoma | 53.5 | 52.6 | 51.5 | 51.6 | 49.2 | 48.4 | 51.4 | -0.35 | 38.6 | 6.43 |
| Oregon | 62.4 | 65.4 | 66.2 | 67.2 | 64.2 | 68.4 | 65.2 | 0.47 | 24.8 | 4.13 |
| Pennsylvania | 62.4 | 59.7 | 59.7 | 61.0 | 60.0 | 59.7 | 59.0 | -0.57 | 31.0 | 5.17 |
| Rhode Island | 76.9 | 79.9 | 77.5 | 76.1 | 76.2 | 68.1 | 71.9 | -0.83 | 18.1 | 3.02 |
| South Carolina | 57.5 | 56.8 | 57.2 | 54.6 | 53.6 | 51.9 | 53.5 | -0.67 | 36.5 | 6.08 |
| South Dakota | 69.0 | 65.2 | 65.4 | 51.5 | 59.3 | 60.2 | 63.0 | -1.00 | 27.0 | 4.50 |
| Tennessee | 59.3 | 62.7 | 63.7 | 62.4 | 61.0 | 62.1 | 62.7 | 0.57 | 27.3 | 4.55 |
| Texas | 58.2 | 60.3 | 58.4 | 58.1 | 57.3 | 57.4 | 58.2 | 0.00 | 31.8 | 5.30 |
| Utah | 66.7 | 67.0 | 75.0 | 70.0 | 69.1 | 69.7 | 67.7 | 0.17 | 22.3 | 3.72 |
| Vermont | — | — | — | — | — | — | — | — | — | — |
| Virginia | 72.4 | 73.6 | 73.0 | 72.5 | 70.9 | 69.2 | 68.0 | -0.73 | 22.0 | 3.67 |
| Washington | 63.3 | 68.7 | 67.4 | 68.0 | 64.7 | 65.4 | 65.7 | 0.40 | 24.3 | 4.05 |
| West Virginia | 52.2 | 52.6 | 54.6 | 52.0 | 54.5 | 54.3 | 53.9 | 0.28 | 36.1 | 6.02 |
| Wisconsin | 65.6 | 65.6 | 67.7 | 67.8 | 67.6 | 67.5 | 68.5 | 0.48 | 21.5 | 3.58 |
| Wyoming | 65.5 | 65.7 | 66.1 | 68.6 | 74.8 | 71.7 | 79.8 | 2.38 | 10.2 | 1.70 |
| United States Total | 60.2 | 61.6 | 62.7 | 62.4 | 61.5 | 61.5 | 62.2 | 0.33 | 27.8 | 4.63 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.28

# Percentage of Babies Born to Women Receiving Early Prenatal Care, Nonwhite, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | Change in Rate 1978-1984: Actual per yr | Total needed | Needed per yr |
|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 54.9 | 54.8 | 56.8 | 56.7 | 56.7 | 58.2 | 59.0 | 0.68 | 31.0 | 5.17 |
| Alaska | 60.0 | 65.6 | 67.1 | 65.3 | 67.8 | 65.9 | 67.4 | 1.23 | 22.6 | 3.77 |
| Arizona | 50.3 | 55.2 | 58.2 | 61.8 | 64.5 | 61.2 | 58.9 | 1.43 | 31.1 | 5.18 |
| Arkansas | 51.8 | 54.2 | 55.1 | 55.4 | 52.3 | 50.5 | 53.8 | 0.33 | 36.2 | 6.03 |
| California | 71.4 | 74.2 | 75.3 | 76.0 | 75.5 | 75.0 | 74.6 | 0.53 | 15.4 | 2.57 |
| Colorado | 66.0 | 67.7 | 69.2 | 68.5 | 65.7 | 67.7 | 68.9 | 0.48 | 21.1 | 3.52 |
| Connecticut | 71.5 | 72.4 | 71.9 | 70.2 | 68.1 | 66.7 | 68.2 | -0.55 | 21.8 | 3.63 |
| Delaware | 59.9 | 59.8 | 66.0 | 67.0 | 63.6 | 60.6 | 65.4 | 0.92 | 24.6 | 4.10 |
| District of Columbia | 55.5 | 60.4 | 65.6 | 62.8 | 58.0 | 55.0 | 56.8 | 0.22 | 33.2 | 5.53 |
| Florida | 54.1 | 53.4 | 53.0 | 53.1 | 51.7 | 51.6 | 51.1 | -0.50 | 38.9 | 6.48 |
| Georgia | 58.5 | 60.9 | 62.4 | 61.8 | 58.7 | 63.4 | 63.6 | 0.85 | 26.4 | 4.40 |
| Hawaii | 71.4 | 74.5 | 75.8 | 75.9 | 73.7 | 73.8 | 74.9 | 0.58 | 15.1 | 2.52 |
| Idaho | 61.5 | 68.0 | 64.7 | 65.0 | 66.9 | 66.0 | 67.3 | 0.97 | 22.7 | 3.78 |
| Illinois | 62.2 | 63.6 | 65.1 | 65.5 | 64.8 | 65.7 | 66.2 | 0.67 | 23.8 | 3.97 |
| Indiana | 63.8 | 63.6 | 63.6 | 63.4 | 59.9 | 57.1 | 60.2 | -0.60 | 29.8 | 4.97 |
| Iowa | 70.0 | 73.5 | 71.5 | 71.2 | 70.1 | 73.5 | 70.3 | 0.05 | 19.7 | 3.28 |
| Kansas | 68.8 | 70.0 | 71.2 | 68.4 | 67.1 | 68.5 | 68.9 | 0.02 | 21.1 | 3.52 |
| Kentucky | 51.9 | 50.1 | 54.8 | 58.9 | 60.5 | 60.7 | 61.5 | 1.60 | 28.5 | 4.75 |
| Louisiana | 60.5 | 62.4 | 66.3 | 66.0 | 64.5 | 66.5 | 65.1 | 0.77 | 24.9 | 4.15 |
| Maine | 74.1 | 74.8 | 69.0 | 72.7 | 75.3 | 80.9 | 76.9 | 0.47 | 13.1 | 2.18 |
| Maryland | 71.5 | 69.8 | 71.2 | 68.6 | 67.4 | 66.5 | 66.7 | -0.80 | 23.3 | 3.88 |
| Massachusetts | 80.7 | 80.9 | 81.8 | 81.4 | 79.7 | 76.1 | 76.6 | -0.68 | 13.4 | 2.23 |
| Michigan | 66.6 | 69.0 | 70.5 | 70.0 | 71.3 | 73.9 | 72.7 | 1.02 | 17.3 | 2.88 |
| Minnesota | 60.1 | 60.1 | 56.9 | 54.3 | 54.8 | 57.7 | 58.0 | -0.35 | 32.0 | 5.33 |
| Mississippi | 60.4 | 62.5 | 63.5 | 63.6 | 62.2 | 63.3 | 63.5 | 0.52 | 26.5 | 4.42 |
| Missouri | 67.2 | 67.3 | 68.2 | 67.5 | 68.0 | 66.6 | 67.7 | 0.08 | 22.3 | 3.72 |
| Montana | 63.2 | 60.1 | 62.8 | 61.8 | 62.0 | 60.6 | 59.5 | -0.62 | 30.5 | 5.08 |
| Nebraska | 61.5 | 63.1 | 65.2 | 65.9 | 63.6 | 64.5 | 60.1 | -0.23 | 29.9 | 4.98 |
| Nevada | 62.8 | 57.7 | 60.1 | 64.3 | 61.6 | 61.9 | 65.9 | 0.52 | 24.1 | 4.02 |
| New Hampshire | 74.7 | 79.8 | 79.7 | 78.4 | 75.4 | 78.8 | 79.5 | 0.80 | 10.5 | 1.75 |
| New Jersey | 59.2 | 62.8 | 64.2 | 64.9 | 66.5 | 67.0 | 70.0 | 1.80 | 20.0 | 3.33 |
| New Mexico | — | — | 45.4 | 47.2 | 48.5 | 48.4 | 50.8 | — | — | — |
| New York | 48.2 | 50.3 | 52.4 | 52.3 | 50.9 | 51.4 | 53.1 | 0.82 | 36.9 | 6.15 |
| North Carolina | 59.3 | 61.3 | 62.6 | 63.1 | 64.5 | 64.6 | 65.3 | 1.00 | 24.7 | 4.12 |
| North Dakota | 57.4 | 61.0 | 58.1 | 64.3 | 60.7 | 68.1 | 66.7 | 1.55 | 23.3 | 3.88 |
| Ohio | 66.2 | 67.9 | 69.0 | 68.0 | 67.9 | 66.4 | 67.8 | 0.27 | 22.2 | 3.70 |
| Oklahoma | 53.3 | 53.9 | 52.8 | 51.6 | 51.7 | 50.9 | 53.3 | 0.00 | 36.7 | 6.12 |
| Oregon | 65.1 | 66.7 | 66.2 | 63.1 | 64.7 | 68.3 | 67.8 | 0.45 | 22.2 | 3.70 |
| Pennsylvania | 63.3 | 60.8 | 60.6 | 61.9 | 61.2 | 60.9 | 60.2 | -0.52 | 29.8 | 4.97 |
| Rhode Island | 78.0 | 79.5 | 76.1 | 74.9 | 73.7 | 64.9 | 68.8 | -1.53 | 21.2 | 3.53 |
| South Carolina | 57.8 | 57.1 | 57.5 | 54.9 | 53.8 | 52.2 | 53.7 | -0.68 | 36.3 | 6.05 |
| South Dakota | 44.4 | 42.2 | 44.4 | 46.3 | 44.9 | 46.3 | 50.4 | 1.00 | 39.6 | 6.60 |
| Tennessee | 59.5 | 62.8 | 63.8 | 62.6 | 61.3 | 62.3 | 63.0 | 0.58 | 27.0 | 4.50 |
| Texas | 59.4 | 61.4 | 59.5 | 59.3 | 59.0 | 59.1 | 60.0 | 0.10 | 30.0 | 5.00 |
| Utah | 64.0 | 63.0 | 63.4 | 64.7 | 64.5 | 66.3 | 64.1 | 0.02 | 25.9 | 4.32 |
| Vermont | 74.6 | 77.4 | 72.7 | 69.5 | 76.0 | 75.4 | 64.5 | -1.68 | 25.5 | 4.25 |
| Virginia | 73.0 | 74.1 | 73.4 | 72.9 | 71.3 | 70.0 | 69.0 | -0.67 | 21.0 | 3.50 |
| Washington | 66.7 | 69.0 | 68.4 | 67.7 | 66.1 | 66.1 | 68.0 | 0.22 | 22.0 | 3.67 |
| West Virginia | 52.2 | 53.8 | 55.4 | 53.5 | 55.7 | 56.1 | 56.0 | 0.63 | 34.0 | 5.67 |
| Wisconsin | 66.6 | 66.1 | 67.1 | 66.8 | 66.6 | 65.9 | 66.2 | -0.07 | 23.8 | 3.97 |
| Wyoming | 70.2 | 62.2 | 62.7 | 70.5 | 68.5 | 67.1 | 73.2 | 0.50 | 16.8 | 2.80 |
| United States Total | 61.4 | 62.9 | 63.8 | 63.8 | 63.2 | 63.4 | 64.1 | 0.45 | 25.9 | 4.32 |

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.29

## Percentage of Babies Born to Women Receiving Late or No Prenatal Care, All Races, 1978-1984

| *State name* | *1978* | *1979* | *1980* | *1981* | *1982* | *1983* | *1984* |
|---|---|---|---|---|---|---|---|
| Alabama | 6.1 | 6.3 | 6.5 | 6.3 | 6.4 | 6.1 | 5.9 |
| Alaska | 5.3 | 5.1 | 4.7 | 4.8 | 4.6 | 4.6 | 4.8 |
| Arizona | 8.9 | 8.1 | 7.7 | 6.9 | 6.6 | 7.7 | 8.2 |
| Arkansas | 6.8 | 6.3 | 6.3 | 6.6 | 7.1 | 7.4 | 7.9 |
| California | 5.5 | 4.9 | 4.6 | 4.4 | 4.6 | 4.8 | 5.1 |
| Colorado | 4.9 | 4.7 | 4.4 | 4.9 | 5.5 | 5.8 | 5.4 |
| Connecticut | 2.4 | 2.3 | 2.4 | 2.9 | 2.7 | 2.7 | 2.6 |
| Delaware | 5.0 | 4.5 | 4.4 | 3.8 | 3.9 | 4.6 | 3.7 |
| District of Columbia | 14.6 | 8.0 | 7.1 | 7.4 | 7.8 | 11.1 | 10.0 |
| Florida | 6.2 | 7.0 | 7.3 | 7.6 | 8.7 | 8.5 | 8.9 |
| Georgia | 6.7 | 6.0 | 5.2 | 5.7 | 5.8 | 5.4 | 5.1 |
| Hawaii | 5.3 | 4.9 | 4.8 | 4.5 | 5.0 | 5.5 | 4.7 |
| Idaho | 5.4 | 5.0 | 5.2 | 5.0 | 4.9 | 5.4 | 4.8 |
| Illinois | 5.2 | 5.2 | 5.0 | 4.4 | 4.3 | 4.2 | 4.4 |
| Indiana | 4.1 | 3.9 | 3.8 | 4.0 | 4.5 | 4.6 | 4.4 |
| Iowa | 2.3 | 2.3 | 2.2 | 2.2 | 2.4 | 2.2 | 2.2 |
| Kansas | 3.4 | 3.4 | 3.4 | 3.3 | 3.6 | 3.4 | 3.7 |
| Kentucky | 7.9 | 7.5 | 6.9 | 4.9 | 5.3 | 5.4 | 5.3 |
| Louisiana | 5.4 | 5.0 | 4.9 | 4.9 | 4.5 | 4.3 | 4.8 |
| Maine | 2.5 | 2.3 | 2.4 | 3.2 | 2.8 | 1.8 | 2.4 |
| Maryland | 2.9 | 3.6 | 3.3 | 3.9 | 3.9 | 4.3 | 4.0 |
| Massachusetts | 1.7 | 1.6 | 1.6 | 1.6 | 1.9 | 2.4 | 2.3 |
| Michigan | 3.7 | 3.3 | 3.1 | 3.0 | 3.2 | 3.1 | 3.0 |
| Minnesota | 3.5 | 3.3 | 3.4 | 3.7 | 3.9 | 3.6 | 3.6 |
| Mississippi | 5.2 | 4.5 | 4.4 | 4.6 | 4.5 | 4.6 | 4.4 |
| Missouri | 4.0 | 4.0 | 3.8 | 4.2 | 4.4 | 4.4 | 4.0 |
| Montana | 3.4 | 3.6 | 3.7 | 3.7 | 3.9 | 3.8 | 4.2 |
| Nebraska | 3.7 | 3.4 | 3.4 | 3.2 | 3.3 | 3.2 | 3.5 |
| Nevada | 5.8 | 7.2 | 6.0 | 4.7 | 6.9 | 6.1 | 6.0 |
| New Hampshire | 2.7 | 2.3 | 2.3 | 2.1 | 2.6 | 2.2 | 2.3 |
| New Jersey | 5.2 | 5.1 | 5.1 | 4.9 | 4.6 | 4.4 | 4.0 |
| New Mexico | — | — | 12.5 | 12.7 | 12.1 | 12.8 | 13.2 |
| New York | 9.8 | 8.9 | 8.7 | 8.8 | 9.5 | 9.7 | 9.2 |
| North Carolina | 4.5 | 4.2 | 4.2 | 4.1 | 3.9 | 4.0 | 3.9 |
| North Dakota | 3.7 | 3.3 | 3.1 | 3.1 | 3.0 | 2.7 | 2.7 |
| Ohio | 3.4 | 3.3 | 3.2 | 3.4 | 3.3 | 3.6 | 3.6 |
| Oklahoma | 8.1 | 8.6 | 8.6 | 8.2 | 9.5 | 9.2 | 8.5 |
| Oregon | 4.8 | 4.6 | 4.2 | 4.8 | 5.2 | 5.0 | 5.2 |
| Pennsylvania | 3.8 | 3.9 | 3.9 | 4.3 | 4.1 | 4.3 | 4.4 |
| Rhode Island | 1.6 | 1.7 | 1.9 | 1.6 | 1.9 | 2.4 | 2.2 |
| South Carolina | 5.8 | 6.0 | 6.2 | 6.7 | 7.5 | 8.0 | 7.7 |
| South Dakota | 6.2 | 6.5 | 6.9 | 6.3 | 6.8 | 7.4 | 6.6 |
| Tennessee | 5.9 | 5.3 | 5.4 | 5.4 | 5.9 | 5.7 | 5.3 |
| Texas | 8.6 | 8.1 | 9.1 | 9.5 | 9.9 | 10.4 | 10.6 |
| Utah | 2.4 | 2.6 | 2.8 | 2.8 | 3.0 | 2.9 | 3.1 |
| Vermont | 3.0 | 3.4 | 2.7 | 2.6 | 2.6 | 2.6 | 2.7 |
| Virginia | 3.6 | 3.4 | 3.6 | 3.5 | 3.6 | 3.7 | 3.8 |
| Washington | 3.7 | 3.6 | 3.7 | 4.0 | 4.5 | 4.6 | 5.0 |
| West Virginia | 6.9 | 6.3 | 6.3 | 6.1 | 6.1 | 6.0 | 6.3 |
| Wisconsin | 2.7 | 2.7 | 2.6 | 2.4 | 2.7 | 2.5 | 2.6 |
| Wyoming | 4.0 | 4.7 | 4.3 | 3.6 | 3.6 | 3.8 | 4.1 |
| United States Total | 5.4 | 5.1 | 5.1 | 5.2 | 5.5 | 5.6 | 5.6 |

*Source: National Center for Health Statistics.*

TABLE 3.30

# Percentage of Babies Born to Women Receiving Late or No Prenatal Care, White, 1978-1984

| *State name* | *1978* | *1979* | *1980* | *1981* | *1982* | *1983* | *1984* |
|---|---|---|---|---|---|---|---|
| Alabama | 4.2 | 4.2 | 4.5 | 4.2 | 4.3 | 4.0 | 3.9 |
| Alaska | 3.5 | 3.6 | 3.3 | 3.3 | 3.1 | 3.5 | 3.6 |
| Arizona | 7.5 | 6.8 | 6.5 | 5.8 | 5.6 | 6.5 | 7.2 |
| Arkansas | 5.3 | 4.9 | 5.0 | 5.3 | 5.6 | 5.9 | 6.4 |
| California | 5.6 | 5.0 | 4.6 | 4.4 | 4.6 | 4.7 | 5.0 |
| Colorado | 4.7 | 4.5 | 4.1 | 4.6 | 5.1 | 5.5 | 5.1 |
| Connecticut | 2.0 | 1.9 | 1.5 | 2.4 | 2.1 | 1.9 | 2.0 |
| Delaware | 3.9 | 3.9 | 3.7 | 3.0 | 3.0 | 3.1 | 2.8 |
| District of Columbia | 10.9 | 7.0 | 4.6 | 5.7 | 5.2 | 5.8 | 5.0 |
| Florida | 5.1 | 5.7 | 6.1 | 6.2 | 7.0 | 6.8 | 7.2 |
| Georgia | 5.1 | 4.3 | 3.9 | 4.0 | 3.9 | 3.9 | 3.8 |
| Hawaii | 5.1 | 3.9 | 3.8 | 3.2 | 3.9 | 4.2 | 3.6 |
| Idaho | 4.7 | 4.9 | 5.0 | 4.9 | 4.7 | 5.3 | 4.7 |
| Illinois | 4.2 | 4.2 | 4.2 | 3.7 | 3.5 | 3.3 | 3.5 |
| Indiana | 3.8 | 3.6 | 3.4 | 3.6 | 2.5 | 4.0 | 3.9 |
| Iowa | 2.2 | 2.2 | 2.0 | 2.0 | 2.2 | 2.1 | 2.0 |
| Kansas | 3.2 | 3.2 | 3.0 | 3.0 | 3.2 | 3.0 | 3.1 |
| Kentucky | 7.0 | 6.1 | 5.9 | 4.9 | 4.8 | 5.0 | 4.9 |
| Louisiana | 3.3 | 3.1 | 3.0 | 2.9 | 2.9 | 2.6 | 2.8 |
| Maine | 2.5 | 2.2 | 2.4 | 3.1 | 2.7 | 1.8 | 2.4 |
| Maryland | 2.3 | 2.6 | 2.3 | 2.7 | 2.7 | 2.9 | 2.5 |
| Massachusetts | 1.6 | 1.5 | 1.5 | 1.4 | 1.7 | 2.2 | 2.1 |
| Michigan | 3.1 | 2.7 | 2.6 | 2.4 | 2.5 | 2.5 | 2.4 |
| Minnesota | 3.2 | 2.9 | 2.9 | 3.2 | 3.3 | 3.0 | 2.9 |
| Mississippi | 3.0 | 2.6 | 2.6 | 2.7 | 2.4 | 2.5 | 2.4 |
| Missouri | 3.8 | 3.5 | 3.4 | 3.6 | 3.9 | 3.8 | 3.4 |
| Montana | 2.5 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 | 3.1 |
| Nebraska | 3.3 | 3.0 | 3.0 | 2.9 | 2.9 | 2.8 | 3.0 |
| Nevada | 5.1 | 6.3 | 5.1 | 4.1 | 6.0 | 5.3 | 5.4 |
| New Hampshire | 2.7 | 2.3 | 2.3 | 2.1 | 2.6 | 2.2 | 2.3 |
| New Jersey | 3.5 | 3.5 | 3.3 | 3.3 | 3.4 | 3.2 | 3.1 |
| New Mexico | — | — | 10.5 | 10.8 | 10.8 | 11.5 | 12.1 |
| New York | 6.8 | 6.2 | 5.8 | 6.2 | 6.5 | 6.9 | 6.6 |
| North Carolina | 2.9 | 2.7 | 2.7 | 2.7 | 2.6 | 2.5 | 2.5 |
| North Dakota | 2.8 | 2.6 | 2.2 | 2.6 | 2.3 | 2.1 | 2.1 |
| Ohio | 3.0 | 2.9 | 2.8 | 2.8 | 2.7 | 2.7 | 2.8 |
| Oklahoma | 6.5 | 7.0 | 7.0 | 6.6 | 7.8 | 7.5 | 6.9 |
| Oregon | 4.7 | 4.4 | 3.9 | 4.4 | 4.8 | 4.7 | 4.9 |
| Pennsylvania | 3.2 | 3.2 | 3.2 | 3.2 | 2.5 | 3.4 | 3.5 |
| Rhode Island | 1.4 | 1.6 | 1.6 | 1.3 | 1.5 | 1.9 | 1.3 |
| South Carolina | 3.8 | 3.9 | 4.1 | 4.5 | 5.0 | 5.1 | 4.6 |
| South Dakota | 4.0 | 3.5 | 4.2 | 3.6 | 4.2 | 4.2 | 4.0 |
| Tennessee | 5.1 | 4.6 | 4.6 | 4.5 | 5.0 | 4.7 | 4.2 |
| Texas | 8.2 | 7.8 | 8.7 | 9.1 | 9.6 | 10.0 | 10.3 |
| Utah | 2.1 | 2.3 | 2.4 | 2.4 | 2.6 | 2.5 | 2.7 |
| Vermont | 3.1 | 3.4 | 2.7 | 2.6 | 2.5 | 2.6 | 2.6 |
| Virginia | 3.0 | 3.0 | 3.2 | 2.9 | 3.0 | 2.9 | 2.9 |
| Washington | 3.4 | 3.2 | 3.4 | 3.5 | 4.0 | 4.1 | 4.5 |
| West Virginia | 6.7 | 6.0 | 6.1 | 5.9 | 5.9 | 5.8 | 6.1 |
| Wisconsin | 2.4 | 2.3 | 2.1 | 2.0 | 2.2 | 2.0 | 2.2 |
| Wyoming | 3.7 | 4.5 | 4.1 | 3.3 | 3.4 | 3.5 | 4.0 |
| United States Total | 4.5 | 4.3 | 4.3 | 4.3 | 4.5 | 4.6 | 4.7 |

*Source: National Center for Health Statistics.*

TABLE 3.31

# Percentage of Babies Born to Women Receiving Late or No Prenatal Care, Black, 1978-1984

| State name | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| Alabama | 9.7 | 9.9 | 10.2 | 10.0 | 10.3 | 10.0 | 9.5 |
| Alaska | — | — | — | — | — | — | — |
| Arizona | 8.8 | 8.7 | 7.4 | 8.4 | 7.2 | 8.5 | 9.5 |
| Arkansas | 11.3 | 10.3 | 10.1 | 10.4 | 11.6 | 11.8 | 12.7 |
| California | 5.0 | 4.3 | 4.2 | 3.9 | 4.6 | 4.9 | 5.4 |
| Colorado | 7.6 | 6.5 | 6.0 | 6.7 | 8.4 | 7.3 | 8.0 |
| Connecticut | 5.6 | 5.5 | 6.2 | 6.7 | 7.2 | 8.3 | 6.8 |
| Delaware | 8.3 | 6.2 | 6.5 | 6.2 | 6.8 | 9.2 | 6.7 |
| District of Columbia | 15.5 | 8.3 | 7.6 | 8.4 | 8.5 | 12.5 | 11.4 |
| Florida | 9.1 | 10.7 | 10.9 | 11.7 | 13.7 | 13.4 | 14.3 |
| Georgia | 9.4 | 8.8 | 7.5 | 8.8 | 9.3 | 8.2 | 7.5 |
| Hawaii | — | 5.8 | — | 5.5 | 4.4 | 5.4 | 3.8 |
| Idaho | — | — | — | — | — | — | — |
| Illinois | 8.8 | 8.4 | 7.4 | 6.9 | 7.0 | 7.2 | 7.5 |
| Indiana | 6.6 | 7.7 | 7.4 | 7.8 | 9.2 | 10.7 | 9.8 |
| Iowa | 5.2 | 5.6 | 4.6 | 5.1 | 6.3 | 4.8 | 4.5 |
| Kansas | 4.9 | 5.1 | 5.6 | 5.4 | 5.8 | 5.2 | 6.4 |
| Kentucky | 15.9 | 20.0 | 16.2 | 10.7 | 9.7 | 9.4 | 10.0 |
| Louisiana | 8.5 | 7.6 | 7.9 | 8.0 | 7.1 | 6.7 | 7.8 |
| Maine | — | — | — | — | — | — | — |
| Maryland | 4.6 | 5.8 | 5.5 | 6.6 | 6.5 | 7.7 | 7.3 |
| Massachusetts | 2.9 | 3.1 | 2.6 | 3.4 | 3.8 | 4.8 | 4.4 |
| Michigan | 6.6 | 6.3 | 5.9 | 6.4 | 6.6 | 6.2 | 5.5 |
| Minnesota | 7.4 | 7.7 | 7.5 | 9.4 | 9.2 | 9.8 | 10.6 |
| Mississippi | 7.3 | 6.3 | 6.3 | 6.5 | 6.8 | 6.8 | 6.4 |
| Missouri | 6.2 | 6.5 | 6.1 | 7.1 | 7.3 | 7.9 | 7.3 |
| Montana | — | — | — | — | — | — | — |
| Nebraska | 6.4 | 7.4 | 6.8 | 6.7 | 8.2 | 8.6 | 8.9 |
| Nevada | 9.0 | 13.7 | 11.7 | 7.2 | 12.6 | 10.6 | 8.8 |
| New Hampshire | — | — | — | — | — | — | — |
| New Jersey | 11.7 | 11.6 | 12.0 | 11.0 | 9.5 | 9.0 | 8.0 |
| New Mexico | — | — | 18.9 | 14.4 | 15.0 | 15.2 | 14.5 |
| New York | 20.9 | 19.4 | 18.9 | 18.6 | 20.2 | 20.1 | 19.2 |
| North Carolina | 8.3 | 7.6 | 7.6 | 7.4 | 6.7 | 7.4 | 7.2 |
| North Dakota | — | — | — | — | — | — | — |
| Ohio | 6.1 | 5.6 | 5.6 | 6.9 | 7.2 | 8.5 | 8.5 |
| Oklahoma | 12.9 | 14.5 | 14.0 | 13.5 | 17.0 | 17.1 | 15.4 |
| Oregon | 6.3 | 7.2 | 7.0 | 6.7 | 8.9 | 9.1 | 8.5 |
| Pennsylvania | 7.8 | 8.4 | 9.0 | 11.6 | 9.8 | 9.8 | 11.1 |
| Rhode Island | — | — | — | 4.7 | 4.9 | 6.6 | 5.6 |
| South Carolina | 8.7 | 9.1 | 9.3 | 10.1 | 11.4 | 12.5 | 12.5 |
| South Dakota | — | — | — | — | — | — | — |
| Tennessee | 8.5 | 7.6 | 7.8 | 8.1 | 8.9 | 8.9 | 8.9 |
| Texas | 10.8 | 10.0 | 11.0 | 11.7 | 12.4 | 12.5 | 12.7 |
| Utah | — | — | — | — | — | — | — |
| Vermont | — | — | — | — | — | — | — |
| Virginia | 5.4 | 4.7 | 5.0 | 5.2 | 5.6 | 6.2 | 6.2 |
| Washington | 7.0 | 5.5 | 6.6 | 6.4 | 7.2 | 8.4 | 9.5 |
| West Virginia | 12.2 | 12.7 | 12.0 | 13.1 | 12.3 | 12.1 | 12.2 |
| Wisconsin | 6.4 | 6.9 | 6.4 | 7.0 | 7.0 | 6.6 | 6.5 |
| Wyoming | — | — | — | — | — | — | — |
| United States Total | 9.3 | 8.9 | 8.8 | 9.1 | 9.6 | 9.7 | 9.6 |

*Source: National Center for Health Statistics.*

TABLE 3.32

## Percentage of Babies Born to Women Receiving Late or No Prenatal Care, Nonwhite, 1978-1984

| *State name* | *1978* | *1979* | *1980* | *1981* | *1982* | *1983* | *1984* |
|---|---|---|---|---|---|---|---|
| Alabama | 9.6 | 9.9 | 10.1 | 10.0 | 10.3 | 10.0 | 9.5 |
| Alaska | 9.6 | 8.8 | 8.2 | 8.4 | 8.3 | 7.2 | 8.0 |
| Arizona | 16.8 | 15.7 | 14.7 | 13.0 | 11.7 | 15.9 | 13.2 |
| Arkansas | 8.4 | 11.6 | 10.1 | 10.4 | 11.6 | 11.9 | 12.5 |
| California | 5.2 | 4.6 | 4.8 | 4.4 | 4.8 | 4.9 | 5.5 |
| Colorado | 8.3 | 7.4 | 7.6 | 8.8 | 9.7 | 9.1 | 9.1 |
| Connecticut | 5.3 | 5.3 | 6.0 | 6.4 | 6.8 | 7.9 | 6.4 |
| Delaware | 8.2 | 6.1 | 6.4 | 6.0 | 6.8 | 8.9 | 6.6 |
| District of Columbia | 15.4 | 8.2 | 7.5 | 8.4 | 8.4 | 12.4 | 11.2 |
| Florida | 9.1 | 10.5 | 10.8 | 11.5 | 13.5 | 13.2 | 14.0 |
| Georgia | 9.4 | 8.8 | 7.5 | 8.7 | 9.0 | 8.2 | 7.5 |
| Hawaii | 5.3 | 5.2 | 5.1 | 4.9 | 5.4 | 5.9 | 5.1 |
| Idaho | 9.7 | 9.3 | 10.1 | 9.0 | 12.0 | 9.6 | 9.6 |
| Illinois | 8.6 | 8.3 | 7.4 | 6.8 | 6.9 | 7.0 | 7.3 |
| Indiana | 6.5 | 7.5 | 7.2 | 7.6 | 8.8 | 10.2 | 9.4 |
| Iowa | 5.5 | 6.2 | 5.8 | 6.6 | 8.0 | 6.1 | 7.0 |
| Kansas | 5.4 | 5.6 | 6.0 | 5.8 | 7.0 | 6.6 | 8.0 |
| Kentucky | 15.5 | 19.3 | 15.6 | 10.8 | 9.6 | 9.2 | 9.7 |
| Louisiana | 8.7 | 7.8 | 7.9 | 8.1 | 7.2 | 6.9 | 7.8 |
| Maine | — | — | — | — | — | — | — |
| Maryland | 4.5 | 5.8 | 5.4 | 6.4 | 6.3 | 7.4 | 7.0 |
| Massachusetts | 2.8 | 2.9 | 2.8 | 3.5 | 3.7 | 4.6 | 4.4 |
| Michigan | 6.6 | 6.2 | 5.8 | 6.2 | 6.5 | 6.3 | 5.5 |
| Minnesota | 10.3 | 11.2 | 12.8 | 12.1 | 12.7 | 12.5 | 13.1 |
| Mississippi | 7.4 | 6.4 | 6.3 | 6.5 | 6.8 | 6.8 | 6.5 |
| Missouri | 6.2 | 6.5 | 6.0 | 7.0 | 7.3 | 7.7 | 7.1 |
| Montana | 11.5 | 11.5 | 12.0 | 10.6 | 12.1 | 11.6 | 12.3 |
| Nebraska | 8.6 | 9.8 | 8.3 | 8.0 | 8.7 | 8.3 | 9.5 |
| Nevada | 9.2 | 12.2 | 10.7 | 8.1 | 11.5 | 10.1 | 9.3 |
| New Hampshire | — | — | — | — | — | — | — |
| New Jersey | 11.1 | 10.8 | 11.2 | 10.3 | 8.9 | 8.5 | 7.4 |
| New Mexico | — | — | 20.9 | 20.8 | 18.6 | 18.5 | 17.9 |
| New York | 19.6 | 18.1 | 17.5 | 17.2 | 18.9 | 18.7 | 17.8 |
| North Carolina | 8.0 | 7.4 | 7.4 | 7.2 | 6.5 | 7.2 | 7.0 |
| North Dakota | 13.6 | 12.1 | 13.4 | 9.6 | 10.5 | 9.2 | 9.5 |
| Ohio | 6.0 | 5.6 | 5.5 | 6.7 | 7.0 | 8.3 | 8.2 |
| Oklahoma | 14.4 | 14.7 | 14.7 | 14.6 | 16.0 | 15.6 | 14.6 |
| Oregon | 7.2 | 7.6 | 8.7 | 9.9 | 10.0 | 9.1 | 8.9 |
| Pennsylvania | 7.5 | 8.1 | 8.9 | 11.4 | 9.5 | 9.6 | 10.7 |
| Rhode Island | — | 3.3 | 5.2 | 4.5 | 5.8 | 7.5 | 6.4 |
| South Carolina | 8.6 | 9.1 | 9.3 | 10.1 | 11.3 | 12.4 | 12.4 |
| South Dakota | 21.3 | 25.8 | 23.7 | 22.7 | 22.1 | 24.7 | 21.5 |
| Tennessee | 8.6 | 7.7 | 8.0 | 8.2 | 9.0 | 9.0 | 8.8 |
| Texas | 10.6 | 9.7 | 10.8 | 11.5 | 12.1 | 12.1 | 12.2 |
| Utah | 11.2 | 10.8 | 11.4 | 11.1 | 11.9 | 10.2 | 9.8 |
| Vermont | — | — | — | — | — | — | — |
| Virginia | 5.2 | 4.7 | 5.0 | 5.1 | 5.5 | 6.1 | 6.1 |
| Washington | 7.2 | 6.5 | 6.8 | 7.5 | 8.1 | 8.4 | 8.8 |
| West Virginia | 12.0 | 12.0 | 11.6 | 12.1 | 11.5 | 11.6 | 11.2 |
| Wisconsin | 6.6 | 7.3 | 7.0 | 7.4 | 7.6 | 7.4 | 6.9 |
| Wyoming | 8.9 | 6.6 | 8.9 | 8.1 | 6.5 | 8.8 | 7.9 |
| United States Total | 9.1 | 8.7 | 8.8 | 8.9 | 9.3 | 9.4 | 9.3 |

*Source: National Center for Health Statistics.*

TABLE 3.33

# State Vital Statistics, All Races, 1985

| | *Infant Mortality Rate* | *Percent Low Birthweight* | *Percent Early Prenatal Care* | *Percent Late or No Prenatal Care* |
|---|---|---|---|---|
| Alabama | — | — | — | — |
| Alaska | 11.0 | 4.8 | 75.9 | 3.6 |
| Arizona | 9.6 | 6.3 | 71.2 | 7.8 |
| Arkansas | 11.7 | — | — | — |
| California | — | — | — | — |
| Colorado | 9.8 | — | — | — |
| Connecticut | — | — | — | — |
| Delaware | — | — | — | — |
| District of Columbia | — | — | 57.7 | 13.3 |
| Florida | — | — | — | — |
| Georgia | 12.7 | 8.1 | — | — |
| Hawaii | 8.7 | 5.7 | 75.4 | 5.1 |
| Idaho | 10.4 | 5.5 | 73.6 | 5.2 |
| Illinois | 11.6 | — | 77.9 | 4.6 |
| Indiana | 10.9 | — | 76.5 | 4.8 |
| Iowa | 9.4 | 5.2 | 85.5 | 2.1 |
| Kansas | 9.1 | 6.1 | 81.2 | 3.8 |
| Kentucky | 11.2 | 7.1 | 76.1 | 5.1 |
| Louisiana | 11.9 | 8.7 | 78.4 | 4.9 |
| Maine | 8.9 | 5.0 | 81.8 | 3.8 |
| Maryland | 11.9 | 7.7 | 79.9 | 4.0 |
| Massachusetts | — | — | — | — |
| Michigan | — | — | — | — |
| Minnesota | — | — | — | — |
| Mississippi | 13.7 | 8.8 | 75.1 | 4.2 |
| Missouri | 10.2 | 6.7 | 80.3 | 4.0 |
| Montana | 10.3 | — | 78.5 | 4.1 |
| Nebraska | 9.6 | 5.3 | 80.4 | 3.4 |
| Nevada | — | — | — | — |
| New Hampshire | — | — | — | — |
| New Jersey | — | — | — | — |
| New Mexico | 10.6 | — | 58.7 | 13.2 |
| New York | 8.8 | 7.1 | 68.5 | 9.9 |
| North Carolina | 12.0 | 7.9 | 77.9 | 4.2 |
| North Dakota | 8.5 | 4.9 | 82.6 | 2.6 |
| Ohio | 10.4 | 6.7 | 82.2 | 3.4 |
| Oklahoma | 10.6 | 6.4 | 71.1 | 6.8 |
| Oregon | — | — | — | — |
| Pennsylvania | 10.8 | 6.6 | 79.2 | 4.5 |
| Rhode Island | 8.2 | 6.3 | 85.9 | 1.4 |
| South Carolina | — | 8.6 | 68.3 | 8.0 |
| South Dakota | 9.7 | 5.8 | 71.9 | 5.2 |
| Tennessee | — | — | — | — |
| Texas | 9.8 | — | 67.8 | 10.8 |
| Utah | — | — | — | — |
| Vermont | — | — | — | — |
| Virginia | 11.5 | 7.1 | 79.8 | 4.0 |
| Washington | 10.6 | 5.3 | 77.9 | 4.6 |
| West Virginia | 10.7 | 6.9 | 71.5 | 6.1 |
| Wisconsin | — | — | — | — |
| Wyoming | 12.2 | 7.0 | 79.4 | 4.3 |

Note: A dash on the table indicates that the data were not available, while an asterisk indicates that the data were insufficient to reliably calculate a rate or percentage.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.34

# State Vital Statistics, White, 1985

| | *Infant Mortality Rate* | *Percent Low Birthweight* | *Percent Early Prenatal Care* | *Percent Late or No Prenatal Care* |
|---|---|---|---|---|
| Alabama | — | — | — | — |
| Alaska | 9.6 | 4.6 | 83.1 | 3.2 |
| Arizona | 9.1 | 6.1 | 73.1 | 7.1 |
| Arkansas | 10.9 | — | — | — |
| California | — | — | — | — |
| Colorado | 9.1 | — | — | — |
| Connecticut | — | — | — | — |
| Delaware | — | — | — | — |
| District of Columbia | — | 4.9 | 77.6 | 6.0 |
| Florida | — | — | — | — |
| Georgia | 9.4 | 6.1 | — | — |
| Hawaii | * | 4.3 | 79.2 | 3.4 |
| Idaho | 10.5 | 5.5 | — | — |
| Illinois | 9.1 | — | 81.6 | 3.7 |
| Indiana | 9.9 | — | 78.5 | 4.0 |
| Iowa | 9.3 | 5.1 | 85.9 | 2.0 |
| Kansas | 8.7 | 5.5 | 82.5 | 3.5 |
| Kentucky | 10.3 | 6.6 | 77.5 | 4.7 |
| Louisiana | 8.6 | 5.9 | 85.8 | 3.0 |
| Maine | 8.9 | — | — | — |
| Maryland | 9.0 | 5.1 | 85.9 | 2.6 |
| Massachusetts | — | — | — | — |
| Michigan | — | — | — | — |
| Minnesota | — | — | — | — |
| Mississippi | 9.3 | 5.9 | 85.4 | 2.4 |
| Missouri | 9.0 | 5.6 | 82.6 | 3.4 |
| Montana | 9.3 | — | 81.0 | 3.2 |
| Nebraska | 9.0 | 4.9 | 82.2 | 2.9 |
| Nevada | — | — | — | — |
| New Hampshire | — | — | — | — |
| New Jersey | — | — | — | — |
| New Mexico | 10.6 | — | — | — |
| New York | 8.5 | 5.6 | 75.4 | 6.9 |
| North Carolina | 9.5 | 6.0 | 83.6 | 2.7 |
| North Dakota | 8.3 | 4.9 | 84.1 | 2.0 |
| Ohio | 9.3 | 4.9 | 84.6 | 2.7 |
| Oklahoma | — | 5.9 | 74.5 | 5.5 |
| Oregon | — | — | — | — |
| Pennsylvania | 9.4 | 5.5 | — | — |
| Rhode Island | 8.1 | 5.9 | — | — |
| South Carolina | — | 5.9 | — | — |
| South Dakota | 8.6 | 5.3 | 75.5 | 3.1 |
| Tennessee | — | — | — | — |
| Texas | 8.9 | — | 69.4 | 10.4 |
| Utah | — | — | — | — |
| Vermont | — | — | — | — |
| Virginia | 9.2 | 5.6 | — | — |
| Washington | 11.1 | 4.9 | 79.9 | 3.9 |
| West Virginia | 10.2 | 6.7 | 72.2 | 5.9 |
| Wisconsin | — | — | — | — |
| Wyoming | 12.2 | 7.0 | 80.1 | 4.0 |

Note: A dash on the table indicates that the data were not available, while an asterisk indicates that the data were insufficient to reliably calculate a rate or percentage.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

TABLE 3.35

# State Vital Statistics, Nonwhite, 1985

| | *Infant Mortality Rate* | *Percent Low Birthweight* | *Percent Early Prenatal Care* | *Percent Late or No Prenatal Care* |
|---|---|---|---|---|
| Alabama | — | — | — | — |
| Alaska | 13.9 | 5.4 | 58.2 | 4.5 |
| Arizona | 13.0 | 7.5 | 58.5 | 12.1 |
| Arkansas | 14.4 | — | — | — |
| California | — | — | — | — |
| Colorado | 23.3 | — | — | — |
| Connecticut | — | — | — | — |
| Delaware | — | — | — | — |
| District of Columbia | — | 15.0 | 53.2 | 14.9 |
| Florida | — | — | — | — |
| Georgia | 18.8 | 11.6 | — | — |
| Hawaii | 10.2 | 6.9 | 73.6 | 5.9 |
| Idaho | * | 7.8 | — | — |
| Illinois | 20.0 | — | 65.5 | 7.5 |
| Indiana | 19.4 | — | 56.4 | 11.9 |
| Iowa | * | 9.1 | 72.2 | 5.0 |
| Kansas | 12.7 | 11.4 | 69.3 | 6.8 |
| Kentucky | 19.5 | 12.1 | 62.6 | 9.5 |
| Louisiana | 16.7 | 12.9 | 67.3 | 7.7 |
| Maine | * | * | * | * |
| Maryland | 17.8 | 12.0 | 67.7 | 7.1 |
| Massachusetts | — | — | — | — |
| Michigan | — | — | — | — |
| Minnesota | — | — | — | — |
| Mississippi | 18.7 | 12.1 | 63.5 | 6.3 |
| Missouri | 16.1 | 12.5 | 68.9 | 7.1 |
| Montana | 18.5 | — | 57.8 | 12.3 |
| Nebraska | 16.4 | 9.6 | 62.6 | 9.7 |
| Nevada | — | — | — | — |
| New Hampshire | — | — | — | — |
| New Jersey | — | — | — | — |
| New Mexico | 10.6 | — | — | — |
| New York | 13.4 | 11.3 | 47.7 | 18.9 |
| North Carolina | 17.5 | 12.2 | 65.3 | 7.5 |
| North Dakota | 11.3 | 5.9 | 67.6 | 8.4 |
| Ohio | 16.2 | 11.6 | 68.7 | 7.0 |
| Oklahoma | — | 8.6 | 56.7 | 12.0 |
| Oregon | — | — | — | — |
| Pennsylvania | 18.8 | 12.8 | — | — |
| Rhode Island | * | 9.7 | — | — |
| South Carolina | — | 12.8 | — | — |
| South Dakota | 15.9 | 8.2 | 50.9 | 16.8 |
| Tennessee | — | — | — | — |
| Texas | 15.6 | — | 57.1 | 13.7 |
| Utah | — | — | — | — |
| Vermont | — | — | — | — |
| Virginia | 18.2 | 11.3 | — | — |
| Washington | 8.2 | 6.9 | 63.9 | 9.7 |
| West Virginia | * | 11.7 | 56.2 | 12.2 |
| Wisconsin | — | — | — | — |
| Wyoming | * | 7.1 | 66.9 | 10.1 |

Note: A dash on the table indicates that the data were not available, while an asterisk indicates that the data were insufficient to reliably calculate a rate or percentage.

*Source: National Center for Health Statistics. Calculations by Children's Defense Fund.*

# Technical Notes

## National, International, State, and City Natality and Infant Mortality

The natality and infant mortality data shown in this book for the years 1978-1984 are based on published and unpublished statistics from the National Center for Health Statistics (NCHS). These data are provided to NCHS through the Vital Statistics Cooperative Program, through which states report birth and death certificate information. Readers may obtain further details about states' participation in this program from NCHS, U.S. Department of Health and Human Services.

In calculating rates and percentages, data were excluded if the total number of events was fewer than thirty. The only exception to this rule is in the case of the total number of birt.. women younger than twenty and younger than fifteen and the percent of births to women younger than twenty and younger than fifteen, found on the state fact sheets in Section 2. Here we chose to present the data, even if the number of events was fewer than thirty, to give a fuller picture of teenage childbearing patterns.

The international infant mortality rates for 1950-1985 are from the United Nations Children's Fund (UNICEF). The Children's Defense Fund calculated the percent change between the 1950-1955 rates and the 1980-1985 rates.

The 1985 natality and mortality data were supplied by state health departments and state vital statistics offices. All data are final. The rates and percentages were calculated by the Children's Defense Fund, based on uniform methodologies applied to raw numbers supplied by the states. Most states were able to provide final 1985 data by Fall 1986. However, sixteen states were unable to do so.

These 1985 state data may vary from states' individually calculated rates and from the final statistics produced by NCHS. Therefore, the 1985 state vital statistics presented in this book should not be compared to 1978-1984 state data presented here. However, they may be considered a preliminary indication of states' 1985 rate of progress in reducing infant mortality and improving infant health.

The availability of city-level data is limited. NCHS does not routinely publish these data, and some statistics are unavailable even in unpublished form. City-to-city comparisons based on other data sources generally are not considered reliable. Comparable NCHS city data for two indicators have been used in this book.

## Program-Related Statistics

Calculations using comparisons to the federal poverty level are based on 1986 poverty income guidelines issued in February 1986 (51 Federal Register, p. 5105). For purposes of this book, the poverty level for a family of three has been selected as a standard of comparison since many of the families receiving public aid consist of a single parent and two children. A single annual poverty income standard is set for the District of Columbia and all but two states. Poverty guidelines for Alaska and for Hawaii are scaled up by 25 and 15 percent, respectively. The poverty level for a three-person family in the continental United States was $9,120 in 1986; for Alaska it was $11,400 and for Hawaii it was $10,490 that year.

States' AFDC standard of need and payment level data are based on information on file with the Social Security Administration as of January 1986. Some states may have revised their need standards or payment

levels prior or subsequent to that date. However, because states revise welfare eligibility standards throughout the year, we are forced to present the most recent official program "snapshot" available to us.

Statistics on Medicaid recipient trends come from information on file with the Health Care Financing Administration (HCFA) of the U.S. Department of Health and Human Services for Fiscal Years 1978 through 1985. Analysis of the recipient trends was done by CDF.

Information on the categorical characteristics of state Medicaid and non-federally matched assistance programs comes from CDF surveys of state Medicaid and public assistance officials conducted during July and October 1986. These surveys update a 1983 Congressional Research Service survey.

The source for AFDC categorical coverage information is the Social Security Administration publication, "Characteristics of State Plans for AFDC, 1986," supplemented by a 1986 CDF survey. As with AFDC and Medicaid financial information, some states' categorical coverage rules may have changed since the date of our most recent survey.

To assure consistency in presentation of information on cash benefits provided, we have modified this year's book to report separately those coverage categories under state plans for which federal financial assistance is claimed and those paid only with state funds. For example, some states provide 100 percent state-funded cash assistance to certain categories of individuals. However, because we cannot be sure that those state programs meet federal AFDC standards, we report them separately.

Statistics on the Special Supplemental Food Program for Women, Infants, and Children (WIC) are based on published and unpublished data from the U.S. Department of Agriculture (USDA). The data on participants are for September 1986, as reported in the USDA report, "State Agency Participation and Expenditure Report," November 21, 1986. The estimated number of "potentially eligible" persons is based on poverty data from the 1980 Census and represents the number who would qualify on the basis of income alone. Because of increases in poverty rates since 1979, this "potentially eligible" number may underestimate slightly the number of women, infants, and children who would be income-eligible. The figures may also slightly overestimate the number who actually would be eligible for WIC benefits, because eligibility is dependent on an applicant's being both low income and at nutritional risk status. However, this formula provides the best available estimate of the number of eligible persons.

## Calculations of Progress Toward the Surgeon General's 1990 Objectives for the Nation

In 1978 and 1980, the Public Health Service set out five major goals, including the reduction of infant mortality, as well as objectives in fifteen priority areas, including pregnancy and infant health. In 1983, a set of specific implementation plans to accompany the fifteen objectives was published by the U.S. Department of Health and Human Services. In 1985, the Department undertook a mid-course review of the objectives. Results from this project were released in November 1986, in a book entitled, *The 1990 Health Objectives for the Nation: A Midcourse Review.*

This book uses six of the Surgeon General's thirteen pregnancy and infant health objectives to chart national and state-by-state rates of progress. These six objectives include infant mortality for all races, infant mortality for subgroups, neonatal mortality, low birthweight for all races, low birthweight for subgroups, and receipt of early prenatal care. An objective for postneonatal mortality, as published by the U.S. Public Health Service in *Public Health Reports* (1984 Vol. 99 No. 2, 184-192) also was used.

The time-trend data for each of these seven indicators are provided in Part 3 for the years 1978-1984. A conservative analysis of the trend data yielded the difference between 1978 and 1984 rates or percentages and the difference between the 1984 rate or percentage and the 1990 objective. Per-year changes are obtained by dividing the number of years into the total change for the period.

# Calculations on Excess Number of Low-Birthweight Births, 1978-1990

Calculations were made of the number of excess low-birthweight births that can be expected to occur by 1990 as a result of the nation's failure to make sufficient progress toward meeting the Surgeon General's 1990 low birthweight objective. Using data from Table 4.1, the numbers of excess low-birthweight births for the period 1978-1984 were calculated in accordance with the following formula:

Excess number of low-birthweight births = C – [(A – unknown) × D]

TABLE 4.1

## Low Birthweight Trends and Projections

| Year | A<br>Actual Number Of Births | B<br>Actual Percent Of Low-Birthweight Births | C<br>Actual Number Of Low-Birthweight Births | D<br>Projected Percent Of Low-Birthweight Births | E<br>Projected Number Of Low-Birthweight Births | F<br>Excess Number Of Low-Birthweight Births |
|---|---|---|---|---|---|---|
| 1978 | 3,333,279 | 7.11% | 236,342 | 7.108% | 236,342 | (0) |
| 1979 | 3,494,398 | 6.94% | 241,826 | 6.933% | 241,727 | 99 |
| 1980 | 3,612,258 | 6.84% | 246,292 | 6.758% | 243,332 | 2,960 |
| 1981 | 3,629,238 | 6.81% | 246,749 | 6.583% | 238,452 | 8,297 |
| 1982 | 3,680,537 | 6.75% | 248,104 | 6.408% | 235,482 | 12,622 |
| 1983 | 3,638,933 | 6.82% | 247,668 | 6.233% | 226,489 | 21,179 |
| 1984 | 3,669,141 | 6.72% | 246,105 | 6.058% | 221,978 | 24,127 |
| 1985 | 3,749,000 | 6.65% | 249,183 | 5.883% | 220,561 | 28,622 |
| 1986 | 3,752,723 | 6.58% | 246,804 | 5.708% | 214,213 | 32,591 |
| 1987 | 3,756,439 | 6.51% | 244,419 | 5.533% | 207,851 | 36,567 |
| 1988 | 3,760,137 | 6.44% | 242,027 | 5.358% | 201,476 | 40,552 |
| 1989 | 3,763,807 | 6.37% | 239,629 | 5.183% | 195,086 | 44,543 |
| 1990 | 3,767,440 | 6.30% | 237,223 | 5.008% | 188,681 | 48,542 |
| TOTAL | | | 3,172,371 | | 2,871,670 | 300,701 |

The actual numbers of births (A), the number of "unknowns," and the actual number of low-birthweight births for 1978-1984 (C) are based on National Center for Health Statistics data printed annually in the agency's "Monthly Vital Statistics Report." The projected percent of low-birthweight births (D) is derived by subtracting the average annual changes needed between 1978-1990 to reach the objective from the actual percentage of low-birthweight births in 1978, which is the base year.

For the years 1985-1990, an additional step was taken to estimate the numbers of births, the numbers of low-birthweight births, and the percentage of low-birthweight births. The provisional number of births for 1985, as published by the National Center for Health Statistics ("Monthly Vital Statistics Report," Vol. 34, No. 13, September 19, 1986), was selected

TABLE 4.2

## Costs of Neonatal Intensive Care for Low-Birthweight Infants (1982)*

| *Birthweight (grams)* | *Frequency (%)* | *Costs per Infant* |
|---|---|---|
| less than 1,500 | 100.0 | $20,720 |
| 1,501-2,500 | 32.8 | 2,090 |

TABLE 4.3

## Costs of Rehospitalization of Low-Birthweight Infants (1982)*

| *Birthweight (grams)* | *Frequency (%)* | *Costs per Infant* |
|---|---|---|
| less than 1,500 | 38.2 | $3,920 |
| 1,501-2,500 | 19.0 | 1,560 |

*Source: Korenbrot, C. Comprehensive Prenatal Care as a Medical Benefit: Expected Costs and Savings, *Contract Report to Maternal and Child Health, Department of Health Services, California (1982)* and, Additional Costs to the State for Maternal and Child Health with Public Health Block Grants *(1983)*.

as the base. For each subsequent year, an average of population birth projections from the lowest and middle series was taken from the U.S. Department of Commerce's *Population Estimates and Projections** and added to the previous year's projected number of births. These numbers are shown as the "actual" numbers of births for 1985-1990 (A). The "actual" percentage of low-birthweight births for the years between 1985-1990 (B) were calculated by subtracting from each figure the annual change in the low birthweight figure for the 1978-1984 period (0.07). To calculate the "actual" numbers of low-birthweight births for each year, the "actual" percentage of low-birthweight births (B) was multiplied by the "actual" number of low-birthweight births (A). The final steps in determining the excess number of births for the years 1985-1990 is identical to the process used for the earlier years.

# Calculating Costs Associated with Excess Low-Birthweight Births, 1978-1990

The total cost associated with excess low-birthweight births between 1978 and 1990 is based on a per-case cost of $6,996.42. This was derived from neonatal intensive care and rehospitalization costs shown in Tables 4.2 and 4.3 These tables show these costs by birthweight in 1982 dollars and the probability of infants in each weight group requiring the services. To arrive at a cost per low-birthweight infant regardless of its exact weight below 2,500 grams, we calculated a weighted average of $5,230.21. When inflated to reflect 1986 medical care costs, the per-infant cost of care for babies born at low birthweight is $6,996.42.

*U.S. Department of Commerce, "Projection of the Population of the United States by Age, Sex, and Race 1983-2080," *Population Estimates and Projection*, Series P.25, No. 952, Issued May 1984.

# INTERGOVERNMENTAL OPTIONS for REDUCING INFANT MORTALITY

PROCEEDINGS from a CONFERENCE

September 13-15, 1984

Edited by: Pamela Haynes, Dick Merritt and Douglas Reese

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# EXECUTIVE SUMMARY

In September 1984, the Intergovernmental Health Policy Project (IHPP) sponsored a conference on Intergovernmental Options for Reducing Infant Mortality. With support from the United States Public Health Service, IHPP convened a broad-based group of individuals involved in programs designed to decrease infant mortality and morbidity. Participants included health officials, both executive and legislative, from all levels of the federal government - national, state, county and city. In addition, several health practitioners, educators and researchers were also present.

The conference was convened to achieve three major objectives. First, it provided a forum for participants to discuss their programs for improving maternal and infant health and to share their successes and failures. Second, it enabled federal, state and local government representatives to explore ways to more effectively coordinate their efforts to reduce infant mortality and morbidity. Finally, the conference served as a starting point for an ongoing dialogue between the three levels of government and private organizations.

## Background

Although infant mortality rates have dropped dramatically over the last 40 years, the number of infant deaths and the related problem of low birth weight continue to be a significant public health problem. Between 1970 and 1981, the national infant mortality rate dropped from more than 45 per 1,000 live births to an estimated 11.9 per 1,000 live births. Still, the U.S. rate exceeds that of many other industrialized countries, including the United Kingdom, Canada, France, Spain and the Scandnavian nations. Furthermore, great discrepancies exist between racial and socioeconomic groups within the U.S. In 1981, the national infant mortality rate for whites was 10.5 per 1,000 live births, while the rate for blacks was nearly twice as high, at 20.0 per 1,000 live births. This has been a consistent trend for the last 40 years. Socioeconomic indicators other than race, including low income and low levels of educational attainment, are also characteristic of groups with higher infant mortality rates.

The incidence of low birth weight is a significant contributor to infant mortality and morbidity rates. The Institute of Medicine reports that in 1981, 6.8 percent of newborns were low birth weight (2,500 grams or less) and approximately 1 percent were very low birth weight (1,500 or less). Two-thirds of infant deaths during the neonatal period (the first 28 days after birth) are to low birth weight babies; very low birth weight infants are 200 times more likely than normal weight babies to die during the first 28 days. The increased risk of death also extends into the postneonatal period (between 28 days and one year). Low birth weight infants are five times more likely to die during the postneonatal period than normal weight babies and account for 20 percent of postneonatal deaths. In addition, these infants are at greater risk for neurodevelopmental disorders and other developmental disabilities that may require long-term medical care, impair educational success, and cause financial and emotional stress on their families.

In recognition of these problems, the Surgeon General in 1980 included reductions in the incidence of infant mortality and low birth weight in the Health Promotion/Disease Prevention Objectives for the Nation for 1990. Specifically, these objectives state that by 1990 no county and no ethnic or racial group should have an infant mortality rate greater than 12 per 1,000 live births. Furthermore, low birth weight babies should constitute no more than 5 percent of all live births nationally, and no county and no ethnic or racial group should have a low birth weight rate greater than 9 percent of all live births.

## Issues and Themes

Several risk factors related to low birth weight and neonatal and postneonatal death were identified during the conference. These were largely maternal characteristics and can be clustered into three groups:

- Demographic factors, including race, age, socioeconomic status, educational level and marital status;
- Behavioral factors, such as smoking, alcohol and drug use, and poor nutrition;
- Medical factors, such as low weight for height, DES exposure, frequent pregnancies, a history of poor pregnancy outcomes, genetic factors, hypertension, preeclampsia, toxemia, incompetent cervix, and fetal anomalies.

Throughout the meeting, participants discussed strategies

for addressing these risks and improving pregnancy outcomes at three intervention points: before conception, during pregnancy, and after birth. They also explored approaches directed toward the unique problems of adolescent pregnancy and discussed ways to improve intergovernmental communication and cooperation. The following chapters describe a range of state, local and privately sponsored programs to reduce infant mortality and morbidity. Rather than enumerating the many programs discussed below, this summary highlights the major topics addressed and views expressed by participants.

Several themes emerged and were reiterated throughout the meeting. These related to improvements in the quality of and access to care, especially during pre- and postnatal periods; improved intergovernmental and intragovernmental communication and coordination of programs; and the need for evaluating these programs and sharing the results.

## Prenatal and Postnatal Care

Participants stressed the importance of an increased commitment to preventive and prenatal care. Although developments in medical technology and neonatal intensive care have significantly reduced infant mortality, the value of expanding these costly services was questioned by many. Improving health education related to pregnancy risks, changing high-risk behavior patterns, and improving access to prenatal care may be more cost-effective approaches for improving infant health. Several programs, including the New Orleans media approach to educating women about pregnancy risks and care and the North Carolina Preconceptional Risk Assessment Program, are aimed at educating women and encouraging them to modify behaviors that may be harmful to their babies. Increasing access to prenatal care was advocated by most participants; however, simply channeling more women into existing prenatal programs was not. Rather, efforts should be made to identify high-risk women and to treat them in specially tailored prenatal programs. Florida's Preterm Risk Assessment plan was one of many approaches for identifying and directing high-risk women into specialized care. The Florida approach relies on training obstetricians, nurses and pregnant women to identify the risks and early warning signs of pre-term labor in time to administer labor-inhibiting drugs.

The effectiveness of different prenatal care regimens should be evaluated in terms of pregnancy outcome. In particular, innovative programs should be studied to identify potential new approaches to prenatal care. A recommendation was made that the Public Health Service sponsor a consensus group conference to set standards for timing, frequency,

content and procedures for prenatal care.

Conference participants generally did not see a need for a significant increase in neonatal intensive care units. Many felt that the problem is not the overall number of these specialized units but rather with the fact that many remain inaccessible to poor or geographically isolated women and infants. Several state and local health authorities, including South Carolina and the District of Columbia, have instituted programs to identify the level of obstetric and neonatal services offered by these facilities and encourage them to make their services more widely available. In addition, greater efforts are needed in directing women and infants to the correct level of care for their needs.

Postneonatal care is the critical third phase of improving infant mortality and morbidity rates. Even after regular prenatal care and the most sophisticated neonatal services, babies need a clean, healthful home environment, a nutritious diet, and protection from neglect and abuse to thrive. Several community outreach programs, including Kansas City's "Healthy Start" Program and the pediatric outreach program at the King/Drew Medical Center in Los Angeles, provide follow-up care to babies who might be at risk due to health or family environment factors.

## Teenage Pregnancy

Babies born to adolescent mothers are at particularly high risk for both low birth weight and death during the first year. Because of this, the high incidence of pregnancy among adolescents and the unique problems they encounter, teenage pregnancy was treated as a separate topic. The majority of girls who become pregnant during their teens do not complete school, do not seek early and regular prenatal care, do not marry, and do not generally get adequate education or vocational skills to enable them to support their children independently. In addition, these children are more likely to have health or developmental disorders that may require long term care, impair their performance at school, require special education or limit their potential for leading productive lives. Most of the conferences participants agreed that interventions to reduce the incidence of adolescent pregnancy, improve pregnancy outcomes and break the cycle of repeated pregnancies are largely educational.

Families, churches and community youth organizations offer settings for educating young people about sexuality, pregnancy risk, prenatal care and the importance of developing parenting

skills. Schools also offer an opportunity for educating teens about these issues. In addition to being educational institutions, schools are important social institutions that have access to many hard-to-reach teens who are not motivated to join church or youth groups and who may not have family support systems.

Providing reproductive and parenting education through the schools is a controversial issue. Strong opposition to school-based sex education has been expressed by people who believe that sex education and values related to sexuality and child bearing should be learned at home. Many teachers and school administrators agree. Three reasons for this view among educators were raised during the conference: they may agree that these subjects are not a school responsibility; they may be uncomfortable discussing sexuality and personal values with students; and at a time when school budgets are tight and there is an increasing emphasis on educational fundamentals, they may not want to dedicate limited resources to these subjects.

Despite these arguments, many conference participants strongly advocated school-based sex education and in some cases, providing contraceptive counseling and services at the schools. Not only can schools help educate students about physiological aspects of reproduction, they can help young people develop personal values, learn the benefits of delaying sexual activity and child bearing, learn self esteem and the self confidence to say "no," and understand the responsibilities of parenthood. Many participants believe that these themes should be woven into the curriculum, not limited to separate sex education classes. Moreover, they feel that helping students, especially girls, develop a better sense of self and more ambitious personal and professional goals will help decrease the incidence of adolescent pregnancy. Finally, these programs must also emphasize the roles of young men in assuming responsibility for their sexual behavior and for parenting.

After unsuccessfully trying to improve pregnancy outcomes through nutrition and prenatal health care programs, the Pee Dee Health Districts in South Carolina initiated a school-based "student survival course" that emphasized personal values and assertiveness as well as reproductive education. This has resulted in a more successful approach to reducing teenage pregnancy. Inner-city school-based programs, including those in St. Paul, Minnesota, and Jackson, Mississippi, supplement sex education with contraceptive counseling and services, prenatal care, parenting education and child care for students who become pregnant. The result has been lower pregnancy rates, lower repeat pregnancies, and an increase in the number of new mothers who complete their high school educations.

## Intergovernmental Issues

Discussion related to intergovernmental issues concentrated on three topics: the need for improved coordination among programs providing services to mothers and their infants, the need for improved integration of services, and the respective roles of federal, state and local authorities.

The importance of improving coordination among the many federal, state and local programs offering maternal and child health services was repeatedly emphasized by conference participants. Conflicting goals and regulations among agencies and different levels of government undermine the improvement of maternal and child health. Administrative and financial conflicts need to be resolved before these programs can work most effectively to improve infant mortality and morbidity rates. For example, eligibility standards for Medicaid, the Women, Infants and Children (WIC) program and other programs targeting these groups should be standardized. Although some participants thought this might increase costs to state and local governments, the majority believed that greater consistency would improve program administration and effectiveness.

At the same time, participants called for increased regulatory flexibility to give state and local authorities the opportunity to tailor their programs to local needs and budgets. The extension of Title XIX waivers related to freedom of choice of provider and reimbursement options repeatedly mentioned. The balance between program coordination and regulatory flexibility is a delicate one to achieve; however, clearly stated goals and objectives for programs aimed at reducing infant mortality and morbidity should mitigate these conflicts.

Closely related to coordination among programs is the integration of services. Activities to reduce infant mortality and morbidity should be more fully incorporated into and emphasized in existing federal, state and local efforts. For example, prenatal and postnatal care should be emphasized in Medicaid, family planning programs, and community and migrant health center services. The effects of smoking, alcohol, and drug use, and stress on fetal health should be highlighted in the activities of the National Institutes of Health, as well as substance abuse and mental health programs.

These responsibilities should not be borne exclusively by governmental agencies. Private organizations, such as the

American Cancer Association and the American Heart Association, should focus more on infant mortality and low birth weight issues. And coordination between public and private efforts and the development of networks between them should not be overlooked.

## Federal, State and Local Roles and Responsibilities

The need for more federal leadership in the fight against infant mortality and morbidity was expressed throughout the conference. However, the importance of state and local efforts was also emphasized.

The federal government has a clear responsibility for setting national policy goals and priorities. The 1990 objectives for the nation are one example of this. The importance of reducing infant mortality and low birth weight, especially among racial and disadvantaged subpopulations, must be repeatedly stressed at the federal level. Members of Congress and the Administration should reiterate this priority throughout the legislative and regulatory policymaking processes. Some participants called for the President to convene a broad-based group including members of the private medical, business and educational communities as well as federal, state and local officials to plan a comprehensive strategy for improving infant mortality and morbidity rates.

The national focus should not be limited to the health care community. There are clear benefits for education and business to having healthier mothers and babies, including reduced incidence of developmental disabilities, the need for special education, and a healthier and better trained workforce. One area in which business can play a unique role is in monitoring the messages commercials give to adolescents about sexuality. Conference participants strongly believed that advertisers should be more responsible in not emphasizing sexuality in advertising targeted toward young audiences.

State and local public and private groups also have an important role to play in curbing infant mortality and morbidity rates. Federal block grants are distributed at the state level; however, local officials must play a key role in decisions about the distribution of these funds. City and county officials have become increasingly more sophisticated in public administration and should be given a more prominent role in program design and funding decisions.

A recommendation was made for representatives of national,

state and local organizations to develop plans for reducing infant mortality and low birth weight rates. These would be presented and discussed at the 1985 conference to review progress on the 1990 health objectives. Of critical importance in this process is a clear two-way communication from national to state to local groups and from local to state to national policymakers. Communication among these groups is also important.

## Data Collection and Dissemination

The federal role in collecting and disseminating information about maternal and child health and infant mortality, such as matched birth/death certificate data, was also highlighted. Participants agreed that sharing these data and the evaluations of programs to reduce infant mortality and morbidity was a key factor in accomplishing the nationwide goal. While state and local jurisdictions can collect this information, they lack the resources to compile it and make it widely available in a timely fashion. This, participants believe, should be a federal responsibility. One impediment to this recommendation is Congressional initiatives to limit regulatory paperwork burdens and the funding available for data collection and dissemination. Increasing data collection and distribution related to infant mortality and morbidity may require trade-offs with other data collection efforts.

Participants also recommended a clearinghouse be established to collect and share information about state, local and privately sponsored programs.

## Conclusion

Although the incidence of infant mortality and morbidity remains a serious public health problem in the United States, a number and variety of federal, state and local initiatives are underway to reduce these rates. The conference on Intergovernmental Options for Reducing Infant Mortality gave program administrators and other health policy makers an opportunity to discuss their programs and learn about other approaches for improving maternal and child health. They also had a unique opportunity for intergovernmental communication about these issues and the barriers they encounter in trying to address them. For many, this was a starting point in developing an ongoing network of national, state and local programs aimed at curbing infant mortality and morbidity.

One of the most encouraging points made during the

conference was that participants largely agreed that the technology and knowledge currently exist to further reduce national infant mortality rates and to significantly affect these rates among racial and disadvantaged groups. However, a clear national commitment to this goal and improved communication and coordination among federal, state and local programs are needed if it is to be achieved.

# INFANT MORTALITY: A REVIEW of CAUSES and TRENDS

Alfred Brann, Jr., M.D.

Today I will present a position paper prepared for the Carter Center. The Carter Center requested us to analyze infant mortality and suggest how we can reduce it by using existing efficacious interventions universally applied.

No human being asked to come into this world, and no one chose his or her parents. I have become more aware of these facts as I have worked in pediatric neurology, in rural health clinics in Mississippi, and in urban health care delivery in Atlanta. The goal for reproductive health proposed in this report is that all pregnancies should be intended and cared for so that children and their families experience a minimum of mortality and the lowest possible incidence of morbidity, such as cerebral palsy, mental retardation, and birth defects. Because everyone in a society uses whatever prenatal health care system exists in that society at least once, we can consider the thoroughness and detail with which that society understands and deals with its reproductive health care needs as a measure of its sophistication.

Currently, a large and unacceptable gap exists between what is and what could be in infant mortality, infant morbidity, and unintended pregnancy. The problem can be described in four simple statements:

- Too many pregnancies are unintended.
- Too many normal birth weight infants die.
- Too many low birth weight infants are born.
- Too many cases of developmental disabilities occur.

This long-standing gap is an indication that our society has yet to deal effectively with what should be our greatest concerns--our reproductive health and raising healthy children.

The gap in what is and what could be is apparent at all levels of society, but it is concentrated on the following groups of women: adolescents, blacks, and the educationally or economically disadvantaged.

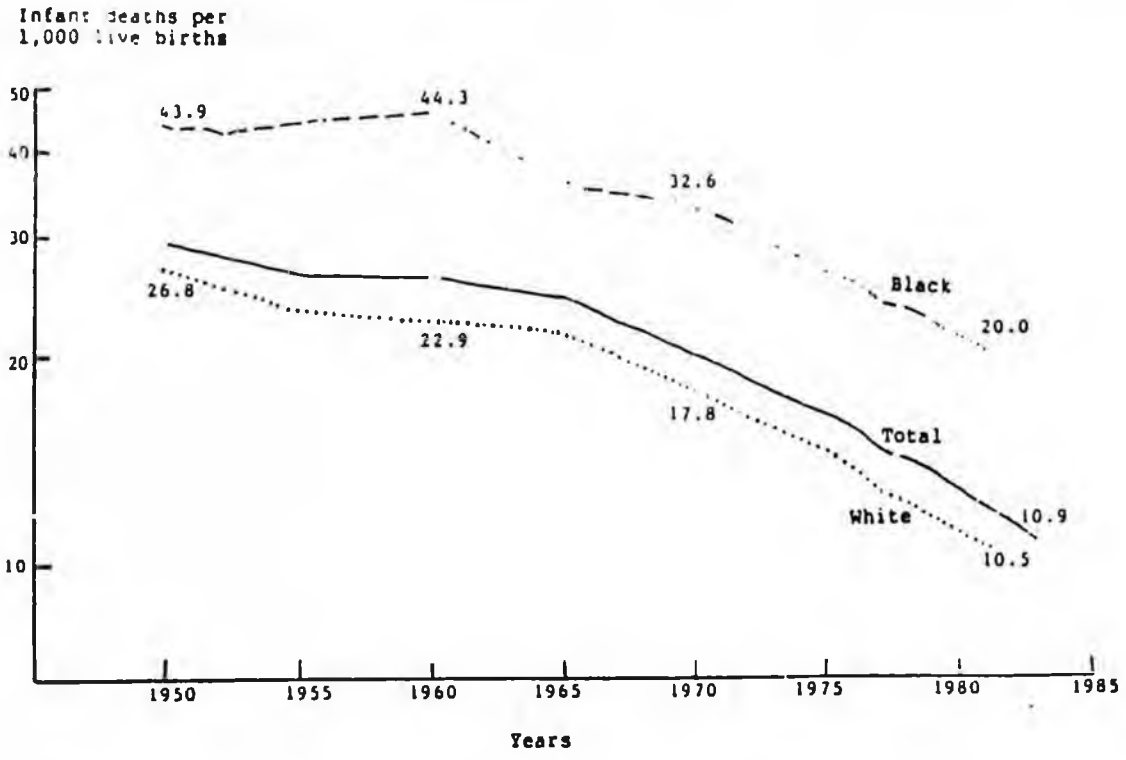
We have the medical knowledge and the technology to significantly reduce this gap, but we need to generate a public policy that clearly articulates the goal that every child born in the United States should be intended and as healthy as possible. From both a humanitarian and an economic perspective, we must not only improve access to existing technologies but also--and equally important--address the underlying economic and social disadvantages of some of our citizens, particularly minorities and women.

The intimate relationship between high rates of infant mortality and morbidity, unintended pregnancy, and economic social disadvantage is not unique to our country. It is a worldwide problem that exists within the larger issue of distributive justice and that problem does not lie clearly within the medical solutions for closing the gap selected as the topic for this report. If the economic and social part of the equation are not addressed, however, the use of medical models for solving the broader social dilemma will simply become increasingly more expensive. The cost of treating a surviving very low birth weight baby who possibly could have been brought to term, for example, is approximately $15,000. The cost for a term infant is approximately $2,100.

This report illustrates our approach for using matched birth-death certificate linkage, especially birth weight and age at death, to analyze the data, to identify existing gaps between subpopulations at increased risk for adverse pregnancy outcomes, and to recommend existing efficacious interventions that, if sharply focused and universally applied, will lead to a reduction in infant mortality and unintended pregnancy. This approach can be used for a state, a county, or any identifiable geographic, political, or economic region. It is a technique that has enabled us to suggest a broader solution for these issues in Georgia as well as in the United States.

This report is based on data from the 1980 natality survey of the National Center for Health Statistics used in conjunction with matched birth-death certificate linkages from nine jurisdictions: California, Georgia, Massachusetts, Michigan, New York City, New York state, North Carolina, South Carolina, and Tennessee. These areas account for approximately one-third of the births in this country.

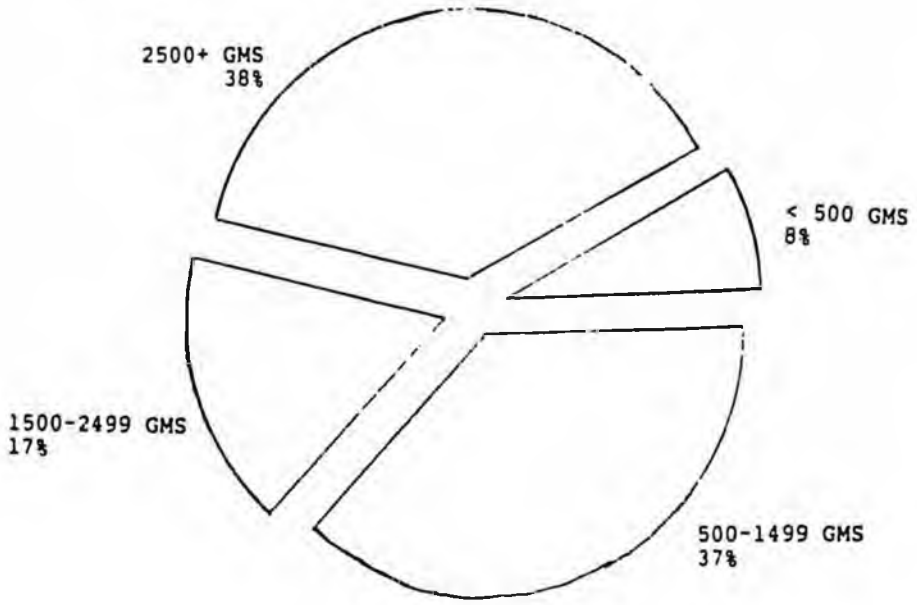
# INFANT MORTALITY RATES
## 1950-83




While infant mortality has been reduced in both black and white populations, recently the rate of decline among blacks has been only about 4.8% while the rate among whites has been 5.1%. Thus, for the last few years, rates have been diverging not converging.

Total deaths in 1980 numbered 41,000. According to our estimate, approximately 22,000 were excessive; that is, they could have been avoided. Forty percent of these births, or 8,800, were whites, which make up approximately 83% of the population. About 60% of the excessive deaths, or 13,200, were blacks who account for about 17% of the population. (Only these two subpopulations are presented because other minority groups do not make up a large enough group for comparison.)

## ESTIMATED DISTRIBUTION OF INFANT DEATHS BY BIRTHWEIGHT GROUP IN U.S., 1980



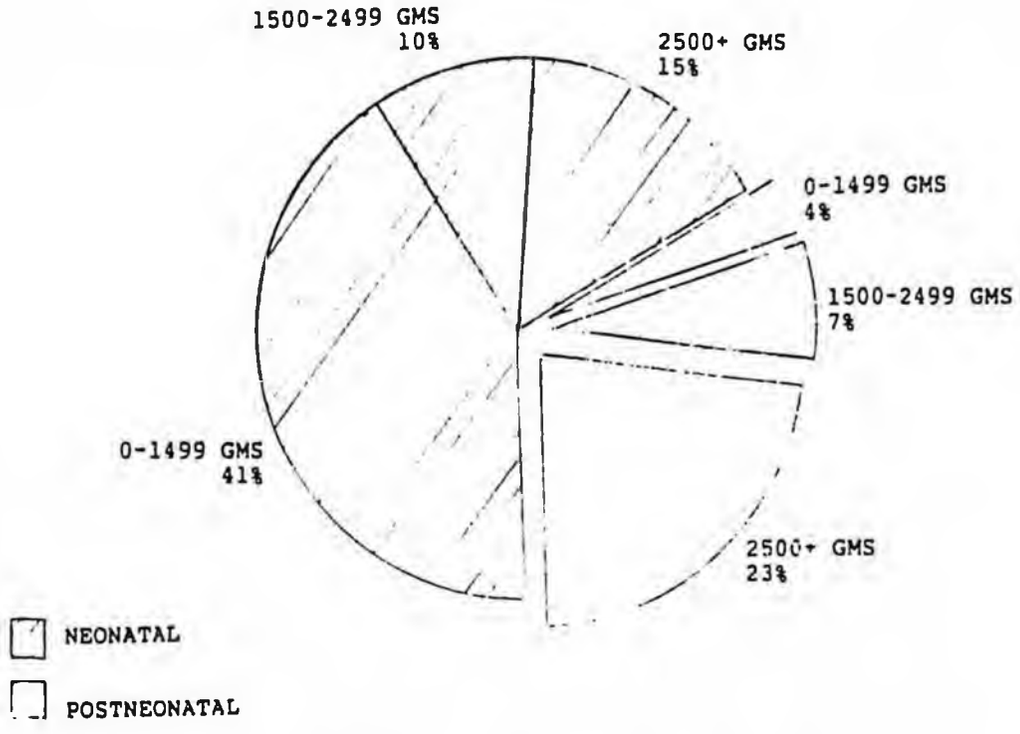

## AGGREGATED BWSMR APPLIED TO NCHS 1980 NATALITY

Applying the infant natality data and matched birth-death linkages from the nine jurisdictions to the 1980 natality data indicates that 38% of the patients achieved term gestation, which suggests that the antenatal course for these patients was either good or not adverse. Thus, for at least 38% of the patients, the health care system was reasonable and infants reached term weight.

Forty-five percent of these patients, including those weighing under 500 grams and those weighing 500 to 1,499 grams, did not receive appropriate prenatal care. Either care was not accessible, not acceptable, not available, or not used. Thus, the level of care was suboptimal for at least 45% of these pregnancies.

# BIRTHWEIGHT SPECIFIC MORTALITY AND AGE AT DEATH FOR INFANT DEATHS IN U.S.






## AGGREGATED BWSMR APPLIED TO NCHS 1980 NATALITY

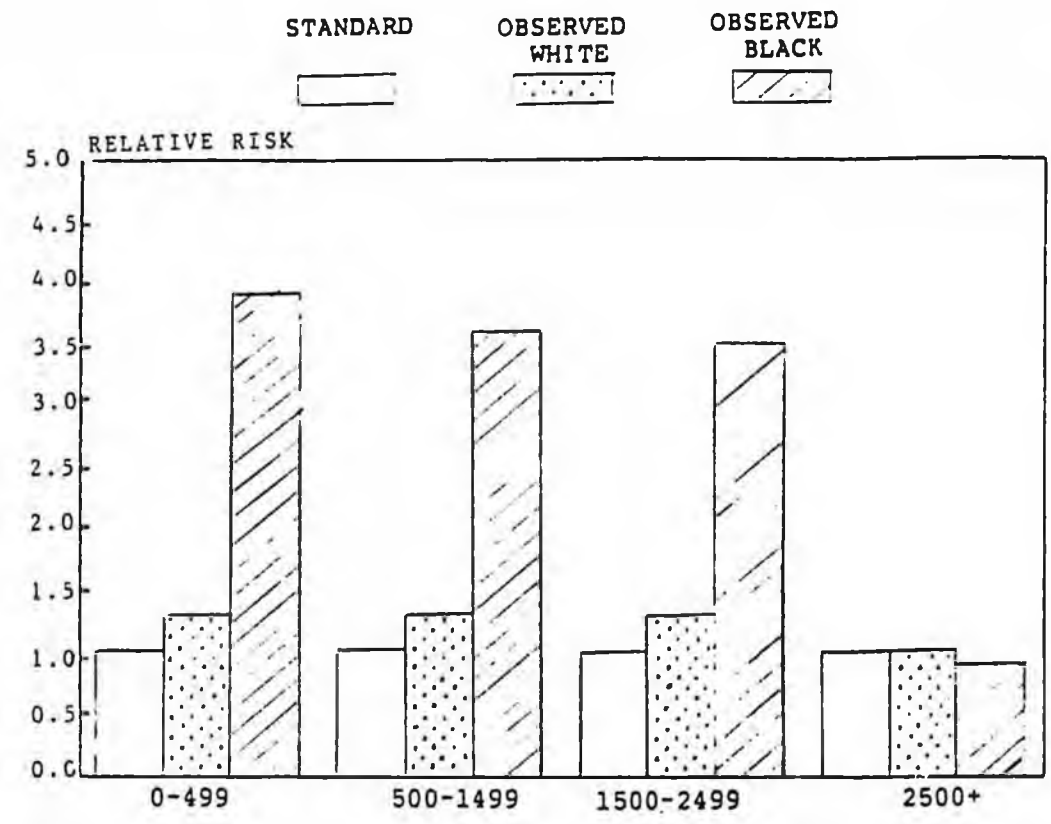
Sixty-two percent of infant mortality occurs in babies dying during the neonatal period. Approximately one-third die during the postneonatal period.

Approximately 51% of deaths during the neonatal period occurred in only 1.5% of the births. That is, low birth weight, especially during the neonatal period, is not only a profound determiner of death, it is also a reflection of our ability to help women get to term.

Thus, the gap in infant mortality is caused primarily by two factors: an excess of low birth weight infants and an excess of postneonatal deaths of normal birth weight infants.

White, nonadolescent, upper-class women experience the lowest infant mortality, 7.4 per thousand births, because they have a very low incidence of low birth weight infants and a very low incidence of postneonatal mortality in infants over 2,500 grams. The average black mother, on the other hand, is 20, has a low birth weight rate of 12.7 per thousand births, and a postneonatal mortality rate of 4.6 per thousand births, in infants over 2,500 grams.

DEFINING THE GAP: RELATIVE RISK OF
EXPERIENCING DIFFERENT BIRTHWEIGHTS BY RACE

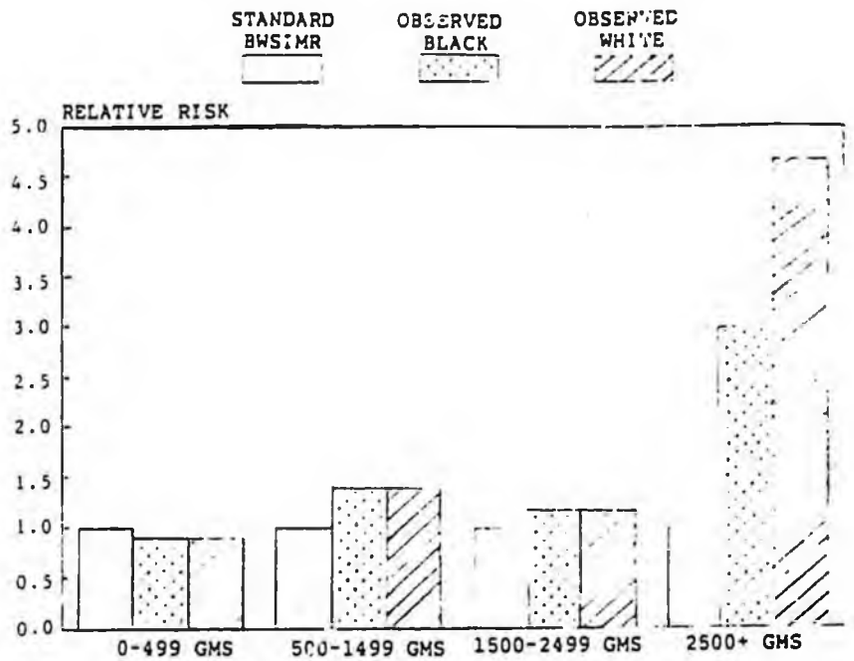



COMPARISION OF STANDARD WITH RACE SPECIFIC DATA FROM NCHS NATALITY 1980

Black infants are almost 4 times more likely to be of low birth weight than those born to white women who are at least 20 years of age, have 13 years or more of education, and sought prenatal care in the first trimester--the standard population. On almost every incidence of birth weight below 2,500 grams, the black mother experiences almost a fourfold greater relative risk of having a low birth weight infant than the standard population, and a greater chance than her white counterpart. No difference is apparent in either of the populations in terms of the birth weights for full-term infants.

The Carter Center used only educational level as a measure of socioeconomic status. Actual incomes may make the data separate out a little better. We are concerned about the high rate for socioeconomic status of 10.1 among blacks. It is not clear whether it is related to an inappropriate definition of socioeconomic status or to other factors, and we are investigating it.

DEFINING THE GAP: RELATIVE RISK OF EXPERIENCING
INFANT DEATH BY RACE AND BIRTHWEICHT

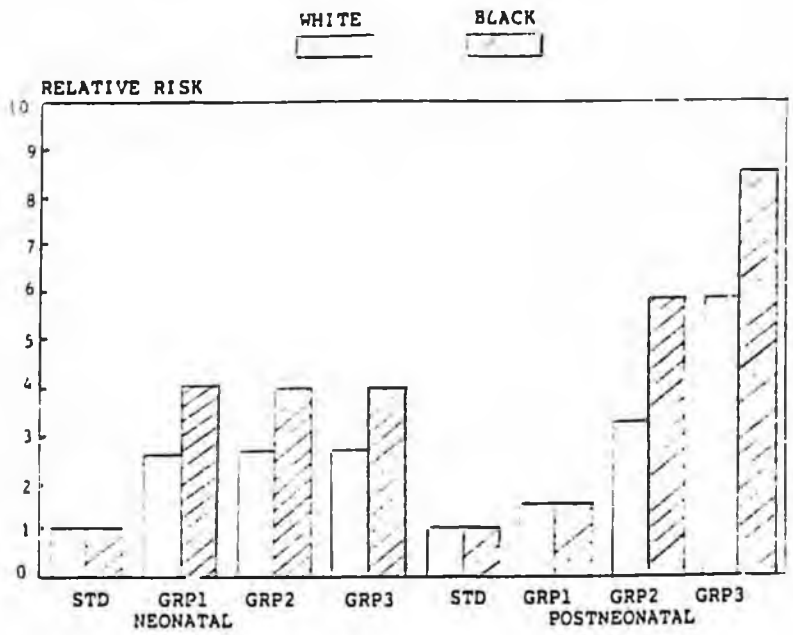



BIRTHWEIGHT GROUP IN U.S. 1980
COMPARISON OF BWSIMR IN STD. POPULATIONS WITH BWSIMR IN AGGREGATED DATA

The relative risk of experiencing death in all weight groups up to 2,500 grams is essentially the same. The big issue is that more children who are low birth weight are also black.

The gap is largest in the postneonatal rate. Infants of white adolescent mothers are 6 times more likely to die during the postneonatal period than those born to mothers of the best white standard. The increased rate for black infants is eightfold. A large problem exists in the relative risk rates.

RELATIVE RISK OF NEONATAL AND POSTNEONATAL DEATH FOR INFANTS ≥2500 GRAMS BY SEX AND RACE



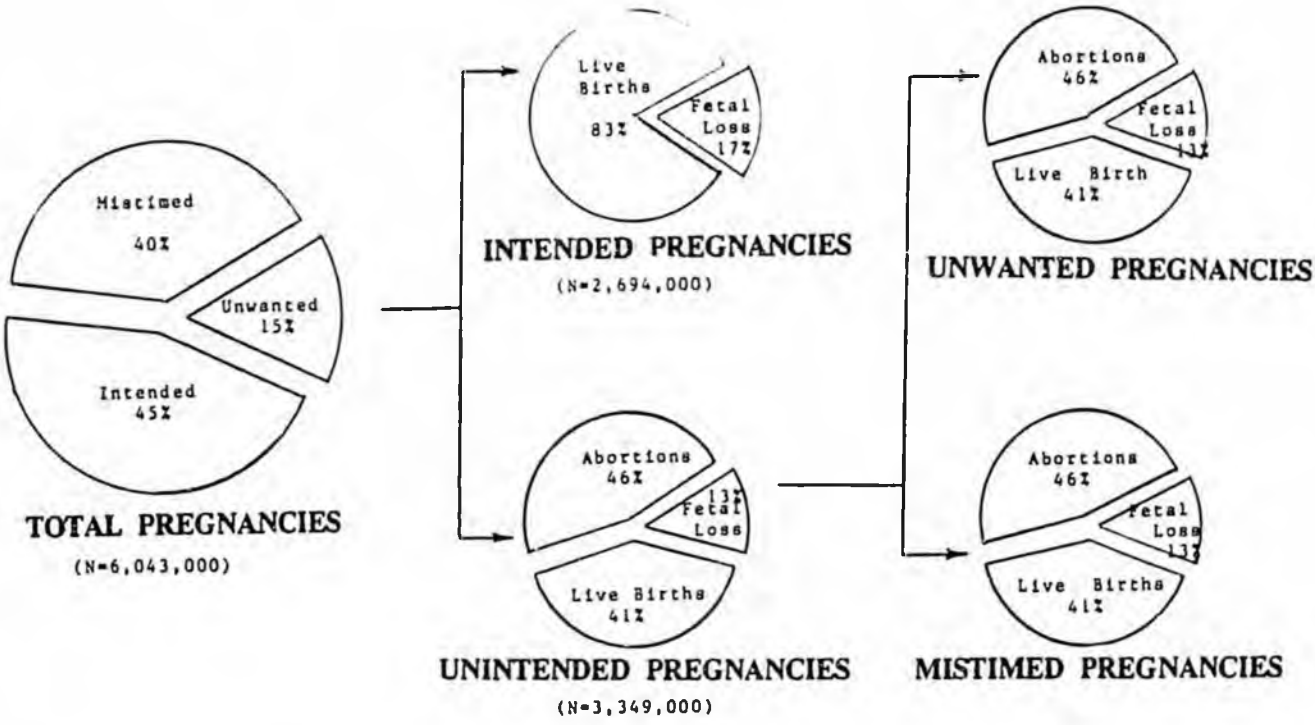

No difference is apparent in infant mortality among the first three groups. If a difference exists in comparison with the standard, it is a child at term without congenital anomaly who dies during the neonatal period--which is preventable.

If we spread out the postneonatal period, other areas become apparent where health care delivery can be focused and universally applied. No difference exists between black and white postneonates for Group One; however, a difference becomes apparent between blacks and whites of low socioeconomic status and the adolescent groups.

The question of access to care and to education in parenting skills comes into play when we consider health delivery systems. This area clearly could benefit from concentrated efforts. We believe that 7,500 postneonatal deaths between 1 month and 1 year--60% of the 13,000 postneonatal deaths in 1980--are preventable.

Second, we believe that with existing technology, the number of low birth weight infants (50,000) and infant deaths associated with low birth weight (4,000 or approximately 20% of the existing excess) can be reduced. Technologies currently under research cannot be evaluated at this time, so we looked only at existing efficacious interventions, including nutrition, the cessation of smoking, and the institution of prenatal care during the first trimester. Such interventions will affect babies primarily in the 1,500 to 2,499 gram group, which is not where the biggest problem is.

PERCENT DISTRIBUTION OF PREGNANCIES BY INTENTION STATUS AND OUTCOME IN THE U.S., 1980




Of the 6 million pregnancies in 1980, 55% were unintended. Of them, 40% were mistimed and 15% were unwanted. One in ten women who had a child never wanted to have another child, specifically not that one. This group can be divided into 2.6 million intended pregnancies and 2.3 unintended pregnancies.

Interventions are currently available that, if applied more widely, could prevent 2.2 million unintended pregnancies each year--65% of the 3.5 million unintended pregnancies in 1980. Assuming personal responsibility for their reproductive careers by men (and I emphasize men) and women is the basic tenet of a policy to reduce unintended pregnancy. The issue is not the reduction of live births; it is the principle of helping our citizens to plan their reproductive careers as they plan other events in their lives.

With current medical knowledge, technology, and equal access to care, we believe that by the year 2000 it would be possible to reduce unintended pregnancy by 65%, reduce the low birth weight rate by 20%, and reduce postneonatal infant mortality by 60%. These estimates consider only current efficacious interventions and could be improved even further if we had new information.

We are continuing to work on issues related to infant morbidity and potential interventions with the task force on perinatally related brain damage sponsored by the NICHD and NINCDS.

If infant mortality represents the visible tip of the poor child health iceberg, then infant morbidity represents the unseen portion. Major short-term morbidity is associated with hospitalization for low birth weight infants and for some correctable surgical anomalies and neurologic sequelae in some very low birth weight infants. We are making progress in this area with the use of neonatal intensive care, although this approach is a very expensive model for solving the problem.

Interventions that will reduce mortality will probably reduce morbidity as well. A few prenatal technologies exist that, if applied, will affect the outcome of 1,000 cases of Down's syndrome and spinal bifida. Each occurs approximately once in every 1,000 live births and can be diagnosed by amniocentesis during pregnancy. These problems are the two largest contributers to patients with significant neurologic disabilities and/or long-term neurologic sequelae that have an enormous emotional and economic impact. Amniocentesis, whether for alpha phenyl protein or for chromosomal culture, allows prospective parents to choose to plan for optimal care at birth or to terminate pregnancy. In the case of a myoma imbecile, for example, we can plan surgery in relation to a Caesarean section.

More than 55% of all pregnancies in the United States are unintended. Four of ten of our nation's young women become pregnant during their teen years--80% of them unintentionally--when they should be completing high school and preparing for adult roles. Early teenage childbearing usually terminates education, leaving the young woman unemployable and dependent on public welfare and public sources of medical care. The woman and her child are often confined to poverty and all the accompanying problems for the rest of their lives. This situation is avoidable by preventing untimely early pregnancies and giving young women a chance to complete their education and to learn parenting skills. Women experiencing unintended pregnacies tend to have similar characteristics to women who experience an infant death; hence, the reduction of unintended births could lead to the reduction of infant mortality rates. If 80% of teenage pregnancies are unintended, then potentially 80% of the resulting infant mortality could be prevented.

We recommend the following actions to achieve our goals:

1. Institute public education and disseminate information locally through schools, churches, and community groups to:

- Teach children to plan their reproductive careers and to understand the benefits of delaying childbirth until after the teenage years; and
- Promote the value of prenatal care and parenting skills.

2. Enact legislation to ensure access to family planning, to prenatal care (including prenatal diagnosis) for all women, to information about preventive care, and to counseling about genetic diseases.

3. Disseminate accurate and timely information from the public health sector to monitor regional progress toward these goals.

4. Develop creative strategies to:

- Maintain access to abortion for women who desire it;
- Prevent cost containment and the threat of malpractice suits from limiting access to quality care;
- Improve the standard of living and education; and
- Most important, provide incentives for women--especially young women--to assume active roles in those activities that make life in our society productive and rewarding.

If these recommendations are instituted, we believe we can reach the goals by the year 2000 and slow down the race between education and catastrophe.

disadvantaged portions of the population. As you know, the recent overall decline in infant mortality rates in the United States is due primarily not to an improved birth weight distribution, but rather to the increased survival rates of low birth weight infants through intensive hospital-based management, particularily neonatal intensive care. Like many others, our group has concluded that sustaining the decline in infant mortality will require new efforts to prevent low birth weight; that is, for numerous reasons, we cannot continue to rely so heavily on the salvage efforts of neonatal intensive care as our primary weapon in improving infant (particularly neonatal) mortality rates. We need to produce "better babies" at the outset, which means fewer low birth weight babies in particular.

Second, the contribution of low birth weight to morbidity (as distinct from mortality) in childhood is also important. Lower birth weight infants are at greater risk for neurodevelopmental handicaps, congenital anomalies, and lower respiratory tract conditions than normal birth weight infants. The negative effects of low birth weight on family functions and school performance are also judged to be important, though such sequelae require further study. In particular, very low birth weight (under 1,500 grams) survivors constitute a new and growing population. These infants probably will have long-term needs beyond those recognized for low birth weight infants in general, and require careful follow-up research.

Third, low birth weight is important because it seems to be a uniquely stubborn problem. As I noted earlier, there has been a steady decline in infant mortality over the last 15 years. In 1980, the infant mortality rate in the U.S. was about 13 per 1,000--a 47 percent decrease from the rate of 1965. Unfortunately, the decline in infant mortality rates has not been matched by (or produced by, as discussed above) decreased low birth weight rates. In the U.S. the proportion of low birth weight births only declined from 7.6 percent of live births in 1971, to 6.8 percent in 1981. There has been a decline, but not enough of one.

Finally, we all share a concern about low birth weight because we believe that its incidence could be reduced substantially. Part of this belief rests on the recognition that the rates of low birth weight, as well as very low birth weight, in the United States are significantly higher than in many other industrialized countries. In 1981, the United Nations Demographic Year Book published a chart displaying both low birth weight and very low birth weight rates for 11 developed countries. The U.S. had the second highest percentage of very low birth weight infants, after Hungary, and the third highest percentage of low birth weight infants among

# PRELIMINARY FINDINGS from the INSTITUTE of MEDICINES COMMITTEE on LOW BIRTH WEIGHT

Sarah Brown, M.P.H.

I am speaking today as the staff director of a 1 1/2-year study of how this nation can act to decrease the incidence of low birth weight. This project, unlike many at the Institute of Medicine (IOM), was generated internally and grew out of a general interest in studying how this nation might best invest its resources to improve the health of its children. A planning group was convened to discuss several possibilities for an IOM project in the child health area. For a variety of reasons, the planning committee recommended a study of priorities for the prevention of low birth weight in the United States. An interdisciplinary study group was appointed to look at opportunities for preventing both prematurity and intrauterine growth retardation--the twin contributors to low birth weight. The committee was asked to assess the relationship of low birth weight to mortality and morbidity, to review existing information on the etiology of low birth weight and the risk factors associated with it, to examine trends over time, and then, against such background data, to recommend promising strategies for reducing its incidence. The committee was also asked to consider the costs of the preventive interventions it found most attractive in relation to the continued incidence of low birth weight. I must stress that my remarks today should be considered as provisional and tentative in that the review process for this report has not been completed and the findings are not yet final.

Unlike Dr. Brann's preceding presentation, the focus of the IOM effort has been on the prevention of low birth weight, not on the prevention of neonatal mortality. Like the Carter Center, however, we are searching for strategies that are currently available, rather than fantasies of what we might wish were available options.

The interest we all share in low birth weight is derived, I believe, from at least four factors. First, low birth weight (under 2,500 grams) is a major determinant of infant mortality in the United States and accounts in large part for the higher neonatal mortality rates experienced by some socioeconomically

factor just to low birth weight, not to the more specific measure of preterm delivery or fetal growth retardation. Studies commonly rely on estimates of gestational age, which are often approximate at best. Risk factors are often defined differently across studies, which makes pooling of data and comparisons difficult. Most important, many of the studies examine risk factors as independent entities, although several factors may cluster in an individual and may be causally related.

We have defined about 50 risk factors that have been identified in the literature as being associated with low birth weight. We excluded some, like noise pollution, that do not have a strong scientific base or do not seem to be proper markers for other conditions. The risk factors we selected for detailed analysis in the report cluster in several categories:

- Demographic risk factors--such as age (under 17 and over 34), marital status, race (black), socioeconomic status, and educational status;
- Maternal risk factors--including previous pregnancy, inadequate weight for height, previous DES exposure, high purity genital anomalies, previous surgery, diabetes, hypertension, and a problematic obstetric history, such as previous low birth weight infants or previous multiple spontaneous abortions;
- Medical risks in current pregnancy--such as short interval between pregnancies, hypo- and hypertension, preeclampsia toxemia, first or second trimester bleeding, placental problems, hyperemesis, polyhydramnios, oligohydramnios, anemia, multiple pregnancies, isoimmunization, and incompetent cervix;
- Behavioral and environmental risks--including poor weight gain, smoking, alcohol and other substance abuse, and even residence at a high altitude;
- Health care risks--including the absence or inadequacy of prenatal care and iatrogenic prematurity resulting from induction of labor or Caesarean section before adequate fetal maturity;
- More tentative risk areas--including physical and psychological stress, varying levels of uterine irritability and contractility, inadequate expansion of plasma volume, progesterone deficiency, and certain infections.

This grouping leads to the observation that many of the risk factors for low birth weight can be identified before pregnancy occurs; detection and possible intervention need not always wait until the prenatal period. The grouping also helps to highlight the importance of behavioral and environmental risks and the need for interventions that go beyond medical

all live births in those 11 countries.

## Trends in Low Birthweight

In searching for ways to decrease the rate of low birth weight and thereby help to reduce infant mortality and improve child health, our group began by examining various trends in the incidence of low birth weight. We looked for clues that might help direct prevention efforts. For example, were declines in low birth weight in recent years distributed evenly among all populations? Were declines in low birth weight greater in some subgroups than in others? Our provisional conclusions included a few that I find particularly important.

The decline in low birth weight in the years we surveyed was almost totally confined to the moderately low birth weight group--1,500 to 2,500 grams. No decline, and possibly an increase, was observed in the very low birth weight group.

The observed decline in low birth weight was apparently concentrated in the full-term low birth weight group. Thus the contribution of prematurity to overall low birth weight has increased.

For the United States as a whole, the relative decline in the white low birth weight rate exceeded the corresponding decline in the black low birth weight rate. Characterizing black-white differences in this area depends to some extent on the measures used, but it is an inescapable fact that black infants are clearly at elevated risk of low birth weight, and the gap between white and black rates of low birth weight has not narrowed over the last decade.

## Etiology and Risk Factors

In looking for clues for prevention, we surveyed the voluminous literature on the etiology of low birth weight and the risk factors associated with both preterm delivery and intrauterine growth retardation (IUGR). To oversimplify the situation, let me just say that the basic causes of these twin sources of low birth weight are not well understood, particularly with regard to prematurity. In the absence of a clear theory of etiology, a large literature has developed regarding the risk factor associated with low birth weight. Unfortunately, a range of methodological and conceptual problems make, its interpretation difficult. For example, many risk factor studies analyze the relationship of a given risk

especially important in the interval between pregnancies for women who have experienced a prior reproductive casualty. For example, a previous preterm birth is one of the strongest predictors of prematurity, that is, the relative risk that a second birth will be premature (less than 36 weeks) is 4.4 if the first birth was premature. Health professionals in contact with women who have had poor pregnancy outomes need to understand the threat of repeated poor outcomes and to focus on helping to avoid a recurrence in the future. Obstetricians, pediatricians, neonatologists, and family planning counselors have a role to play in this regard.

In so stating, however, I should also note that two very troublesome issues arise in connection with prepregnancy consultation. The first is that the women most likely to benefit from this kind of attention are the ones most likely to be outside of the health care system or alienated from it. Secondly, emphasizing preconception health conveys an image of women as always being "almost pregnant," which is obviously a touchy problem. Despite such important concerns, our group felt nonetheless that its emphasis on prepregnancy health has merit and deserves increased emphasis.

Our committee has also focused on health education--a second preconception area--arguing that health education curricula should include discussion of the major factors that put a woman at risk for low birth weight. The importance of early pregnancy diagnosis and prenatal care and altering health compromising behaviors should also be stressed. Schools, family planning centers, and other settings need to expand the topics they cover in their reproductive health education to include such themes and others that will be detailed in the final IOM report.

A third area is family planning. A number of studies suggest that the reduction in infant mortality in recent years is due in part to effective family planning. The evidence that family planning has contributed to the modest reduction in low birth weight is less complete. Our committee concluded nonetheless that family planning should be an important component of the overall effort to reduce low birth weight, and will argue strongly for a renewed public commitment to extending family planning care. The importance of family planning in reducing the risk of low birth weight is based on its capacity to avert pregnancy in a number of high-risk women, including ones with medical as well as sociodemographic risks. It helps to extend interpregnancy intervals, and has been particularly useful to low-income women and teenagers who are both high-risk groups for low birth weight.

care. The demographic measures can help to define target populations. The cluster of health care issues highlights the fact that not all risks for low birth weight derive from characteristics of women themselves. And finally, the category of evolving concepts of risk suggests some important research areas for improved understanding of low birth weight.

The Risk factor data also revealed several additional themes:

- Socioeconomic risk factors are especially significant.
- Many of the well-established risk factors, including those in the behavioral area, are amenable to prevention or therapy; that is, they are reversible.
- Risk factors do not always cluster in only a few high-risk groups; a substantial amount of low birth weight occurs among low-risk women, making it difficult to identify a limited number of groups to target.

## Interventions for Preventing Low Birth Weight

Against a background of such findings, our group defined several approaches to preventing low birth weight. All rest on the basic conclusion that despite many unanswered questions regarding the causes of and risks for low birth weight, policy makers and health professionals presently know enough to intervene much more vigorously to reduce the incidence of low birth weight. Methods are already available that have demonstrated their value. These approaches and a few new ones merit more support and investment. This is not to say, however, that any single approach holds the answer. There are, unfortunately, no magic bullets.

## Prepregnancy Interventions

The first area discussed by our group includes a set of interventions applicable before pregnancy. We concluded that health professionals need to be made much more aware of the importance of preconception care in improving future birth outcomes. Three strategies can be emphasized before or between pregnancies to reduce the risk of low birth weight: prepregnancy risk identification and reduction, health education, and family planning.

Prepregnancy risk identification and reduction are

of the total care package. As noted, a major theme of virtually all the studies reviewed is that prenatal care is most effective in reducing the chance of low birth weight among high-risk women, whether the risk derives from medical factors, sociodemographic factors, or both. Thus, differences in the risk status of various study populations may partially explain variations in the prenatal care effects observed across studies.

All of the studies reviewed that are based on large numbers of cases, particularly those using vital statistics data, show that prenatal care exerts a positive effect on birth weight. More variation exists among the results of studies evaluating special programs, although the majority show that prenatal care is associated with improved birth weight. Those special programs that have shown a positive impact on birth weight usually offer prenatal care that goes beyond more routine services to include flexible combinations of education, psycho-social and nutritional services, and certain clinical interventions medical risks, and a rapid response to the first signs of early labor.

The limited impact of prenatal care suggested by some of the special programs may result from the fact that the care was not organized to address what is now known about the causes and risks of low birth weight. For example, the care may not have focused on such factors as smoking reduction, adequate weight gain, reducing alcohol and other substance abuse, patient and provider education about prevention of prematurity, or specific medical risks associated with low birth weight, such as bacteriuria.

Thus, existing data on prenatal care suggest that we can in good conscience make an unequivocal commitment to expanding the availability of prenatal care in the United States. To make this a tangible recommendation, the IOM committee concentrated on defining who does get prenatal care and why, and how to ease the barriers identified. In 1981, close to one quarter of all births were to mothers who began prenatal care after the first trimester of pregnancy. Over five percent of mothers delayed care until the third trimester or received no care. Black mothers were more likely that white mothers to delay care until the third trimester or to receive no care. Mothers aged 25-29 and 30-34 were more likely to receive care in the first trimester than were younger mothers.

We also have some evidence that the increase in early prenatal care visits in the last decade may have halted or even begun to decline. Although the 1980 natality statistics state that the proportion of births to mothers who began prenatal

Family planning may also help to reduce the number of pregnancies that are unintended or unwanted. The 1980 National Natality Survey, which included only married women, showed that there was a strong relationship between wanting a pregnancy and seeking early prenatal care. Women who had not planned to have another child showed the most delay in seeking care. These factors accounted for about one-third of the black-white differential in the number of prenatal visits reported. Because prenatal care is in turn linked to improved birth weight--the next topic to be addressed--such data lend additional support to the importance of family planning in combating low birth weight.

## Prenatal Care

Let me turn now to the very challenging question of whether participation in prenatal care reduces the risk of low birth weight--the answer to which provided the major underpinning of many other prevention strategies recommended by the IOM. Absence of prenatal care appears widely in the literature as a risk factor associated with low birth weight. The value of prenatal care, however, cannot be determined solely on the basis of relating its absence to increased risk. It is possible that it is not prenatal care itself that causes some women to give birth to infants of normal birth weight, but rather the other characteristics of women who seek such care, i.e., optimal childbearing age, high level of education or income above the poverty line. Conversely, women who do not receive adequate prenatal care may deliver low birth weight infants because of extreme youth or age, poor education, or poverty--characteristics not affected by prenatal services. These are very important questions for policymakers who must judge the utility of a major investment in prenatal care. Accordingly, we chose to face squarely the issue of whether inadequate prenatal care is uniquely a risk factor for low birth weight aside from its association with other risk factors. Clearly, unless we can be convinced that prenatal care makes an independent contribution to increased birth weight, we cannot expect others to share our view and cannot recommend changes in public policy to make prenatal care more widely available.

After careful consideration of the major methodological problems with understanding this issue, we found that the overwhelming weight of the evidence is that prenatal care contributes to a reduced risk of low birth weight and is probably most helpful to women who are at highest risk for this poor outcome--often the same women who get inadequate prenatal care. We also concluded that because content of prenatal care is not defined carefully in many of the studies reviewed, it is not possible to trace the benefits of care to specific aspects

need more services and more specialized care than low-risk women. The final report is likely to make a number of other complementary recommendations designed to enroll more women in the Medicaid program and thereby ease the problem of financial barriers to care.

The committee also focused heavily on the provider issue. The problem of inadequate numbers of private physicians providing prenatal care in some areas is well documented. A survey of Kentucky obstricians and gynecologists (OB/GYNs) showed that none accepted Medicaid patients in Lexington and Fayette County, even though these counties have the highest concentration of physicians in the state. Other studies show that the participation rate of OB/GYNs in Medicaid is particularly low among specialty groups and may even be decreasing. One study found that OB/GYNs had substantially lower Medicaid patient loads than either pediatricians or general surgeons. Thirty-six percent of the OB/GYNs in this study saw no Medicaid patients at all, compared to 23 percent of the pediatricians and 9 percent of the general surgeons.

Several factors contribute to this. Obstetricians receive unusually low Medicaid reimbursement rates and, because of lump-sum payment arrangements, may not be paid until 15 or 18 months after the initial prenatal visit. Medicaid-eligible women often require more intensive care, as noted earlier, which is not reflected in the basic Medicaid fee.

The increased risk of a poor pregnancy outcome among high-risk women, many of whom are covered by Medicaid, creates an additional disincentive to caring for them. Poor outcomes raise the possibility of a malpractice suit. And in obstetrics the threat of such suits has emerged as a serious barrier to expanding prenatal services. A 1983 survey of OB/GYNs revealed that although law suits were evenly divided between obstetrical and gynecological cases, the obstetrical suits involved higher sums of money than the suits derived from gynecological cases. In response to this fact and to the high and increasing malpractice insurance premiums that come as a consequence, OB/GYNs are revising their practices. Seventeen percent of the OB/GYNs surveyed said they had decreased their level of obstetric care to high-risk women; 10 percent have decreased the number of deliveries; and 9 percent no longer practice obstetrics at all. Our group will offer no solutions to the malpractice problem in obstetrics, but we will highlight it clearly because it is unquestionably a major contributer to the problem of access to prenatal services.

The report's discussion of access barriers is not intended, however, to be an exhaustive itemization of all the

care in the first trimester continued to increase, the 1981 and 1982 Advance Reports of natality statistics made no such claims. This may signal an end to a decade of improvement. The 1981 Advance Report also notes that 1981 was the first year since 1969 that there was not an increase in the percentage of black mothers initiating care in the first trimester. This finding is confirmed by small area studies, which strongly suggest a real change in the use of prenatal care by pregnant women. The timing of this change coincides with increased unemployment, reductions in Medicaid eligibility and benefits, and decreases in the number of public prenatal services, and suggests an overall decrease in access to prenatal care, with minorities probably affected the most.

## Reasons for Not Seeking Prenatal Care

We identified six groups of reasons why women may not enroll in prenatal care early or at all:

- Financial constraints,including inadequate insurance or public funds such as Medicaid to purchase adequate prenatal care;
- Inadequate availability of maternity care providers, particularly those willing to serve socially disadvantaged or high-risk women;
- Insufficient prenatal care in some sites that often serve these groups, such as Community Health Centers and hospital outpatient departments;
- Experiences, attitudes and beliefs among the women themselves that make them disinclined to seek prenatal care;
- Transportation and child care problems that are poor or absent; and,
- Inadequate systems to bring in hard-to-reach women.

Let me expand on only a few of these points. It is unquestionable that the availability of funds to pay for prenatal care influences many women's decisions to seek care. Accordingly, our group paid considerable attention to the Medicaid program because it is the largest public program supporting prenatal care. Its cost-effectiveness, its capacity to reduce financial barriers for women seeking care, and data that associate Medicaid enrollment with improved pregnancy outcome make it particularly significant in efforts to reduce low birth weight. One of our preliminary recommendations concerning Medicaid relates to the high-risk status of Medicaid-eligible women. Because these women often require more intensive prenatal supervision than more affluent women, we are likely to recommend that Medicaid not set limits on the number of prenatal visits eligible women may make. Reimbursement rates should reflect the fact that such women

pregnancy (smoking, for example) and patient education on a variety of topics including the early signs of preterm labor. It may well be that the recommended schedule of visits should be revised to accommodate these additional emphases. In particular, clinicians need to be receptive to patient problems and complaints and to the prompt identification and treatment of preterm labor, including possible hospitalization for observation and rest. Educating patients about the risks and symptoms of preterm labor is of limited value if health care providers are not organized to respond to such problems.

Smoking reduction approaches and nutritional intervention also need to be improved and given more prominence in prenatal services. There is evidence to suggest that about one-third of pregnant smokers cease smoking on their own; another third can probably be reached through aggressive intervention, suggesting a major target of opportunity for maternity care providers.

The report will also address some other factors that are closely tied to the content of prenatal services, such as the importance of a caring environment in prenatal clinics, better telephone access of patients to their providers, and both child care and transportation services for women needing such support.

In considering the content of prenatal care, our group was particularly intrigued by the role of stress in pregnancy. Although the data linking stress to specific pregnancy outcomes (such as low birth weight) are quite murky, it is likely that stress reduction in pregnancy will gradually emerge as an important issue in the prenatal period. One stress-reducing approach not often viewed as such is maternity leave prior to childbirth. With regard to maternity p[illegible] the United States, Sheila Kamerman has detailed the [illegible]equacies of maternity protections for working pregnant women who wish to take leaves of absence before or after childbirth. She points out that available arrangements are usually a patchwork of sick leave, disability leave, unused annual leave, and leave without pay, which provide seriously inadequate income and job protection for pregnant women and new mothers who participate in the labor force. Inadequate maternity policies also make it exceedingly difficult for women to stop working in later pregnancy in order to reduce stress-related risk factors and other problems may require bed rest.

Changing prenatal practice patterns will be difficult and will require extensive research. It is apparent even at present, however, that many of the issues important to low birth weight prevention are of relatively low prominence in the practice standards of the American College of Obstetricians and

myriad problems that result in poor use of prenatal services. Our group, like many others, has come to the more fundamental conclusion that problems of access reflect the nation's patchwork, nonsystematic approach to making such services available. Although numerous programs have been developed in past years to extend prenatal care to more women, no institution bears responsibility for assuring that such services are genuinely available in some very fundamental, practical sense. That is, no local, state, or federal entity can be held accountable for inadequate care. Without such responsibility or accountability, it should not be surprising that gaps in care remain and that efforts to expand prenatal services often face enormous organizational and administrative difficulties. Thus, we will make a very strong recommendation about the need for increased human, intellectual, and financial resources at the state and federal levels designed to increase significantly the accessibility of prenatal services. We will also make specific suggestions for changing systems. For example, we will probably urge that in each community a single organization be designated by the state as a "residual guarantor" of prenatal services and provided with sufficient funds to care for pregnant women who remain out of the prenatal care system, even after the best of other efforts. Local health departments could meet this responsibility well. The point here is simply that solving the access problem in earnest is likely to require a far reaching and serious commitment to expanding prenatal services.

## The Content of Prenatal Care

To this point, most of the subjects I have outlined have long been discussed within the field of maternal and child health--risk factors, preventive activities useful prior to pregnancy, and the value of prenatal care. The content of prenatal care, by contrast, has not been so widely addressed. Our findings strongly suggest that the content of care, not only its presence or absence, exerts a major influence on pregnancy outcome. Our report is therefore likely to advocate not only that prenatal care become universally available, but also that its content--its component parts--receive far more scrutiny and, in particular, that care be expanded to meet the needs of high-risk women.

We have developed a number of tentative suggestions for enriching the content of prenatal care. For example, to combat low birth weight, it is likely that a number of adjustments in clinical practice will be required. In addition to concentrating on the detection and prevention of problems that appear in the third trimester, such as toxemia, additional emphases should be placed on first and second trimester issues such as screening and management of behavioral risks in

Gynecologists. Practice standards for these and other providers may need to be revised to increase the "fit" between what we know of low birth weight risks and what the content of prenatal services is.

As noted, high-quality research in the area of prenatal care content is sorely needed. In reality, prenatal care as practiced in this country is an ill-defined entity--we do not know what goes on in most prenatal visits; in particular, we do not know which components of prenatal care make the biggest differences in pregnancy outcome. Accordingly, funding for studies of the content and effects of prenatal services should be a very high priority for foundations and other funding agencies active in the child health area. Research should include descriptive studies of the content of prenatal care, studies of the individual components and their effects, and research on the influence of specified combinations of interventions applied to well-defined populations.

Our group also has done some work in the area of the cost effectiveness of prenatal care. Although it is very difficult to make computations in this area, I think we are going to be able to show that providing prenatal care to a selected cohort of high-risk women (with less than a high school education and on welfare) is cost-effective. We did not explore the cost effectiveness of some of the other interventions due to various limitations in available data.

Our report will conclude with a discussion of the need for an expanded, sophisticated public information campaign about low birth weight prevention. Message areas and target audiences will be explored and a leadership role for the Healthy Mothers/Healthy Babies Coalition advocated. More fundamentally, our group will urge that we all act collectively to raise the issue of low birth weight prevention to a higher position on the national policy agenda. In order to get the resources we need for services and research, we need to bring heightened visibility to the enormous significance of this problem.

## Responses to: PRELIMINARY FINDINGS from the INSTITUTE of MEDICINES COMMISSION on LOW BIRTH WEIGHT

Robert L. Hotchkiss, M.D.

This is an important and timely report, and it concurs with my research and experience in Missouri. Our inability to have a significant impact on low birth weight as a cause of infant mortality is a major frustration. More research and understanding in this area are necessary if we are to further reduce infant mortality rates and address the distressing difference between black and white infant mortality.

The critical importance of health data systems in various jurisdictions has been emphasized. In Missouri, if we had been unable to document the effectiveness of prevention and other public health interventions, resources for them might have disappeared during lean budget times. I specifically recommend that state and local authorities that do not yet have data systems with matched birth-death records develop them. Doing so is an important way to get the information needed to make tough decisions in tight fiscal times.

Smoking has repeatedly been mentioned as a risk factor. The State and Territorial Health Officers Executive Committee has just met and reaffirmed its strong commitment to eliminating smoking in this society by the end of the century. If we can document the total impact of smoking on low birth weight, low birth weight for gestational age, and postneonatal mortality and morbidity, we can probably add a great deal to the arguments for the elimination of smoking.

In Missouri, we have tried to revitalize the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program and are using it as a mechanism to reach eligible young women for counseling and preventive health interventions before they get pregnant.

In many ways, research into such interventions can affect our national policy makers. Policy is increasingly being developed on the basis of factual knowledge. We need to have

specific information to guide policy makers toward correct decisions. The immense cost of malpractice insurance, the confidentiality of peer review for perinatal deaths, and other policy issues need to be addressed as well. Finally, the ratio of funding for acute care and preventive interventions should move in favor of prevention when adequate data are available and have been analyzed. I am particularly concerned, however, that policy makers do not simply redirect a small portion of health expenditures toward prevention. To make a significant difference and to reduce total overall costs over time, we will need additional dollars for care with an increased percentage dedicated to prevention and to basic health research.

# PART II

## WORKSHOPS on INNOVATIVE STATE and LOCAL PROGRAMS

# INTERVENTIONS BEFORE BIRTH

# CALIFORNIA'S OBSTETRICAL ACCESS PILOT PROGRAM

Donald Lyman, M.S.

Eight years ago, child health indicators throughout California varied significantly. MediCal reimbursement rates were not adequate to cover a full range of services; the access to services by the poor was poor at best. In 1979, 20 of 58 counties had no obstetrician or gynecologist (OB/GYN) at all. Furthermore, the proportion of OB/GYNs accepting MediCal patients had dropped from 65% in 1974 to 46% in 1977. It was a bleak picture of access to care for people deemed to have the greatest need.

The California Obstetrical Access Pilot Program was begun as part of the solution to the problem. It operated between 1979 and 1982 and consisted of a series of capitation projects awarded to health departments and qualified primary care providers around the state. They were funded by Medicaid and Title V dollars, which cover low-income groups not eligible for MediCal. Of the 11 projects we awarded, none were to private providers; none wanted them. Some private physicians did, however, serve as subcontractors to primary care providers, including county health departments, and primary care clinics.

The capitation projects had several objectives:

- To improve access to comprehensive obstetrical care in areas where no obstetricians were located or where no obstetricians accepted MediCal;
- To reduce perinatal mortality and morbidity and the number of pregnancies with complications;
- To measure the program's impact and costs;
- To acquire data for future policy decisions.

Enrollment was voluntary, and the program included no strict controls against self-selection. The contractors recruited participants to fill quotas of those eligible for MediCal and for Title V. People who enrolled in the project were required to use a package of prenatal care services, including at least eight prenatal visits for a partial package

and 11 isits for the full package, health education, nutritional assessment, psychosocial assessment, birth education classes, and follow-up, if necessary, to the patient's homes.

The study was not a strictly controlled, double-blind study. Concurrent projects underway, however, provided comparison groups. We also drew comparisons with other MediCal populations in the state. The outcome we measured was low birth weight, because it is a measure of the success of prenatal care. The results were divided between patients who received the full package of services and those who received the partial package.

Did access improve? A total of 6,774 people were involved in this project. Eight-seven percent of the registrants started prenatal care in their first trimester. Eighty-four percent of the total completed the care that was offered. These results are not comparable to other projects.

What were the outcomes? Preliminary data indicate that 95% of all live births were carried to term. From July 1979 through June 1982, the incidence of low birth weight (below 2,500 grams) was about 6% statewide, including multiple births. The following data reflect only single births. For the comparable MediCal population at that time, the rate was 7% under 2,300 grams. For those who received the partial package, the incidence of low birth weight was 6.5%. The overall rate for the participating population was 4.7%. These numbers are statistically significant.

What were the costs and the cost-benefit ratio? The package was expensive. The total full-package cost, including delivery, was estimated at $900, which is what it would have cost according to itemized MediCal billing rates. When compared to the decreased incidence of low birth weight children and the expected costs of hospitalization and other care required, however, the cost-benefit ratio was between 1.7 and 2.6 to 1. Each dollar spent on the project resulted in a projected savings of $1.70 to $2.60 for up to the first 8 weeks of life. The long-term data have not yet been analyzed.

# FLORIDA'S PRETERM RISK ASSESSMENT PROGRAM

Charles Mahan, M.D.

The infant mortality problems in Florida are primarily related to rapid population growth. Two years ago, an estimated 650 new people moved into the state every day. With over 1 million new residents in from Cuba, Haiti, Central America, and Southeast Asia, that rate has increased significantly since then. Our low birth weight problem relates to this growth rather than to problems in our health care system.

In 1982, Florida had 144,500 births. Of them approximately 85,000 were covered by insurance or cash payments, while nearly 60,000 were to medically indigent women, to the very poor, or to women who received no care at all. The state health department is responsible for finding care for these 60,000 low-income women. We believe about half of them had no prenatal care or inadequate prenatal care, that is, two or fewer prenatal visits.

We also have a problem with malpractice insurance. The premium rate is $55,000 a year for obstetricians in south Florida; my rate is $10,000. The patient ultimately pays for this expense. As a result, the number of women who can afford obstetrical care has decreased, while the number considered medically indigent has increased.

## Strategies to Lower Infant Mortality Rates

In 1982, the State Health Officer appointed a task force to recommend a five-year plan to lower infant mortality rates. In retrospect, one of the smartest things we did with the plan was to send copies to private and public sector experts in ambulatory prenatal and infant care for their comments. We listed the names of these consultants in the document, which gave it credibility when the recommendations were considered. The first five recommendations were:

- To reduce the number of low birth weight babies;

- To reduce the number of teenage pregnancies;
- To improve access to prenatal care;
- To adequately finance this care;
- To ensure the availability of sterilization for those who want it.

## Strategies to Reduce Low Birth Weight Babies

By far the biggest problem was the number of low birth weight infants being born. For 10 years, we have had an excellent perinatal care program in Florida to care for infants and mothers. But the bill for this program has risen to $28 million a year with no end in sight. Legislators have become concerned about the "black hole" they created and have begun to look at preventive strategies, which they realize they should have instituted a decade ago.

In some areas of the state women were getting good prenatal care; however, in most areas it was a hodge podge of services, and in many areas no services were available. We had to act quickly. We elected to try the Preterm Labor Staff Development model used by Dr. Robert Creasy and M.A. Herron in San Francisco. This program trains obstetricians, nurses, and pregnant women to identify the risks and early warning signs of preterm labor in time for labor-inhibiting drugs to be administered. It is based on the work of Dr. Emile Papiernik-Berkhauer in Paris, where he was successful in reducing the number of preterm births from 10% to 3% in 10 years. While this model still has some problems, we believe that even in the worst case, in 5 years Floridians will have better care than when it started. Our goal is to cut the rate of low birth weight babies in half by 1988. The March of Dimes is studying demonstrations of this model in five cities across the United States. We should have a large amount of information about it in the next 5 years.

## Provider Education

First, we held a training program for leaders in public health nursing, nutrition, and perinatal care so they in turn could give local seminars. Last fall we held seminars in each of the state's 11 health districts. The staff development model was distributed to all of the nurses, physicians, and nutritionists who attended. Each program was tailored to its local area and problems. The only common threads were the materials and my introduction at each seminar. Over a period of 2 months, we trained approximately 1,500 health professionals. All of the hospitals, perinatal care centers,

and counties were represented.

Getting information to private doctors has been a significant and ongoing problem. We need to educate more doctors about this program in case a patient begins preterm labor and requires tocolytic agents. We have addressed this issue at state medical association meetings and through association journals. Although some private physicians have expressed interest in the project, the general level of interest among them has been low.

## Patient Education

Patient education is an essential part of this strategy, and it was lacking or absent in most areas. Many providers had to be convinced of its importance.

We have developed an identification card for high-risk and other patients that has been one of the most popular parts of the program. It lists the danger signals for preterm birth and provides general information about lab work and patient visits. It is particularly helpful in areas where people are being seen only in outlying clinics and might not have a chart available when they reach the hospital.

We are currently finishing a media campaign to get women in for care earlier in their pregnancies. On average, low-income women in Florida do not seek care until their twenty-second week. If our media strategy is successful, however, we risk flooding our already overloaded system.

We are also targeting high-risk women for family planning counseling after a pregnancy to ensure they do not become pregnant again for 2 years if they do not want to.

## Increased Access to Care

In addition to earlier prenatal care, we are increasing the number of home visits, especially to high-risk women. We are using the Women, Infants, and Children (WIC) program in each county and funding from the state's Improved Pregnancy Outcomes (IPO) program for this effort.

One of the biggest challenges is to perform pelvic examinations frequently on high-risk women. It means a weekly

examination of the cervix for symptoms of premature labor after the twenty-second week of pregnancy, but it is particularly hard to implement in areas where numbers of doctors, nurse practitioners, or nurse-midwives are inadequate.

## Legislative Activities

We have just established a chapter of the National Coalition for Healthy Mothers and Healthy Babies to serve as our legislative lobbying arm to raise more money for the program. We are also revitalizing our state professional perinatal group to contribute the scientific research and information we need.

Some of our legislators are skeptical about the benefits and costs of such preventive programs. We have developed some interesting cost figures. We have compared the cost of prenatal and postpartum care to the costs per year of intensive care, long-term institutional care, and special education. We can show that if $10 million is invested in our program, we can save $22 million in those other costs. We believe this is a conservative estimate.

We have attacked the problem of low birth weight using state funds and the three federal programs that have been the backbone of these efforts in the past. Now it is critical to gain attention and support from the private sector.

## Conclusions

The value of the Preterm Risk Assessment Program is that it gives all patients preterm birth education, it encourages frequent check-ups for high-risk patients, and it allows low-risk patients to get improved care. It also changes the way we have provided prenatal care. Instead of a system where every patient is seen monthly or when a problem arises, care is directed according to patients' need. Continuity of care is a key factor. Although it may be hard to coordinate, we are aiming for patients to be seen by the same doctors and nurses throughout the program, which should also reduce the risks of malpractice.

# PRECONCEPTIONAL HEALTH PROMOTION: IMPROVING PERINATAL OUTCOMES

Merry-K. Moos, F.N.P., M.P.H.

The practice of obstetrics is not typically focused on primary prevention. Rather, it is a program of surveillance to quickly identify problems and to intervene at the earliest possible opportunity, thus avoiding endangering either the fetus or the mother. Primary prevention is a new area of obstetrics and is the principal focus of our Preconceptional Health Promotion Projects.[1]

## Scope of the Problem

In North Carolina, approximately 20% of all conceptions result in spontaneous abortion. The fetal death rate is 11 per 1,000; the neonatal death rate is 10.4 per 1,000. Eight percent of all infants in North Carolina are delivered preterm. North Carolina's rate is higher than many states' and, as is true for most of the nation, has not changed significantly in the last 30 years. Approximately 3% of our infants have a congenital anomaly that can be diagnosed at birth; 6% have a congenital anomaly that can be diagnosed by the time they are 1 year old. These incidences, which mirror those of the nation, have not changed since the turn of the century.

The number of congenital anomalies may be rising may be the result of more toxins in the workplace, increasing maternal age, more women smoking, and more alcohol abuse. In the United States, 2.25 million women are alcoholics, and 3 million teenagers are problem drinkers. Medical advances are also contributing to increasing rates of congenital anomalies. Women with previously life-threatening conditions, such as diabetes, PKU, and epilepsy, are now living to experience

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These projects are supported by the North Carolina Council on Developmental Disabilities and the funds it receives through Public Law 98-527, the Developmental Disabilities Act of 1984 and by a grant from the Public Health Service, Office of Family Planning.

pregnancy. However, because of their medical histories, their offspring have an increased risk of congenital anomalies and/or mental retardation. Thus, despite significant improvements in perinatal death rates in recent decades, reproductive casualties in the form of spontaneous abortions, stillbirths, neonatal deaths, prematurity and congenital defects persist.

## Importance of Early Care

Three factors are important determinants in pregnancy outcomes:

- Intrinsic factors of the fetus, such as genetic and chromosomal characteristics;
- Fetal environment, that is, what the mother provides to the fetus as it develops; and
- Adequate prenatal care.

Our Preconceptional Health Promotion Projects, which address each of these determinants, are primarly directed toward the events preceding and involving the early weeks of the first trimester. Because the period of greatest environmental sensitivity for the developing fetus is between days 17 and 56 following conception, outcomes for many pregnancies are determined before the gravid woman enters prenatal care. Indeed, a majority of women do not have their pregnancies diagnosed until the critical weeks of fetal development are well underway or complete. During this period, cell organization, differentiation and organogenesis take place; any insult, whether nutritional, drug related, physiologic or viral, can jeopardize fetal development.

Our program attempts to identify and address potential problems before conception. We have developed our program for nonpregnant women and are presently using it in many family planning clinics. Family planning services are a locus of primary health care for many women in their childbearing years. We hope our program will aid family planning services to view themselves as an important component in the entire reproductive health care continuum, thereby expanding their focus and image beyond contraception.

The key components of preconceptional care include:

- Identification of women at risk;
- Education regarding any and all potential problem areas; and
- The availability of medical consultation.

## Identifying Risks

In identifying the pregravid woman who is at potential risk for a poor perinatal outcome. we assess environmental factors that would affect a fetus, including the woman's medical and reproductive history. We have developed a preconceptional health appraisal form (see Attachment A) to do this. Women are given the appraisal when they visit family planning centers and fill it out in the waiting room. We ask specific questions about family history, social history, medical history, reproductive history, drug use, and nutrition history. In addition to obtaining a history, the objective is to identify potential problem areas for the patient and to recommend actions she can take to ameliorate the risk or to gain further information. We aim to give patients enough information so that they can make informed decisions about future childbearing.

We use a questionnaire format reproduced on NCR paper. The first pages list potential risk areas, grouped under the headings listed above. Patients place "X" marks next to any items that apply to them. The marks are transferred onto a third sheet, which provides one to two sentence suggestions of actions women might take to reduce or to learn more about a potential risk. The first page, with the potential risks and the "X" marks, is filed in the patient's record. The second part is used to help us monitor our field-testing process. The third sheet is given to the patient to serve as a reminder of actions she might take around the time of conception to maximize her opportunity for a healthy outcome. The health appraisal is now being field-tested in four local health departments. Patient and staff response has been overwhelmingly positive. It takes 7 to 8 minutes to complete the form. Patients share information from the completed appraisals with each other in the waiting room. These observations have been borne out in the actual implementation of the appraisal. Preliminary data suggest an average of seven potential problem areas per woman.

All patients who complete an appraisal meet with a health care professional before the conclusion of the clinic visit to review their responses. This gives patients an opportunity to have any questions answered and recommended actions explained and explored. Many sources of additional information are available for patients, including health department personnel, the state genetic counseling program, our preconception clinic, and personal physicians.

Health department staffs have been given considerable freedom in implementing the program. The only requirements for

the health departments are that every patient have an exit interview and that a balanced cross-section of patients be maintained. I have presented our Preconceptional Health Promotion Project to 10 health departments, and all 10 have chosen to participate. The Family Planning Branch of the State of North Carolina is interested in extending the program statewide and has recently been awarded a grant that will allow me, through a subcontract, to hire a full-time assistant. This person will develop a staff educational program around preconceptional health for the other 90 health departments in the state.

## Education

Our second Preconceptional Health Promotion Project focuses on education. Its goal is to determine the mode of educational reinforcement that will result in the greatest level of cognitive change among patients. I do not believe we are going to change patients' eating, drinking, or smoking behavior until they understand why such a change would be significant. Therefore, we are looking at cognitive, not behavioral, change. We will not begin to measure outcomes until the tools we have developed are in place and have been adequately field-tested, and until we believe they are effective and acceptable to patients.

We developed preconceptional educational modules concerning alcohol, tobacco, nutrition, and drugs and chemicals. These topics were chosen because they relate to individual health behaviors. Each module includes a pretest, a posttest, an educational pamphlet, an active learning tool, a learning contract, and a resource manual for health professionals. All of the pamphlets are entitled "Looking Ahead" and begin with the following statement: "You may not be planning a pregnancy now, but someday perhaps you will." We want to keep patients' interest even though they may not yet be actively planning pregnancy. The pamphlets have been designed at the eighth grade level.

Six health departments have agreed to participate in testing these modules. In two health departments, every patient will be given individual instruction and a pamphlet about one of the four topics. In two other health departments, the patients will receive individual instruction, the pamphlet, and a learning contract (see Attachment B). The learning contract provides the patient with a tool to reinforce her commitment to take specific actions, such as discussing risk factors and preventive behaviors with her friends, husband, mother, or boyfriend. In the two final departments, the patient will get individual instruction, the pamphlet, and an

active learning tool (see Attachment C). On one side of the active learning tool are learning situations for the patient to think about, and on the other are suggested answers that build on the information provided in the pamphlet. In each instance, the patient is tested before receiving the material and then tested again at the next visit.

This design should help us understand what kind of educational reinforcement results in the greatest cognitive change. If we do not see a change in cognition with any of these approaches, I would suggest the written materials we typically rely on for health education are likely to be wasted efforts. Written materials are not expensive and they are not staff-intensive, but they also may not be effective.

## Medical Counseling

The third part of our program is medical consultation. The University of North Carolina's Division of Maternal-Fetal Medicine in the Department of Obstetrics and Gynecology provides a preconceptional clinic at North Carolina Memorial Hospital. This clinic offers medical consultation to any woman desiring additional information about how her preconceptional health status or reproductive history might affect a future pregnancy. We are particularly eager to provide preconceptional access to obstetrical services for women with conditions such as diabetes, epilepsy, and PKU, because alterations in therapy to conception may well change perinatal outcomes.

## Conslusion

These approaches are not novel. The idea of health appraisals and individualized education has been used previously, most notably related to cardiac risk. Our approach is novel because we are trying to improve perinatal outcomes by helping women better prepare for conception. We hope that this approach will result in women's being more deliberate in their decisions to stop contraception, more motivated to start early prenatal care, and more aware of actions they can take to maximize their opportunity for a healthy, happy, and successful pregnancy.

ATTACHMENT A

IMPRINT OR OTHER IDENTIFYING DATA

## PRECONCEPTIONAL HEALTH APPRAISAL

DATE _____

Place an "X" mark next to any item that is true for you.

I. **FAMILY HISTORY: Does anyone in your family have:**

___ High Blood Pressure
___ Diabetes ("Sugar" Diabetes)
___ Hemophilia ("Free Bleeders")
___ Jewish Background (Tay Sachs Disease)
___ Sickle Cell Disease or Trait
___ Birth Defects
___ Mental Retardation
___ Spinal Defects

II. **SOCIAL HISTORY: Do you:**

___ Have questions about children whose mother and father are blood relatives
___ Smoke cigarettes
___ Drink beer, wine or hard liquor
___ Work with lead or chemicals
___ Use lead or chemicals in hobbies or at home (such as oven cleaners, paint strippers, pesticides, ceramics)
___ Own a cat

**Are You:**

___ Age 18 or less
___ Age 34 or greater

III. **NUTRITION: Do you:**

___ Eat less than three meals some days
___ Practice vegetarianism (eat few or no meats)
___ Practice fasting (avoid eating for 24 hours or longer)
___ Eat laundry starch, clay or dirt on occasion
___ Vomit more than once a month
___ Take or plan to take birth control pills
___ Eat a special diet

Appraisal development supported by a grant from the Public Health Service, Office of Family Planning

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*INITIALS* _____



IV. **MEDICAL HISTORY: Do you now or have you ever had:**

___ Genital Herpes
___ Gonorrhea
___ Syphilis
___ Epilepsy (seizures or spells)
___ Diabetes ("Sugar" Diabetes)
___ High Blood Pressure
___ Heart Disease
___ Other (such as PKU, Kidney Disease, Venereal Warts)

V. **REPRODUCTIVE HISTORY: Have you had any of the following:**

___ History of "female" surgery (ovaries, tubes, uterus, cervix)
___ History of an abnormal uterus or cervix
___ History of your mother receiving DES (a drug to stop miscarriages) when she was pregnant with you
___ Two or more abortions after 14 weeks of pregnancy
___ Three or more miscarriages
___ Five or more pregnancies
___ Less than 12 months since last birth
___ One or more infants weighing more than 9 pounds at birth
___ One or more infants weighing 5½ pounds or less at birth
___ One or more fetal deaths (stillborn)
___ One or more neonatal deaths (baby died before one month old)
___ One or more infants with a birth defect
___ One or more infants requiring a stay in an intensive care nursery
___ History of vaginal bleeding late in pregnancy

VI. **DRUG HISTORY: Do you ever use:**

Prescription Drugs
___ Drugs that do not need a prescription
Street Drugs
Vitamins
Birth Control Pills

VII. **FOR YOUR DOCTOR OR NURSE**

No history of rubella or immunization
Weight greater than 120% of ideal for height
Weight less than 85% of ideal for height
Hct less than 36% or Hgb less than 12 gms

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Attachment B

# PRECONCEPTIONAL LEARNING CONTRACT

ALTHOUGH I AM NOT NOW PLANNING TO BECOME PREGNANT, I WANT TO LEARN MORE ABOUT HOW _____ COULD AFFECT A FUTURE PREGNANCY.
(area of interest)

ONE WAY I WILL DO THIS IS BY READING THE PAMPHLET _____ (title of pamphlet) _____ DURING THE NEXT _____ (period of time).

ANOTHER WAY I WILL DO THIS IS BY _____

_____

_____
SIGNATURE

_____
DATE

Attachment C

NAME_____ DATE_____

LOOKING AHEAD . . . SMOKING

Read the pamphlet on Smoking and then try to answer each of the questions (Q) below. On the back of the sheet are sample answers (A) written for each question. Try to answer the questions on your own before looking at the sample answers.

Q 1. Your niece finds out she is pregnant. She is very nervous and says she has to smoke to calm her nerves.
YOU MIGHT TELL HER . . .

Q 2. Your sister is pregnant and smokes a pack a day. She is worried because she had to be put in the hospital in her last pregnancy for bleeding problems.
YOU MIGHT TELL HER . . .

Q 3. A good friend who smokes a pack of cigarettes a day discovers she is pregnant. Her last baby was born small and had to stay in the hospital a long time.
YOU MIGHT TELL HER . . .

Q 4. The woman down the road is pregnant. You talk to her one day about how smoking can harm an unborn baby. She tells you she smoked during her other three pregnancies and all three of her kids are fine.
YOU MIGHT TELL HER . . .

Q 5. Your cousin is seven months pregnant. She is worried that her smoking may have already harmed the baby and tells you it is too late for her to stop now.
YOU MIGHT TELL HER . . .

Q 6. A neighbor quit smoking during the first six months of her pregnancy. Now she has started again.
YOU MIGHT TELL HER . . .

Q 7. Your best friend is pregnant and smokes two packs a day. She has tried to stop before but could not.
YOU MIGHT TELL HER . . .

Q 8. Your cousin is thinking about having a baby and wants to do everything she can to help it be healthy.
YOU MIGHT TELL HER . . .

LOOKING AHEAD . . . SMOKING

A 1. Smoking in pregnancy can cause problems for the mother and the baby. A pregnant woman might go for a walk, talk to a friend or take a bath to help her relax.

A 2. Bleeding problems are more common for women who smoke. The safest choice is to stop cigarettes. If stopping is not possible, cutting down to less than ten cigarettes a day will help.

A 3. Women who smoke have smaller babies and small babies have more problems. The safest choice is to stop cigarettes. If stopping is not possible, cutting down to less than ten cigarettes a day will help.

A 4. Cigarettes can affect each pregnancy differently. An unborn baby is not safe because its mother smoked without problems in other pregnancies.

A 5. It is never too late in pregnancy to stop smoking. Stopping cigarettes will keep problems for the mother and baby from getting worse.

A 6. The baby is growing fastest in the last months of pregnancy. Smoking during this time can keep it from reaching its healthiest size.

A 7. Some women cannot stop all cigarettes. They can still help themselves to have a healthy baby by smoking as few cigarettes as possible.

A 8. Cigarette smoking can cause many problems for the pregnant woman and her unborn baby. The safest choice is to stop all cigarettes at the same time you stop using birth control.

Attachment C

NAME_____ DATE_____

LOOKING AHEAD . . . DRUGS AND CHEMICALS

Read the pamphlet on Drugs and Chemicals and then try to answer each of the questions (Q) below. On the back of the sheet are sample answers (A) written for each question. Try to answer the questions on your own before looking at the sample answers.

Q. 1. Your sister is two months pregnant and has a bad cold. She is taking large doses of a cold medicine she got last year.
YOU MIGHT TELL HER . . .

Q. 2. Your niece has been taking medicine for "spells" ever since she was a child. She tells you that she has stopped taking it now because she wants to get pregnant. She has heard that drugs may be harmful to her baby.
YOU MIGHT TELL HER . . .

Q. 3. Your best friend has just told you that she is pregnant. She wants to celebrate by smoking some marijuana (grass, pot).
YOU MIGHT TELL HER . . .

Q. 4. Your co-worker at the factory never wears her mask or gloves when mixing chemicals. She says that it is too hot. She tells you that she will start wearing them once she knows she is pregnant.
YOU MIGHT TELL HER . . .

Q. 5. Your neighbor is three months pregnant and stops by to ask if she can use your bug spray for her garden. She says that the insects are eating all of her tomatoes.
YOU MIGHT TELL HER . . .

Q. 6. The woman down the street is hoping to become pregnant. She cleans her oven every week and sprays her house for bugs once a month.
YOU MIGHT TELL HER . . .

Q. 7. Your sister-in-law is using the birth control pill. She is thinking about getting pregnant.
YOU MIGHT TELL HER . . .

Q. 8. Your best friend is thinking about having a baby and wants to do everything she can to help it be healthy.
YOU MIGHT TELL HER . . .

LOOKING AHEAD . . . DRUGS AND CHEMICALS

A. 1. When a pregnant woman takes a drug, her unborn baby takes the drug too. Drugs or medicines can harm an unborn baby even before a woman knows she is pregnant. The best way to get rid of a cold is to get plenty of rest and drink lots of liquids. If your sister does not feel better in three days, she should talk to her doctor or nurse.

A. 2. Drugs can cause problems in pregnancy but so can some illnesses. A woman who takes prescription medicines should talk to her doctor about drugs and pregnancy before she stops her method of birth control. A doctor will help her find the safest treatment for her and her future children.

A. 3. Marijuana and other street drugs, even early in pregnancy, can keep an unborn baby from growing healthy and strong. Can you think of other ways to help your friend celebrate?

A. 4. Chemicals can harm a baby even before a woman knows that she is pregnant. Using gloves and a mask when around chemicals are good ways for a woman to protect herself and her unborn baby.

A. 5. The amount of a chemical that will harm a baby is not known. Your neighbor should try to avoid chemicals, like bug sprays, during pregnancy. You might try to offer to spray the garden for her or suggest that she find someone else to help.

A. 6. All women use chemicals every day . . . at home, at work, and at play. A woman cannot avoid all chemicals. She can still help herself and her unborn baby by using as few as possible.

A. 7. Birth control pills can change the way your body uses some foods. The safest choice is to stop the pill and use another method of birth control for at least three months before trying to become pregnant.

A. 8. The amount of a chemical or drug that will harm an unborn baby is unknown. If a woman is not using a method of birth control, she should talk to a doctor or nurse before taking any medicines. She should also be as careful as she can about using chemicals. These two steps will help her have a strong and healthy baby.

Attachment C

NAMES_____ DATE_____

## LOOKING AHEAD . . . NUTRITION

Read the pamphlet on Nutrition and then try to answer each of the questions (Q) below. On the back of the sheet are sample answers (A) written for each question. Try to answer the questions on your own before looking at the sample answers.

Q 1. Your neighbor is very thin and always seems to be on a "new diet". She tells you she wants to get pregnant.
YOU MIGHT TELL HER . . .

Q 2. Your friend at work is trying to get pregnant. She says she doesn't have time for breakfast so she takes two multivitamin pills, a Vitamin C pill and an iron pill.
YOU MIGHT TELL HER . . .

Q 3. Your niece stopped eating meat three years ago. She tells you she wants to get pregnant but doesn't know if the baby will be healthy.
YOU MIGHT TELL HER . . .

Q 4. Your best friend has been on a special diet since childhood. She tells you she is thinking about getting pregnant.
YOU MIGHT TELL HER . . .

Q 5. Your sister is now two months pregnant and tells you she has a taste for clay from the riverbed. She ate clay even before she got pregnant.
YOU MIGHT TELL HER . . .

Q 6. Your sister-in-law is using the birth control pill. She is thinking about getting pregnant.
YOU MIGHT TELL HER . . .

Q 7. The woman down the road is overweight. She wants to get pregnant soon, but she also wants to lose some weight. She has tried many crash diets. Today she shows you her new diet pills.
YOU MIGHT TELL HER . . .

Q 8. Your best friend is thinking about having a baby and wants to do everything she can to help it be healthy.
YOU MIGHT TELL HER . . .

LOOKING AHEAD . . . NUTRITION

A 1. Women who are too thin may have more problems in pregnancy and their babies may not grow well. The safest plan is to reach your best weight before stopping your method of birth control.

A 2. Vitamin pills should not take the place of three meals a day because too many vitamin pills, even before pregnancy, can harm a woman and her unborn baby. Ideas for a quick breakfast are cheese or peanut butter on toast.

A 3. Babies need protein to grow. A woman who doesn't eat much meat can get enough protein by eating certain foods at the same time. Extra milk, milk foods, and eggs can also help. Talking to a nutritionist will help a woman learn how to combine foods so that she can get all of the kinds of nutrients she and a growing baby need.

A 4. Special diets may need some changes around the time of pregnancy so that both the mother and growing baby get all of the kinds of foods they need. Women on special diets should talk to a doctor about their plans for a pregnancy before they stop their method of birth control.

A 5. Eating clay or dirt or starch can keep a woman and growing baby from getting the foods they both need. A nutritionist, nurse, or doctor can help a woman with special tastes get all of the different kinds of foods she and a growing baby need.

A 6. Birth control pills can change the way your body uses some foods. The safest choice is to stop the pill and use another method of birth control for at least three months before trying to get pregnant. During this time, a woman should eat extra foods with Vitamin C (like oranges and tomatoes), Folic Acid (like dried beans and leafy green vegetables), Vitamin $B_6$ (like meat and peanuts), and Zinc (like liver and blackeyed peas).

A 7. Crash diets and diet pills are never safe ways to lose weight. They can cause problems for a woman and her future children. A nutritionist or nurse can help a woman find healthy ways to lose weight before she gets pregnant.

A 8. An unborn baby gets all of the foods it needs to grow healthy and strong from its mother. Problems for the baby can start even before a woman knows she is pregnant. The safest choice is for a woman to eat a "balanced" diet both before and during pregnancy, so that she and her baby can be as healthy as possible.

Attachment C

NAME_____ DATE_____

LOOKING AHEAD . . . ALCOHOL

Read the pamphlet on Alcohol and then try to answer each of the questions (Q) below. On the back of the sheet are sample answers (A) written for each question. Try to answer the questions on your own before looking at the sample answers.

Q 1. A good friend of yours discovers she is pregnant. She wants to celebrate the news with a six-pack of beer.
YOU MIGHT TELL HER . . .

Q 2. A co-worker is pregnant. She likes to party on weekends and loves cocktails. She doesn't drink during the week so she thinks her baby will be safe.
YOU MIGHT TELL HER . . .

Q 3. The woman down the road is very pregnant. You talk to her one day about how alcohol can harm an unborn baby. She tells you that she drank during her other three pregnancies and all three of her kids are fine.
YOU MIGHT TELL HER . . .

Q 4. Your neighbor's daughter is pregnant. At a party, you see her drinking beer. You ask her if she knows that alcohol can damage an unborn baby. She laughs and says only hard liquor can do that.
YOU MIGHT TELL HER . . .

Q 5. Your neighbor is pregnant. She drinks a "few beers" every evening after her two kids are in bed. She says the beers help her to relax.
YOU MIGHT TELL HER . . .

Q 6. Your niece finds out she's pregnant but doesn't want to be. She begins to drink to help forget her troubles. She'd like to talk with someone but doesn't know where to turn.
YOU MIGHT TELL HER . . .

Q 7. Your cousin is seven months pregnant. She is worried that her drinking may have already harmed the baby and tells you it's too late for her to stop now.
YOU MIGHT TELL HER . . .

Q 8. Your sister is thinking about having a baby and wants to do everything she can to help it be healthy.
YOU MIGHT TELL HER . . .

LOOKING AHEAD . . . ALCOHOL

A 1. Early pregnancy is a very important time for the baby. Drinking alcohol during this important time could cause serious birth defects. Can you think of other ways to help your friend celebrate?

A 2. Drinking only on weekends will not protect an unborn baby. Several drinks at any time during pregnancy can cause problems.

A 3. Alcohol can affect each pregnancy differently. An unborn baby is not safe because its mother drank without problems in other pregnancies.

A 4. Beer and wine are NOT safer than hard liquor. A can of beer, a glass of wine, and a regular mixed drink all contain about the same amount of "pure alcohol". All of these can harm an unborn baby.

A 5. Many people relax by having a drink. But there are other ways to relax. A pregnant woman can try taking a bath, a walk, or a nap. Maybe talking with a friend or watching TV would help. Can you think of other ways to help your neighbor relax?

A 6. Sometimes people drink because they are unhappy or they drink too much but do not know it. Often these people need someone to talk to so that they can find new ways to look at their problems. Churches, family service agencies, mental health programs, and health departments are all good places to find someone willing to listen and offer help.

A 7. It is never too late to stop drinking in pregnancy. Problems caused by alcohol in early pregnancy will not go away if a woman stops drinking. But once a woman stops, the problems will not get worse and new problems will not begin.

A 8. Alcohol use during pregnancy can cause birth defects, mental retardation and learning and behavior problems for a baby. These problems can begin even before a woman knows she is pregnant. The safest choice is to stop drinking alcohol at the same time you stop using birth control.

# TEENAGE PREGNANCY: A PROBLEM WORTH DEALING WITH

Dee Breeden, M.D.

I want to emphasize three central themes today: the first is prevention; the second is understanding adolescent behavior so we can better focus interventions on it; and the third is acknowledging that interventions after conception are too late.

Both the Carter Center and Institute of Medicine address many issues of prevention. I want to reiterate the developmental issues facing adolescents today. They have to think about making a living, developing an ethical code of their own, developing a sexual identity of their own, and learning to accept their parents as people. All of these issues turn adolescents into adults. It is normal for them to take risks; that's how they learn. It is our responsibility to teach them how to take risks without dire consequences.

Many are concerned about adolescent pregnancy and its ensuing problems, yet a national focus on prevention has yet to be developed. We as health care providers know how to manage a pregnancy, but most of us know little about normal adolescent development and survival needs. We do not focus on understanding our young people's motives; it is not so much what they do, but why they must do it. Understanding the developmental tasks of adolescence will help us understand much of the behavior that has us so worried. If we focus on these issues and on prevention, adolescents may have fewer problems in the future.

## Scope of the Problem

In 1981, South Carolina spent over $13 million in public funds on first live births to teens. That sum amounted to $5,350 per teen mother and her baby. If we add to that amount AFDC and food stamps for the next 10 years, we will spend $36,853 for each of these babies born in 1981. And 1981 was not unusual; the costs over accumulated years will be enormous.

## PUBLIC SECTOR COST OF TEEN LIVE BIRTHS, SOUTH CAROLINA —1981

| | |
|---|---|
| ESTIMATED PUBLIC SECTOR COST OF FIRST LIVE BIRTHS TO TEENS (UNDER 20 YEARS) IN SOUTH CAROLINA IN 1981 (medical & welfare benefits) | $13,147,030 ($5,350.00 per teen mother/first baby) |
| ADD AFDC AND FOOD STAMPS FOR 10 YEARS TO ABOVE | $90,585,378 ($36,853.00 per teen first live birth in 1981) |

The Division of Family Planning and the Office of Public Health Education of the South Carolina Department of Health and Environmental Control issued a report in October 1983 called "Teenage Pregnancy in South Carolina: Everybody's Problem." It includes a review of the literature, statistics, descriptions of interventions, and recommendations. It is both a worthy source of information and a model project for other states.

### Improved Child Health Program

In 1978, the Pee Dee Health District, comprised of 3 counties and 120,000 people, received an Improved Child Health Project grant of $300,000 a year for 4 years to reduce infant mortality. The grant provided for increased nursing, social work, health education, nutrition, clerical, and clinical services. We offered continuing education in perinatal health for doctors, other health professionals, and the community. We loaned cribs, infant seats, high chairs, and sterilizers to mothers. We organized outreach efforts to get pregnant women in for early care. But we found that if we wait until they are pregnant, it is too late. We also conducted a study of nutrition to quantify pregnant women's protein intake to see whether we could predict poor pregnancy outcomes. At the end of 4 exhilarating years, we could show no effects on low birth weight or pregnancy outcome, nor could we identify high-risk pregnancies based on our nutrition research. We did not meet the goal of a lower infant mortality set in our grant. Infant mortality declined, only to increase near the end of the project, which was very disappointing. Perhaps we did not know

how or what to measure, or perhaps we did not allow enough time for results to show. I was left to believe that more of the same interventions would not solve the problem; we needed new approaches.

In our final report to the federal government, I wrote that if I could do it over again, I would set up the best school-based health education program in the country. Medical and public health interventions to reduce infant mortality have brought us to where we are today. We have made great advances with technology, but now technology will solve fewer and fewer of the remaining problems. Our focus should be prevention.

## Reproductive Health Education for Teens, Teachers, and Adults (RHETTA)

During our Improved Child Health Project, we initiated a reproductive health education course for ninth graders in one county. Because most of the increase in teen pregnancy occurred in the tenth grade, the community was receptive to our trying interventions just before pregnancy occurred. We have since expanded the program to the seventh and eighth grades and from one to four counties, encompassing six school districts. We have directly reached more than 7,000 young people and indirectly reached another 8,000 through the 126 teachers we have trained. In addition, we have generated excitement among school boards, school administrators, and students in these communities.

Incidently, although school administrators and teachers have been wary about teaching sex education in the schools, about 97% of the area's parents have signed letters permitting their children to participate in these classes. I strongly believe that teachers and administrators are reacting to a small but vocal minority who oppose school-based sex education.

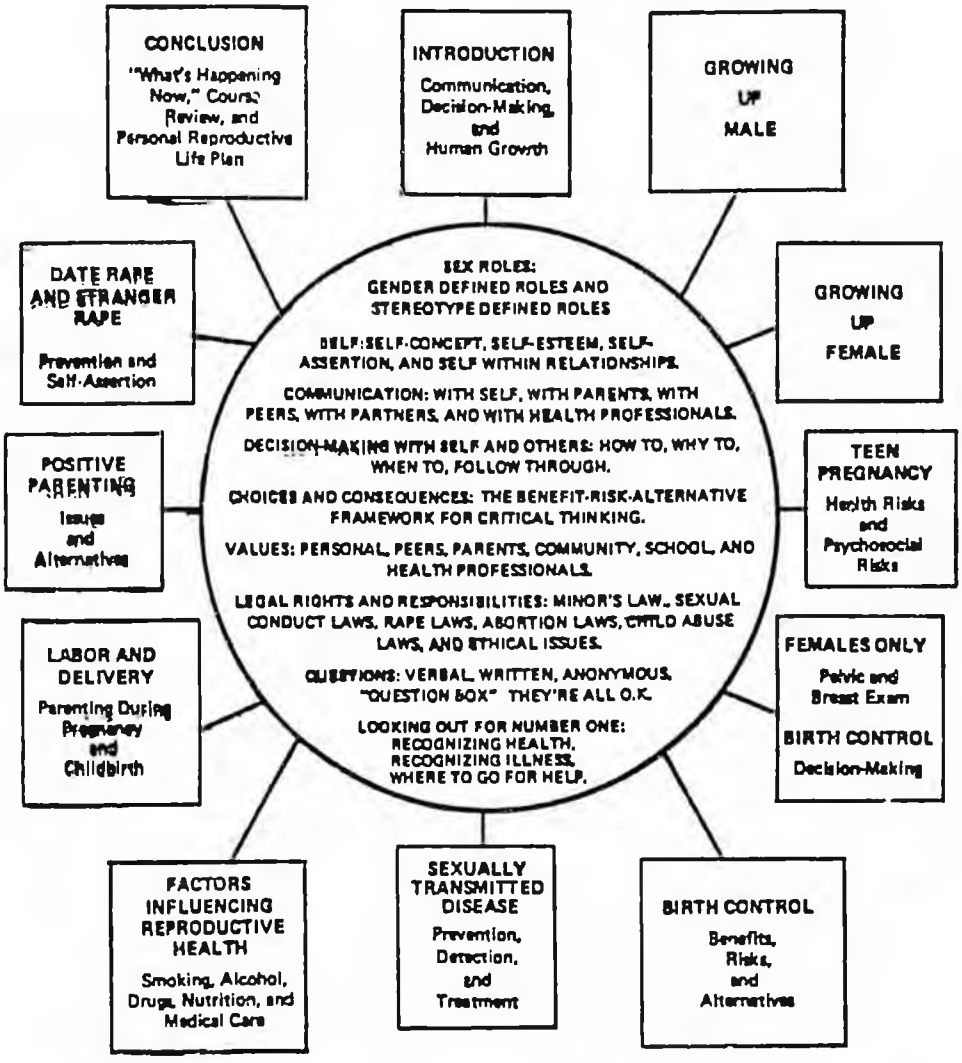
Two public health educators, or teachers we trained, have offered 15 2-hour units of comprehensive reproductive health education over a 2-year period to eighth and ninth graders. We call the program RHETTA for Reproductive Health Education for Teens, Teachers, and Adults.

Our comprehensive curriculum is geared toward the developmental level of adolescents and includes segments on communication, decision making, growing up male and female, teen pregnancy, pelvic and breast exams, birth control, sexually transmitted diseases, risk factors influencing reproductive health, labor and delivery, teen parenting,

pregnancy alternatives, health laws, date rape, and stranger rape. It could be called an adolescent survival course.

# Reproductive Health Education Series

## CURRICULUM GUIDE II

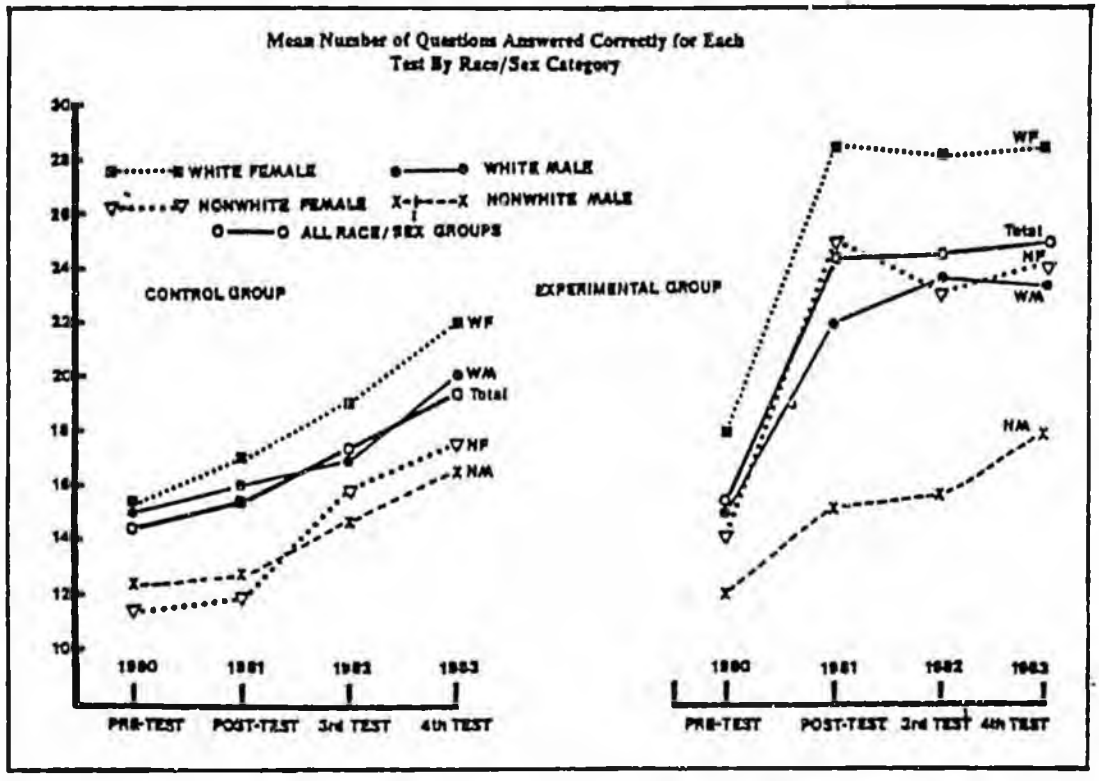



S. C. DHEC PEE DEE II – SWAT TEAM PUBLIC HEALTH EDUCATION PROGRAM

## Evaluation of RHETTAs Impact

An experimental group and a control group were tested over a 3-year period to see whether students could learn the material and retain the knowledge. The 155 students in the experimental group showed an increase in knowledge at the time of the post-test and maintained this knowledge for the following 2 years. The 98 students in the control group showed a gradual increase in knowledge over the period, but it was less than for the experimental group. Both groups in the pretest answered about 15 of the 38 questions. Upon entry to the teacher training, teachers scored about 30 out of 38, which indicates the difficulty of the test.

Nonwhite female students in the experimental group showed the greatest percentage of increased knowledge, while white females attained the highest scores. A striking result was that the nonwhite males showed little improvement after taking the course; they had virtually the same scores as their counterparts in the control group.



Outcomes related to changes in behavior are always difficult to demonstrate, but we tried. We compared enrollment in family planning clinics of 14- to 17-year-olds in Darlington County, where we did most of our work, to those in eight surrounding counties and to the state as a whole between 1978 and 1984. Darlington County experienced a 138% increase in enrollment, compared to 22% for the eight other counties and 13.9% statewide. In 1981, we reached about 18% of the 14- to 17-year-olds in Darlington County, in 1982 between 40 and 42%, and by 1983, about 60% of this group. When the 1984 data become available, we will have reached about 90%. Pregnancy rates for this age group in Darlington County have gradually decreased. The strongest statement I want to make is that we clearly did not cause an increase in teenage pregnancy, the great unfounded fear of opponents to school-based sex education.

## Understanding Adolescent Sexual Behavior

In 1982, we conducted confidential interviews with 297 high school females in Darlington County to collect information about adolescent sexual behavior. It was not a scientific random sample; we interviewed students during a study hall. The proportion of girls having had sex increased with age. Thirty-one percent of the 13-year-olds said they had had sex; more girls become sexually active with every year. The trend for girls who were currently sexually active is similar, but at a lower level. We think these numbers represent the minimum of sexual activity for the group interviewed.

We found that over 70% of these teens said they had had their first sexual intercourse in "a parent's home." White girls used a relative's home less often than black girls. It was surprising that only 3% of the sexually active girls said they had been "pressured into" having intercourse.

Forty-two percent of those who claimed they had ever had sex said they had used some type of birth control at first intercourse. While this number is probably inflated, the point remains that 58% said they used no method. In addition, 64% said they were not aware of the risk of pregnancy at first intercourse. Zelnick and Kantner reported that half of all premarital teen pregnancies occur in the first 6 months after initiating intercourse, which shows the need for education, and demonstrates that adolescents really believe "It can't happen to me."

## Opportuntities for Intervention

Family planning clinics and other health facilities offer education and primary prevention, but reach only a small portion of the teens at risk. Churches are also good sites for sex education. The literature indicates that children who attend church are more likely to delay sexual activity--but churches may not reach those teens at greatest risk.

The home is a perfect place for primary intervention because role model sex education occurs there all the time, either consciously or unconsciously. But parents vary in their interest and ability to teach their children about sex. Further, having parents as sex educators is diametrically opposed to the need for adolescents to achieve separation from parents. To be successful, sex education at home probably has to occur before children reach adolescence. Most corporate media are of no help since they use sex to market products or simply to profit from sex exploitation, as in the many made-for-adolescents movies.

On the other hand, schools have the advantage of being able to reach all young people before the initiation of sexual activity with quality-controlled reproductive health education, including health promotion, risk reduction, and "teenage survival."

In addition to improving access to services for young people, we need to teach them good communications skills and to evaluate how marketing and media influence their lives. In addition to improving access to services for young people, we need to teach them good communications skills, Jean Kilbourne's educational movie Killing us Softly raises consciousness about marketing. Dr. Robert A. Hatcher of Emory University has developed a conference package called "Bridging the Gap" to teach parents and their children about the tasks of adolescence and communication within the family. The response to this conference in the Pee Dee II Health District was so good that people had to be turned away during preregistration.

## Summary

We have an obligation to provide our young people with responsible, quality, and developmentally appropriate health education. If we do, I believe we will have a significant effect on many health and social problems, not just teenage pregnancy.

# HIGH SCHOOL-BASED SERVICES: THE ST. PAUL EXPERIENCE

Phillip Porter, M.D.

Twenty years ago, I became Chief of Pediatrics at Cambridge City Hospital and was involved with providing medical services to over half of the city's children. These children did not have private physicians. Over several years, we developed a school-based primary care service that was accessible to every child in the city. It provided services for about 95% of the children who did not previously have a private physician. It was financed by existing municipal funds, including the school health and well-child budgets. This program ultimately saved the city about 6% in medical costs.

Two years ago, I began a search for other communities that had developed innovative child health services. St. Paul is one of the cities that has a remarkable program. I also found 3 other jurisdictions that have exemplary projects. Let me briefly describe them before discussing St. Paul's program.

For 6 years, Sarasota County, Florida, has had a public/private contract for all public maternal and child health services. All migrant, low-income, Medicaid-eligible, and some other disadvantaged families are cared for by private pediatricians and obstetricians. The program has been so successful that today the county has a unique problem: Many more community physicians want to participate than the program needs.

In Gainesville, Florida, a pediatrician and a state official realized that certain handicapped children were getting poor quality care and the costs of their health care were much higher than those of other children with comparable diagnoses. They found that these children lived in a 16-county, poor, isolated area in north-central Florida. These two people hired a public health nurse in each of the 16 counties and trained them as nurse practitioners. Each was assigned a panel of 50 children, money for gas, and a two-way radio. The nurse practitioners then visited the children at home and managed their health care. They were able to consult with pediatric subspecialists when necessary.

The total cost for a nurse practitioner and consulting physician is $30,000 per year, or $600 per patient. At the University of Florida Hospital, the hospital day rate is $500, the basic emergency room fee is $100, and the outpatient clinic rate is $50. The nurse practitioner can recover these costs by keeping each patient out of the hospital for one day and out of the clinic once a year. The Children's Medical Service has adopted this program as part of its statewide program.

In Great Barrington, Massachusetts, the only pediatrician in rural Berkshire County decided to care for patients wherever they could be seen--in schools, churches, or other local meeting places. He found that because the area is so isolated, his visits became a social event. He organized mothers and local groups to start nursery schools while he provided health care. What he began was a combination health care and social enrichment program for preschool children in the county. Part of the funds come from the state; part come from bake sales, bike-a-thons, and other traditional fundraisers. The program has since been included in area towns' budgets, so its support comes from a variety of sources.

## The St. Paul Experience

The Chief of Obstetrics and Gynecology at St. Paul-Ramsey Hospital was upset about 3 things:

- That 15-year-olds would come into his prenatal clinic 9 months pregnant and having had no prenatal care;
- That the same girls came back 1 year later with their second pregnancies; and
- That he had an adolescent family planning and gynecology clinic in the hospital that nobody used.

He decided something had to be done. Coincidentally, the principal of a local high school asked him to begin day care services in the hospital for the young children of the high school teachers. The obstetrician agreed, on the condition that he could establish family planning services in the high school. After 2 acrimonious years of trying to convince the community to accept his idea, he got the school committee to agree to try it for 1 year. That was 7 years ago.

Family planning services were initially located in the high school basement next to the cafeteria. The location was a mistake because students had no privacy; as a consequence, no one used them. The services were then expanded to include primary care, that is, immunizations, obesity treatment, skin

care, and athletic and work physicals, as well as prenatal care and contraceptive counseling. The clinic grew and ultimately had to move to a larger space. The program is now located in four of six city high schools. A number of professionals are involved in the effort--health educators, social workers, nurse practitioners, obstetricians, dental hygienists, nutritionists, and pediatricians. They have weekly or even daily contact with the student. All student records are confidential.

Although it delivers comprehensive adolescent services, the clinic's real focus is preventing pregnancy. Being in the school, they have a remarkable ability to ensure compliance. All prescriptions given out during the day can be filled at the county hospital pharmacy. During the day, the staff calls prescriptions in to the pharmacy. The next day the pharmacy lets the clinics know which prescriptions have not been filled, so the staff can easily follow up with students.

## Outcomes

The results are impressive. In 1980-81, 68% of enrolled students used the high school clinics; 29% of these visits were for confidential services. The percentage of female students seeking family planning services increased from 7% in 1976-77 to 23% in 1981-82. Fertility rates for this group have dropped from 90 per 1,000 to 28 per 1,000. Recidivism in this population is less than 2% compared to a national average of 25% at 1 year. Eighty-five percent of the young women who deliver babies receive their high school diplomas, compared to a national average of 50% for girls who become pregnant. Day care has been established in two of the four high schools, so young mothers can go to school and be close to their babies. Finally, this program has saved Medicaid and the welfare department $3 million a year. It is clear why elected officials in St. Paul support this effort.

# INTERVENTIONS AFTER BIRTH

# SOUTH CAROLINA'S STATEWIDE PERINATAL RISK PROGRAM

Robert Jackson, M.D.

Although a beautiful state with many natural resources, South Carolina suffers from pervasive poverty. For almost any socioeconomic indicator, South Carolina is usually 48th, 49th, or 50th in the U.S. A low percentage of our population completes high school (54% versus 66.3% for the U.S); the per capita income is low (77% of the national average), unemployment is high (9.8% in 1983), and a high percentage of our population is black females (31.5% versus 12.6% in the U.S.). Access to health care is limited. The fact that socioeconomic indicators correlate closely with health problems is very true for South Carolina.

## Defining the Infant Mortality Problem

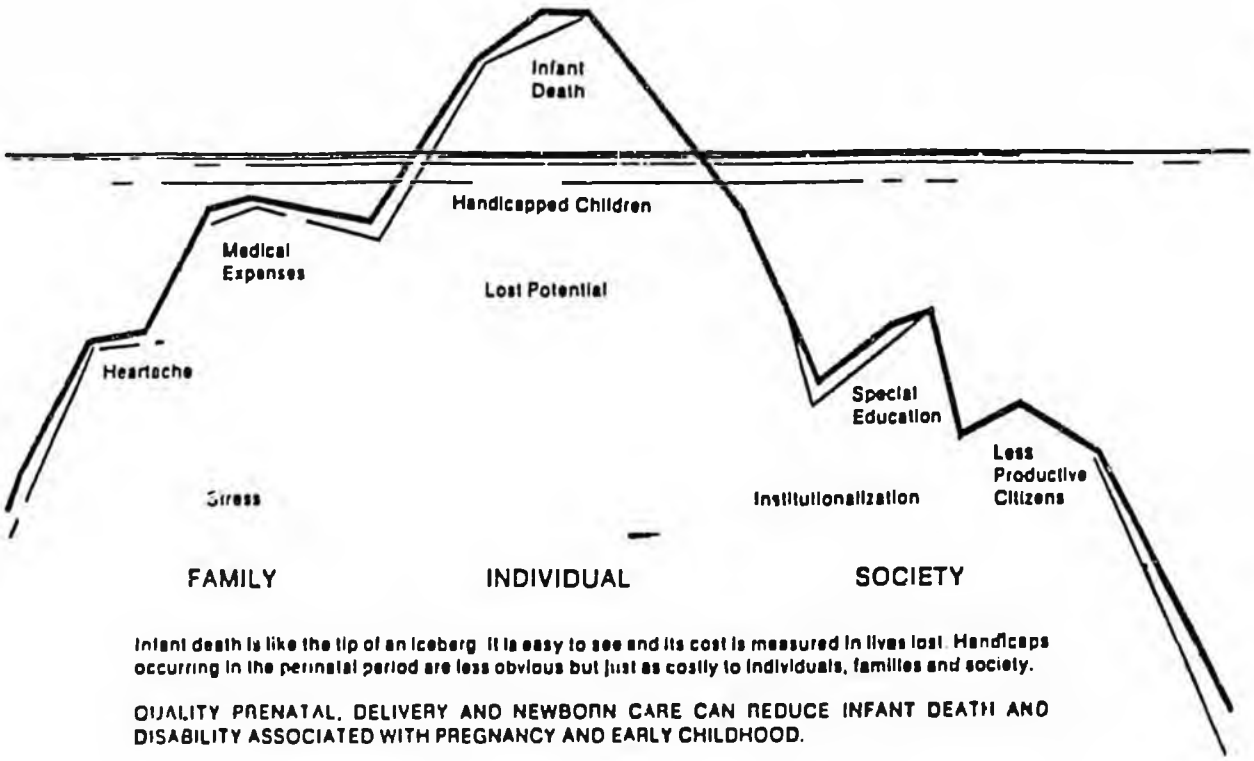
For several years, South Carolina has had the highest or second highest infant mortality rate in the U.S. In 1983, we had the first significant decrease in infant mortality rates in 4 years, from 16.1 per 1,000 in 1982 to 15.0 per 1,000 in 1983. That decrease makes us 49th, just above Mississippi.

In the late 1970's, maternal and child health programs in the Department of Health and Environmental Control (DHEC) were limited to outpatient prenatal care in most counties and well-child care in all 46 counties. The program contained little or no emphasis on a system to provide continuity throughout the perinatal cycle. A big gap existed between prenatal care and entry into child health care or family planning. The high-risk prenatal program was available for a limited number of patients, but it was still not perceived as part of a "system" of care.

We began by defining the problem statistically. Using an epidemiological approach, we learned that many of our perinatal health problems occurred during the part of the cycle we were not addressing: late pregnancy, labor, delivery, and care of the newborn. A study of matched birth-death certificates, in conjunction with the Improved Pregnancy Outcome project,

South Carolina

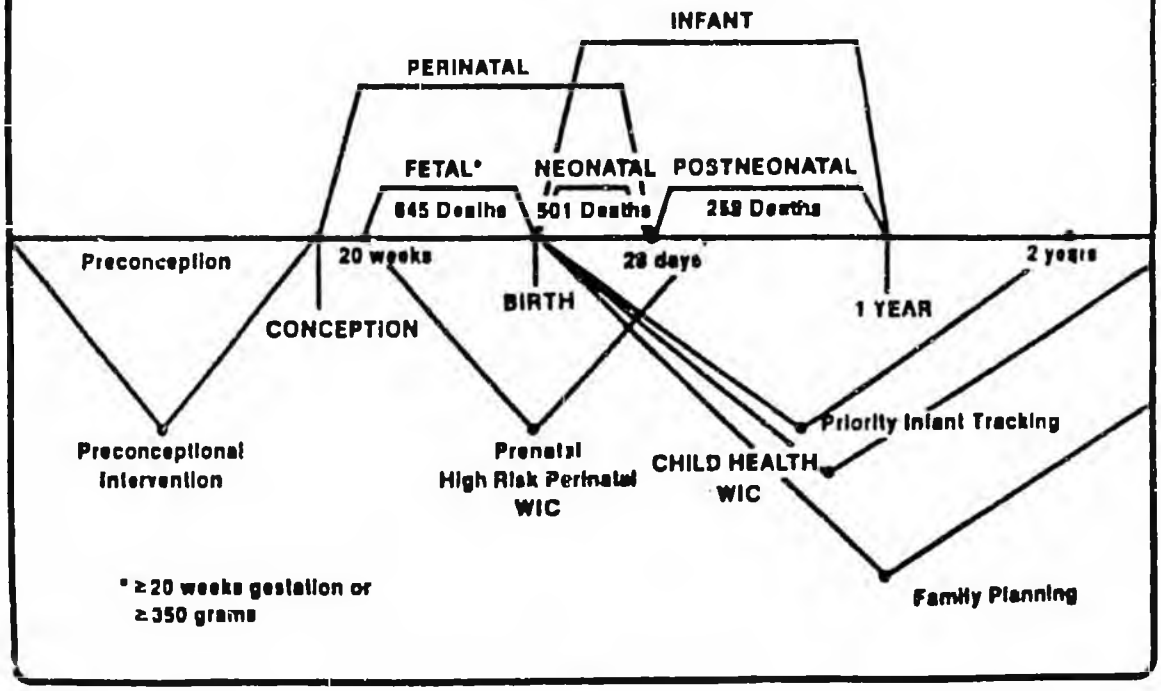
INFANT MORTALITY PROBLEM




Infant death is like the tip of an iceberg. It is easy to see and its cost is measured in lives lost. Handicaps occurring in the perinatal period are less obvious but just as costly to individuals, families and society.

QUALITY PRENATAL, DELIVERY AND NEWBORN CARE CAN REDUCE INFANT DEATH AND DISABILITY ASSOCIATED WITH PREGNANCY AND EARLY CHILDHOOD.

**SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL**
**FETAL, NEONATAL AND POSTNATAL DEATHS (1983) AND**
**HEALTH SERVICES FOR MOTHERS AND CHILDREN**



indicated that the risk factors identifying infants at highest risk of death in the first year were of low birth weight and their mother had had fewer than five prenatal visits.

Using this approach and having firm data to define the problem made perinatal care and high infant mortality rates a public issue, which has helped all of us to focus on the problem and to identify our roles and possible solutions.

## Statewide High-Risk Perinatal Program

Our program comprises of multiple components, including some innovative networks of prenatal care and a plan to establish adequate technical and human resources to provide tertiary intensive care units for infants.

The specific problems addressed by the Statewide High-Risk Perinatal Program include access to appropriate care for pregnant women at highest risk of a poor pregnancy outcome and access to appropriate care of the highest-risk newborns. The program's goal is to reduce fetal and neonatal mortality through regionalized strategies. It uses a two-pronged approach--obstetrical care for high-risk mothers and newborn care for high-risk infants.

- The goal of the obstetric portion is to ensure that infants are born healthy or at least ensure that when high-risk births occur, optimal neonatal care is available.
- The goal of the neonatal portion is to prevent death and disability of high-risk newborns.

## Obstetric Care for High-Risk Mothers

County health departments assess pregnant women's risk for current medical complications or poor pregnancy outcomes with their last pregnancies. Patients are also referred by private physicians for risk assessment and program assistance. If the patient is at high risk, has an income less than 150% of the poverty level, and is ineligible for Medicaid, an application for special care and funding is processed. When a previous pregnancy has resulted in a poor outcome, gestation must be less than 30 weeks for the program to consider the patient's application because of the time needed for intervention.

The special care provided by the program includes follow

up by a public health nurse and, evaluation and intervention plan by a nutritionist and social worker. Obstetrical, antepartum, and intrapartum care is provided by a board-certified or eligible obstetrician, and delivery is authorized in a level II or III hospital. The patient can be authorized for sterilization at the time of delivery if she chooses, and all federal guidelines are met. The county health department follows the case for 1 year postpartum for family planning intervention.

The program pays for prenatal care, testing and drugs ordered, up to 3 days for each predelivery hospital admission, and 3 days for delivery. The obstetrician is usually paid a clinician's fee and a fee for the delivery.

## Care for High-Risk Infants

The infant portion of the program pays for some hospital care for the highest-risk infants and an assessment of all newborns of mothers enrolled in the program. For infants of mothers in the high-risk program, the program pays for a newborn evaluation by the pediatrician and one day of hospital care. If an infant of a program mother is sick and needs intermediate care, an application for the infant must be submitted before the program will pay for extended hospital and pediatric coverage based on the risk of the newborn.

The program contracts with five level III Neonatal Intensive Care Units (NICUs) for intensive care of a predetermined number of infants who require that specialized care and whose family incomes are less than 150% of the poverty level. The number of infants whose care is paid for by the program is based on the percent of the total statewide number of very low birth weight infants (under 1,500 grams) each institution cared for in the previous year. We pay a flat rate up to $5,000 for each infant, which includes hospitalization and care by a physician.

Regional level III hospitals are also paid a minimal amount for outreach education, neonatal transport, and neonatal developmental follow-up if these services are provided in the region. To receive funds, the level III facilities must commit themselves to accept referrals from within their region and/or to find a bed for the infant if the regional center cannot accept it.

## Facility Classification

Recognizing that apopropriate perinatal facilities need to be available for pregnant women and newborns, the program offers perinatal capabilities, reviews, and consultation to all hospitals with a delivery service. If requested, the program assembles a team of an obstetrician, obstetric nurse, neonatologist, neonatal nurse, social worker, and administrator to perform an onsite review of the facility. A survey is completed before the visit and is reviewed during the visit. Specific patient records are reviewed and the facility and protocols evaluated. A full written report is submitted to the hospital, which includes observations about current perinatal functional capabilities and recommendations for improving perinatal care.

## Program Costs and Outcomes

The budget and the number of prenatal patients and infants the program can pay for vary from year to year. As funding fluctuates and hospital care costs escalate, payment for certain services has changed, and risk factors have been closely analyzed and altered as necessary. (Table A presents data on program costs and patients served from FY 1979 through FY 1984.) Screening of all recipients of Women, Infants, and Children (WIC) services and the Low Birth Weight Prevention Program have brought many more eligible high-risk women and patients at risk for preterm labor to our attention. About 52,000 births occur in the state, of which 21,000 are eligible for the WIC program. We have access to a substantial number of children and have had a fourfold increase in the number involved in the program.

Table A

HIGH-RISK PERINATAL PROGRAM FINANCIAL DATA
AND PATIENTS SERVED

| | Average Payment For Mother and Infant Care* | Approximate Total Program Expenditures | Number of Prenatal Patients Served |
|---|---|---|---|
| FY'79 | $1,406.00 | $ 826,113.00 | 470 |
| FY'80 | $1,539.00 | $1,158,100.00 | 599 |
| FY'81 | $1,910.00 | $1,719,268.00 | 834 |
| FY'82 | $1,991.00 | $2,564,765.00 | 927 |
| FY'83 | $1,895.00 Program changes made | $3,243,516.00 | 769 |
| FY'84 | $2,086.00 | $4,243,825.00 | 1,325 |

NOTE: In addition to patient care, the program also funds health department high-risk clinics and NICU contracts.
* Amounts exclude neonatal intensive care paid by contracts.

The High-Risk Perinatal Program has been shown to be effective. In the September 1983 issue of Obstetrics and Gynecology, Henry Heins, M.D., reported the findings of a matched pair analysis undertaken to determine whether infants of women in the program had less perinatal mortality and higher birth weight than infants of women outside the program. The number of fetal and neonatal deaths was twice as high for the nonprogram group, but no statistical difference in birth weight distribution was apparent in the two groups. Postneonatal mortality was also less for infants of women in the program.

Table B

FETAL, NEONATAL, AND PERINATAL MORTALITY RATES
BY PROGRAM PARTICIPATION
Deaths per 1,000

| | Program | NonProgram |
|---|---|---|
| Fetal | 15.2* | 23.3* |
| Neonatal | 15.5* | 27.5* |
| Perinatal | 30.5** | 53.2** |

* $P < 0.05$, analysis of variance, program VS nonprogram
** $P < 0.05$, analysis of variance, program VS nonprogram
From "Benefits of a Statewide High Risk Perinatal Program," an evaluation study by H. Heins, J. Miller, A. Sear, N. Goodyear, and S. Gradner, published in Obstetrics and Gynecology, September 1983.

## Priority Infant Tracking System

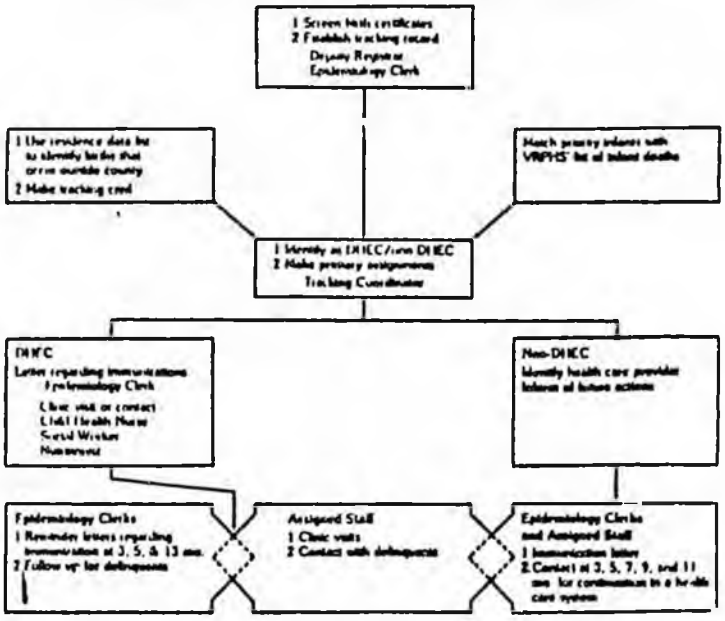
This program was developed a number of years ago as an additional outgrowth of the IPO project and cohort analysis. It was designed as a strategy to affect our postneonatal mortality problem. Not only has it helped us to identify infants who need close follow-up, but it has also helped us identify many multiproblem families that need public health interventions.

Birth certificates are reviewed and infants identified who have one of the following problems:

- birth weight below 2,500 grams,
- mother under age 18,
- fewer than five prenatal visits or care started after the sixth month of pregnancy.
- fewer than 12 years of education for the mother,
- mother who had a previous child born alive but is now dead.

The infant's family is contacted and offered preventive infant care, including immunizations, WIC services, etc. If the family does not have a primary care provider, the health department closely follows the infant for a year. Local arrangements with private physicians have been coordinated and relationships strengthened by this approach. (The following chart depicts this process.)

**FOLLOW—UP SYSTEM FOR PRIORITY INFANTS**



## Medically Needy Program

Our recent initiatives to improve access to care involve working with other parts of the government and through the political process. Because we are a poor state with a miniscule Medicaid program, both in terms of eligibility and benefits, we have a very large medically indigent population. Legislators and politicians are more receptive to expanding Medicaid than to providing direct state assistance, because Medicaid would provide a lot more federal assistance to the program. Even with an expanded program to include the medically needy, we still have not caused a substantial increase in the number of people who are covered. It is still a major dilemma.

This year we are going to initiate a new $65 million medically indigent program that will draw upon some funds from the existing provider system. Hospitals will actually have to contribute $10 million in seed money for this project.

Surprisingly, this idea actually came from the hospitals, because they realized that part of the problem of access has been caused by the reimbursement system.

The large regional hospitals, usually associated with universities, provide an overwhelming majority of care for the indigents. To cover their costs, they need to shift costs from public to private payers. As a result, many community hospitals and proprietary hospitals are able to operate without responsibility for providing indigent care. When the regional hospitals raise their prices to cover their additional costs, the profit-making hospitals are also able to do so and realize an even greater profit. They have been under enormous pressure to equalize their contribution and participation in this very inequitable system, and they have now volunteered to participate in this multimillion dollar fund.

We are also seeking assistance from South Carolina's 46 counties. Only five of them currently make a significant financial contribution to indigent care for their populations. Those five have contributed almost $10 million annually, and they are now very reluctant to serve indigent nonresidents who come into the counties for care at the referral centers. The traditional referral process has broken down. Providers in adjacent counties who used to refer their patients to tertiary care centers no longer can, which also is contrary to our department's initiatives to maximize referrals of high-risk babies to these specialized centers. Our program was the only thing between high-risk babies and no care. We believe it will benefit from this new system when it is in place.

In addition to addressing funding problems, this program will also resolve some of the political issues caused by inequity between participating and non-participating counties and patient care issues caused by the lack of appropriate care for women who had bad pregnancies and sick babies.

## Medicaid Waivers

A remaining problem relates to our application for a freedom of choice waiver that would allow us to direct our Medicaid-eligible population to the right kind of care for their needs. Title XIX provisions, which do not allow us to limit freedom of choice of provider, also do not allow us to prioritize our Medicaid dollars. We are not permitted to direct high-risk cases to facilities best equipped to treat their problems. Directing patient care is an important part of our program, and we need the Reagan administration's cooperation.

In conclusion, the programs we have initiated in South Carolina as an outgrowth of careful analysis of our infant mortality problem allow us to channel our resources to the target population where we can expect to achieve the greatest improvement in outcome. Although we have a long way to go, we are encouraged by the progress we can see resulting from the approaches we are taking.

# HEALTHY START—A LOCAL APPROACH to CONTROLLING INFANT MORTALITY

Darrel Newkirk, M.D.

We are located in Kansas City, Kansas, not Kansas City, Missouri, although we have many similar demographic and health problems. We serve a city of 172,000 people with a large ethnic population that is 75% white. It is a blue-collar, industrialized city, and it has the highest poverty rate in the state of Kansas. We also have a number of health problems, including a high infant mortality rate. From 1976 to 1979, we had the highest infant mortality rate in the state, averaging 17.2. And child abuse and neglect were increasing.

Our health department is a city-county department that offers traditional environmental and public health services. In addition to prenatal care, family planning, and well-baby services, we have the largest WIC program in the state. The health department's services are heavily used. In 1983, approximately one in six city and county residents used our services.

## Healthy Start

The Healthy Start program is a postpartum program to reduce infant mortality in Kansas City. It is a hospital visitation program to identify mothers at high risk with follow-up visits by public health nurse, and paraprofessionals. We developed Healthy Start in conjunction with the state health department. Our goal was to ensure that every infant born of a county resident in any of the hospitals in the county had an opportunity for a healthy start in life. The objective was to decrease infant mortality and abuse and neglect rates, and to promote the health of mothers and infants in our county.

Our strategy was to identify, at the time of birth, mothers whom we felt were at risk for infant mortality, neglect, and abuse. After identifying them by reviewing birth certificates, we provided them with intensive services and follow-up during the first year of the baby's life. The emphasis was on prevention; we wanted to identify and prevent

potential problems from developing between mothers and their infants. We began to identify high-risk infants and mothers by reviewing birth certificates. However, we generally did not get the birth certificates until 6 weeks after birth. The babies were already in a dangerous period by the time we could identify them.

We then decided to visit hospitals just after babies were born to identify high-risk mothers. Both nurses and paraprofessionals were trained to make these hospital visits. They explained the program to new mothers and conducted interview assessments to identify needs and potential problems. For example, had the mother made arrangements for the baby to go home? Did she have formula, diapers, and other supplies? What was her family situation?

Determination of risk was another element of the assessment. Using various factors, we categorized mothers according to three levels of risk. Criteria included the mother's age, whether she was a migrant or refugee, whether she spoke English, whether she had a support system at home, her feelings about the pregnancy and the baby, her economic and health insurance status, the mother's and infant's health status, and, most important, the subjective impressions of the hospital visitor. The mothers determined to be at the highest risk, Level Three, received the highest level of services. During the hospital visit, a follow-up home visit was scheduled. In many cases, the same hospital visitor went to the home within a week.

During the home visit, needs were assessed again referrals were made to WIC or other programs; transportation was arranged for well-baby visits; and family planning and well-baby care visits were encouraged. The visitors also tried to find out why mothers might have missed postpartum visits. The home visitor essentially served as a link between the mothers and the health care system.

One of the most important components of the home visits was establishing a rapport and supportive relationship with the client, which the paraprofessional could often accomplish more quickly than the professional nurse. The thrust of the program was for the mothers in the county to know they had a friend and advocate they could call if they were in trouble or needed help. If, however, the home visitor suspected child abuse or neglect she was obliged to report it, according to state law. At that point, we would have to step aside and turn the case over to the local child protective services team.

## Outcomes

In 1983, of 2,820 births to county residents about 90% were visited in the hospital. Over 2,500 visits were made to the hospital during which needs and risk were assessed. We originally estimated 15% of our patients would be classified as high-risk. Last year, 26% were considered to be at risk and were followed for 1 year. Our case load then was about 838 mothers and their children.

We are now evaluating outcomes for the last 3 years and are encouraged by the first year's results. In 1978, 420 infants were referred to the courts because they were abused or neglected; in 1979, that number was 368. In the first year of our program, that number dropped to 164. And, substantially fewer children had to be removed from their homes during the first year of the program. By providing support services to mothers in the home, we believe we are able to keep children safely in the home.

Infant mortality rates have dropped in the last several years, from 17.2 countywide to 14.0 as an average for the last 3 years. In addition, within the Healthy Start high-risk group, the rate is lower than the county average. Immunization for these children is up-to-date. Other health care workers regard, program positively, and the attitudes of the participating mothers are very positive.

This visitation program is only one part of Healthy Start, however. In the last few years, we have expanded it to include prenatal risk assessment. We also believe it is a cost-effective program.

Most important, Healthy Start is a community program. We have involved private pediatricians in town, who have allowed us to visit their patients in the hospital. Our next step is to involve all of the obstetricians and gynecologists in the city and county and to identify high-risk prenatal patients early. We then will be able to provide transportation for their prenatal care and help them into the WIC program.

# MARICOPA COUNTY'S PRIMARY CARE HMO APPROACH

Robert Harmon, M.D.

The Arizona Health Care Cost Containment System (AHCCCS) program is Arizona's experimental Medicaid program. It was developed under the assumption that maternal and child health by health maintenance organizations (HMOs) might be able to reduce infant mortality rates. Some studies have been done about the effects of care by HMOs on reducing infant mortality among privately insured individuals, but little research has been done on it for prepaid Medicaid patients. More research is needed.

My basic message is that prepaid Medicaid is incredibly complex but that it also provides great flexibility allocating funds and resources. Instead of being tied to a rigid fee-for-service system, the pool of money can be invested in prenatal care, primary care, and health education if the operators of that prepaid system see fit to do so.

Maricopa County is located in central Arizona. It is a large county that extends more than 100 miles in each direction. Its land mass is greater than the state of Vermont. The population of the county is 1.6 million people, of whom 13% are Hispanic, 3 percent are black, and 1% are other minorities. The total population of Arizona is 2.9 million; approximately 55 percent of the state's population are Maricopa County residents. Our indigent population before Medicaid was approximately 100,000 users, of whom 43% were Hispanic and 13% were black. We operate our system from an umbrella agency, the Department of Health Services, which recently developed a new HMO--the Maricopa Health Plan--in response to AHCCCS. We also have a large teaching hospital, a Division of Public Health, and a Division of Long-term Care.

The AHCCCS program was initiated in October 1982. It is a statewide prepaid Medicaid experiment under the auspices of the Office of Research and Demonstrations of the DHHS Health Care Financing Administration (HCFA). The legislature finally started Medicaid in Arizona because the money to pay for indigent care, which was fully provided by the counties, was

running short as a result of taxation and spending limits passed by Arizona voters in 1980.

Initially, a private contractor administered AHCCCS statewide, which was terminated in March 1984, and the program is now run by the state. Enrollment of employed groups to balance the indigents was planned but never implemented. Cost sharing by indigent enrollees was planned, but has been negligible. Prepaid capitated financing for about 180,000 enrollees statewide has continued, however. Competition among prepaid plans is strong. Approximately 20 plans throughout the state now provide care under this program. Gatekeeping and case management by primary care physicians is still intact. Finally, the program includes no coverage of nursing home or home care services.

The AHCCCS program elements that most affect maternal and child health care are gatekeeping, case management and competition among plans. The latter has brought many private providers into the program. In the first year, our own plan, which had had complete responsibility for indigent care in Maricopa County, lost 38% of that market. Four new competing plans, all private prepaid providers, entered the market and claimed nearly 40% of the market.

## Effects on Infant Mortality

We wondered what would happen to morbidity and mortality during this process. Family planning was an optional service in the Arizona Medicaid experiment. If a plan wanted to use its revenues to provide family planning services it could. Although many health care professionals believe these services are cost-effective services and would expect most plans to provide them, it was not the case. Our plan provided family planning services, but many private plans did not.

The infant mortality rate in Maricopa County was 13.4 in 1980 and 12.0 in 1981. Pheonix's infant mortality rate (14.4) ranked tenth among 26 cities with populations greater than 500,000 people between 1978 to 1980. Phoenix now has a population of about 800,000. Arizona ranked thirty-second among all states for infant mortality rates during the period between 1980 and 1982, with a rate of 12.0.

Statistics for the last part of 1982 and all of 1983 show the new program's effect on infant mortality rates. We expected the transition from a completely county-run system to one in which patients were distributed among county and private

providers to result in some change. We found that the rate of adequate prenatal care seemed to deteriorate. The rate of births with no or inadequate prenatal care certainly increased in 1983. In Maricopa County, the rate of births with no prenatal care per 1,000 live births increased 70% from 5.0 to 8.5 from 1982 to 1983. For Arizona, this rate increased from 18.9 to 21.2. The rate of births with between one and four prenatal visits per 1,000 live births increased from 39.3 to 44.1. These events occurred after years of steady improvements.

During the same period, federal, state, and local funding for maternal and child health and community outreach programs decreased, including our IPO program. It is also important to note that in our Title V project, only 24% of our clients were coming in for care during the first trimester, 50% during the second trimester, and 26% during the third trimester.

The infant mortality rate for both 1982 and 1983 was 9.3; thus, with a decrease in the amount of prenatal care, infant mortality stayed constant. It represented a plateau after years of steady decline. Statistics detailing race and census tract differences are not yet available. We will pursue this analysis to answer the many questions that remain. We also want to analyze whether the infant mortality rates are different between the public HMO and the private HMOs, which were primarily independent practice networks.

## Comments on Prepaid Medicaid Programs

I'd like to issue a warning for those who are considering develcping a prepaid Medicaid system. Incredible confusionan result related to eligibility (who is eligible and when) and enrollment (who is enrolled in which plan and when). Many patients have changed providers repeatedly. Many women and children have been dislocated from their usual sources of ancillary services, such as the WIC nutrition programs, counseling, health education, immunization, and other health services. This dislocation became even more profound during the second year of the program, because enrollment in our own plan dropped from 62% of market share to 23%. We lost one of the biggest groups in our contract, the medically indigent and needy, because our bid was said to be too high.

The other change to anticipate with prepaid Medicaid is that the competition will be fierce for "up-front" money. This money can serve as startup capital for doctors who want to start their own HMOs. California had this experience in the early 1970s. Eventually about two-thirds of these plans lost

contracts and disappeared. Some of the private plans in Maricopa County are currently having financial troubles. Two are near insolvency and may be purchased by outside chains. Being accused of providing poor quality care, they are under strict supervision by the state. We expect, however, that the AHCCCS will continue and these problems eventually to be resolved.

We cannot yet say what the long-term effects of prepaid Medicaid will be on infant mortality. Our plan is trying to direct resources toward prevention and health education. We believe it is also important to bring the uninsured "notch group" into these programs. In this way, a public HMO providing Title V services can deliver the same program to both Medicaid and Title V eligibles. Because Medicaid eligibility is often transient, continuity of care is a challenge.

## Conclusion

The 1990 Objectives for the Nation and the Model Standards that are currently being revised have not yet been discussed during this conference. I propose that we use these standards as a blue-print for our future efforts. In addition, I believe that interaction with public hospitals is extremely important. A public hospital in our agency allows us to collaborate on perinatal care and other programs. We also need to continue emphasis on antismoking and antidrinking programs and the promotion of breastfeeding. The National Association of County Health Officials, the U.S. Conference of Local Health Officials, and the Association of State and Territorial Health Officials are collaborating with federal and private agencies to achieve the goals of this conference as well as the Model Standards and the 1990 Objectives.

# MEDICAID'S ROLE in ADDRESSING INFANT MORTALITY

Paul Allen

Thank you for the opportunity to speak on this vital issue. Inasmuch as Medicaid is perhaps the major funding source to finance health care for those at risk on this subject, I think a state perspective on Medicaid is appropriate. Earlier this week I attended a meeting of Medicaid directors in Washington, where we discussed issues of long-term care. A conference studying the problems of care at the end of life and this conference concentrating on health care problems at the beginning of life share great similarities. The problems are the same when we are talking about needed health care of a human being and the opportunity to have quality care at the beginning or end of a long and fruitful life.

## Michigan's Medicaid Program

The Michigan Medicaid program is one of the largest in the country. My budget this year is $1.4 billion for Medicaid. I spend $25 million a week for health care, for the one million citizens of Michigan who are eligible for Medicaid--about one out of nine people in the state. About 600,000 of those eligibles are children, and therefore a major orientation is health care analysts, claims processors, health care policy people, and others in the spectrum of people needed to run a health insurance system for the poor.

We are very proud of our agency's ability to carry out its mission--that is, to facilitate quality care for people who happen to be poor. My major reason for being here is to share some ideas, concepts, and activities related to Medicaid that are often ignored when examining a topic like infant mortality.

In the last 10 years, the number of Medicaid eligibles in Michigan has increased from 700,000 to 1 million people, but

the number of children has actually decreased. This change is the result of a complete change in family life styles in this country and their effect on our children per case because we are having fewer children. With 1 million eligibles, we have roughly 200,000 Aid to Families with Dependent Children (AFDC) cases and another 35,000 in Aid to Families with Dependent Children of the Unemployed.

## Maternal and Child Health Services

Michigan Medicaid is a very expansive program and covers nearly all services, except experimental transplants. To be eligible, a pregnant female has only to have a lack of resources to obtain adequate health care. Once we know that woman is eligible, nearly every situation is covered and has been covered for several years. Over the past 12 years, I have participated in a number of health care initiatives financed by the Medicaid program in Michigan.

For example, 19% of our AFDC population is enrolled in a health maintenance organization (HMO); 25% of the AFDC women and children in Detroit are members of an HMO. We have been innovators in providing access to high-quality, main stream health care to the poor. Besides being cost-effective, it allows poor people and their children to develop a relationship with a doctor.

We have an extensive Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program ever since the program began. We screen approximately 11,000 children every month through EPSDT. We also have several preventive and other programs for the populations at risk, including extensive family planning services throughout the state, in both rural and urban areas.

With our health department, we established a series of neonatal intensive care license units in the mid-1970s. Medicaid recognizes these units, and they are reimbursed fairly well, given the availability of monies in our program.

## Availability and Accessibility of Services

In the last 12 years, we have noticed a complete shift in

emphasis in health services for poor people, particularly children of AFDC families. When I came to Michigan in 1971, we had a shortage of doctors. One of my biggest problems was constant telephone calls from people who could not get in to see a doctor. Now we have too many doctors, clinics, and hospital beds. We have surrounded the poor with health care. Even in previously underserved areas, adequate health care is now available. Accessible service for the poor is not now the main problem.

It is my opinion that we have also surrounded the infant mortality problem with health care. We have done the same thing with care for senior citizens. Now we have to address the heart of the problem--and it's a social one. Michigan's profile of infant mortality parallels the national statistics for infant white mortality, about half of that for the black population. The major problem we have left is in southeast Michigan and a few isolated out-state counties. As a support mechanism, we have over 100 social service offices scattered throughout the state that act on behalf of Medicaid in concert with local health departments. The problem is not that we are not seeking the target population and providing services where possible: it's that we are not reaching those who are most at risk.

The system has to be transformed from a health model to a social model to reach people early in the prenatal cycle. Our biggest problems are identification, education, outreach, consultation, and treatment of those at risk. Simply throwing money at the problem will not solve it. This year we will spend $100 million in neonatology, normal deliveries, and pre- and post-neonatal care; $20 million alone goes to neonatal care. We are going to spend a few million more next year, but it will not make a great difference in infant mortality because we are attacking the symptoms, not the cause. We have begun to experiment with outreach counseling and have already let some grants to groups to identify, educate, counsel, and consult with the people at risk. This effort may make a dent in future program costs and performance in serving those in jeopardy. We hope so.

## Physician Primary Sponsor Plan

We are also trying a case management program called the Physician Primary Sponsor Plan. We have received a freedom of choice waiver under Title XIX so clients can be assigned to primary care physicians. The program will eventually cover all 1 million of our Medicaid eligibles, and it is the most extensive case management program in the country. It has begun

in Wayne County, which includes Detroit, by giving patients the option of enrolling with a primary care doctor or a health maintenance organization. So far, we have enrolled 155,000 individuals statewide, and we hope to increase our enrollments to 8,000 per month. At this rate, we expect to have all county eligibles enrolled by the end of 1985. It will be the first time for many of these people that they will have had a personal physician. The primary care physicians are available round-the-clock; the doctor's name and telephone number are printed on the client's identification card.

Michigan has a high Medicaid physician participation rate; 63% of all doctors statewide serve Medicaid patients. When we began the new primary care case management program, we expected a comparable level of participation. Currently, 2,200 primary care physicians practice in Wayne County. I have individual contracts with 1,300 of them to serve clients at risk. To date, about 56,000 clients in Wayne County have enrolled with private physicians, and about 80,000 have signed up with HMOs. With both options available, the percentage of enrollment seems to be shifting toward primary care physicians, although HMOs have been marketing heavily since the program began.

Our intent is to use and expand on this technique to enroll all high-risk mothers who come to our attention as early as possible in the pregnancy cycle. We already know this case management system works in establishing a meaningful patient/physician relationship. We are eliminating our clients' use of hospital outpatient departments as a regular source of care; we are providing them access and a person who cares. If we identify women at risk early enough, I think this program can greatly help to minimize the infant mortality problem.

# Part III

# PRESENTATION of GROUP FINDINGS

# SUMMARY OF WORKSHOP DISCUSSION: INTERVENTIONS BEFORE BIRTH

Donald Lyman, M.D.

Participants in the workshop on interventions before birth generally believe that many of the resources we need to lower infant mortality rates currently exist but that for some reason they are not being used to maximum advantage. We also reached a consensus on several of the following recommendations.

First, coordination among programs needs to be increased. That includes coordination with the Department of Health and Human Services (DHHS), particularly integrating family planning activities into other programs aimed at curbing infant mortality rates, and among programs outside the Department. External coordination must be improved between federal agencies, for example, between DHHS and the Department of Agriculture, which operates the WIC program--and among federal, state and local agencies. Regulatory and other problems historically have hindered this kind of coordination.

Second, the health care community is not as aware as it should be of the problem of low birth weight. Health professionals must be better educated about this and related problems.

Third, the Department of Health and Human Services should convene a consensus conference of those groups most concerned with developing a standardized protocol for prenatal care. Procedures, timing, frequency of visits, and the content of prenatal care currently vary so that it might not be as effective as it could be.

Fourth, access in the broad sense is still a problem for women requiring prenatal care. Although remarkable progress has been made in these areas over the last 15 to 20 years, access has not kept pace with availablity. Eligibility standards and benefits among programs, including WIC and Medicaid, need to be conformed and administrative and financing problems addressed. Existing regulations and standards need to be enforced and new ones developed if necessary to ensure access to prenatal care for all women.

In addition to making recommendations related to existing programs, our group made several concerning new activities.

First, we need more research on new prenatal care programs and an evaluation of ongoing efforts. The question of eliminating the problem of very low birth weight babies through interventions such as the arrest of preterm labor needs particular attention. Ordinary public health efforts are not going to be very effective in this area. This kind of problem needs much investigation, especially that related to costs and ethical considerations.

Second, some form of clearinghouse should be established to provide us all with information on the number and range of activities that are being tried across the country.

Third, reducing the incidence of low birth weight should be incorporated into existing and future federal initiatives. We should make sure, for example, that in addition to discussing the cancer and heart disease associated with smoking, we also stress the risks to unborn babies. Similarly, alcohol, drug abuse, and mental health programs should address the effects of stress on low birth weight.

Fourth, much more public information and education about low birth weight prevention is generally needed.

Finally, efforts like this conference should be institutionalized. A standing advisory committee on low birth weight and infant mortality should be established in DHHS. It might be modeled on the Advisory Committee on Immunization Practices that advises the Centers for Disease Control on immunization.

# SUMMARY of WORKSHOP DISCUSSION: INTERVENTIONS AFTER BIRTH

Barbara Shipnuck

The 3 topics we discussed most in this morning's workshop were: flexibility, especially in regulations; integration of specific services at the delivery level; and coordination, both between and within levels of government.

## Regulatory Flexibility

We first focused on regulations that have the most significant or potentially significant effects on perinatal and postnatal care. One is the expansion of Title XIX freedom of choice waivers, which is an issue in South Carolina and several other states desiring to try innovative Medicaid programs to improve care. Second, if reimbursement for DRGs is adopted for maternal and child health services, we need to study the effects on the perinatal care system. Third, federal and state family planning regulations often limit the organizations that can receive family planning funds based on the range of services provided. As a result, organizations that may be most appropriate to provide contraceptive services may not be eligible to receive these funds.

## Service Integration

Our group thought that follow-up beyond the neonatal stage of infancy is the most important area for activity. In particular, high-risk babies should be monitored through early childhood until age 5.

This is not necessarily a public responsibility. There are private-pay patients who have the same types of high-risk infants as those in public programs. They can and should be followed through private networks; however, such systems are not yet in place. Although we were unable to agree on which specific agencies should assume follow-up responsibility for infants discharged from neonatal centers, we did concur that

community-based integrated services are needed to perform this kind of follow-up. Ultimately, a variety of models should be operating nationwide, including ones based on centralized county health departments, health departments that include social services, as well as those that do not.

We supported the recommendation for a clearinghouse and an institutionalized conference structure to share information about these programs and their evaluations. We should examine a variety of models and let communities decide which are best for their infants and mothers.

Too often programs focus only on the mother and baby. We need to concentrate more on fatherhood, which often has been overlooked in programs related to contraceptives and in government and private sector services. We cannot change behavior and affect neonatal mortality rates without greater involvement of the fathers.

Community-level integrated services also need to be culturally based, and the workers need to be appropriate for the target populations, especially for programs in the black community.

In addition to access to perinatal and postnatal care, we discussed access to other services, including education and social services, for socially deprived populations.

## Intergovernmental Coordination

The third topic we discussed was the need for a federally run data collection and dissemination system. Data from state and local jurisdictions need to be placed in a meaningful retrieval system. The data about subcultures has tremendous gaps. Although the conference has addressed differences between white and black infant mortality rates, it has not explored why, for example, Hispanic rates are lower than those of other white groups. We cannot determine the best approaches for these subgroups without this information.

Data on prevention programs is also needed. Communities may sacrifice six prevention programs to save one neonatal intensive care unit (NICU), but they may actually be able to save more infants through an appropriate prevention and prenatal care system. We have no way to substantiate this if there is no data. We are also frustrated about our inability to share existing data because there is no central retrieval

system.

Government efforts must be coordinated with the private medical and insurance communities. Private insurance companies need to cover prevention and prenatal programs to effect behavior and attitudinal changes about the importance of this care. The public sector cannot do it alone.

One surprising outcome of our discussion was the group's belief that additional resources are not needed for neonatal intensive care units. This piece of the puzzle seems to be resolving itself through competition within communities to provide this level of care. Regional planning programs may work, but we could not agree on uniform standards for appropriate regionalization.

# SUMMARY of WORKSHOP DISCUSSION: INTERGOVERNMENTAL COOPERATION

Stephen King, M.D.

The intergovernmental cooperation workshop focused on two basic issues: funding responsibilities and the appropriate roles of different levels of government. We also discussed future activities to lower infant mortality rates and the possibility of reexamining the 1990 national health objectives in 1985, paying particular attention to the responsibilities of various levels of government.

## Funding Responsibilities

First we discussed funding issues, including the positive and negative aspects of block grants. We generally agreed that conceptually block grants are a good idea and that the block grant mechanism has begun to work better since recent funding increases. Some of the problems discussed concerned the evolving roles of state legislatures in setting priorities and distributing block grant dollars. We also considered ways to integrate local governments into this decision-making process.

Different levels of government can effectively manage a number of funding sources for infant mortality programs. For example, all levels of government need to effectively integrate infant mortality-related services with Title X and family planning programs. The same is true for migrant and community health centers and Section 333-29 of the Public Health Service Act. WIC funding is another example; for many localities, it is the largest source of out-of-state revenue for services for mothers and babies. Although all of these programs may have similar goals, their specific agendas and administration may preclude input from government officials who actually administer the services.

Local and state funding sources for maternal and child health programs are still evolving. Instead of viewing federal dollars alone as the driving force behind health policy decisions, we need to consider integrating other sources of funds in developing our objectives for maternal and child health. Many states and counties have a significant investment

in this area; people contributing the funds should play a more significant role in shaping these programs. Intergovernmental interface is critical in this process.

## Federal, State and Local Government Roles

We believe strongly that federal leadership is necessary to solve the national problem of infant mortality. Federal authorities can exert this leadership in a variety of ways:

- identifying problems, as this conference is doing;
- developing and reporting data from across geographic and political boundaries;
- identifying national goals and funding needs.

The roles of Washington and the regional offices of the Public Health Service should be strengthened to better support state and local agencies with competent professional advice and support.

Often overlooked is the fact that policy decisions made in Washington always affect state and local policy and funding decisions. During the last 10 to 15 years, local authorities have become increasingly more sophisticated and concerned about these decisions. We cannot ignore them any longer. Their role, as that of state officials, is an important one and should be carefully acknowledged by the other two levels of government.

We discussed issues related to uniform eligibility. If we were to use the WIC elegibility standards for all other maternal and child health programs, costs for local governments would increase tremendously. Eligibility needs to be addressed in the context of what local governments can afford. We also discussed the related issue of changing Medicaid eligibility for mothers and children. We strongly suggest that the Health Care Financing Administration (HCFA) begin to actively study the effects of eligibility changes on maternal and child program funding and health outcomes.

The need for data are another very complex problem. Currently data is collected at all levels of government for a variety of purposes. We need to develop a definition of minimal useful data sets. All levels of government should participate to help ensure their support.

Finally, in addition to disseminating the information we have learned at this conference, we need the leadership of the Public Health Service to continue the effort to inform and involve state and local governments in this process. We believe that 1985 is a good year to spend time reviewing and assessing the 1990 national health goals and to involve state and local health officials in this process. Staff time from all levels of government should be dedicated to this effort.

# Part IV

# CLOSING REMARKS

Douglas S. Lloyd, M.D.

There are very few topics we could discuss that are more closely woven into the fabric of society than pregnancy, sexuality, and bad pregnancy outcomes. This conference was very interesting; I learned a lot to take back to my community. However, we still need to set agendas for the future.

We don't have enough information to target our resources appropriately. Public policy decisions that require extra resources are made at the margin--they are decisions about how we are going to spend that next dollar. We need more information to effectively debate allocating more state, local or national resources to prenatal services. For example, we need more definitive information about risk factors and how they should be weighted. We also need to know much more about the effects of stress on pregnancy outcomes and the positive effects support systems and a stable home environment might have. I have strong reservations about the positive effects of simply channeling high-risk women into earlier traditional prenatal care. I was pleased to see this raised in the Institute of Medicine's study. Prenatal care may not be that helpful if the mother and her baby are returning to a stressful and unhealthy environment.

One of the most interesting areas for research in the future is behavioral epidemiology. What do we really know about behavior related to cigarette smoking? What causes people to smoke and what makes it easy or difficult for some people to quit? The behavior of young teenagers who get pregnant or become fathers also needs to be studied. Scientific research methods should be applied to these questions.

Targeting will also be very important for the future. We must focus programs on the populations that are likely to benefit most from the resources spent. This will require more emphasis on outreach. We also need to identify more people in the community for special services. In Hartford, we have the Hispanic Maternal and Child Preventive Health Network, or Comadrona Model. In the last 10 years, we have had a large influx of Hispanic people. The Comadrona (birth attendant) Model educates community women about smoking, drinking,

nutrition, and cleanliness, and sends them to work with pregnant teenagers early in their pregnancies, even before they begin prenatal care. These women serve as liaisons between the community and the health care system.

Government officials should assume many roles. One is a convener role. We have a president who is known as the "Great Communicator." I hope eventually he will assume a leadership position and serve as the "Great Convener" on infant mortality issues. There are many institutions that should become involved in this effort. Several are promoting smoking cessation campaigns; they include the National Cancer Institute, the Surgeon General, voluntary organizations, and health departments. Smoking-related infant mortality risks should be addressed by these organizations. We should also study the ethics of advertising. Advertising should be more responsible about messages it gives, especially to young people.

To conclude, this problem is pluralistic and it needs pluralistic solutions. We should not leave this conference thinking that increased federal funding is the answer; much work must be done locally. Our national colleagues need to focus on both the immediate problem and the factors that have created it. The federal government and key coalitions can call attention to this issue and convince people to probe its causes and possible solutions. Convening groups is an extremely important function for the federal government to fund. It is particularly important to join educators, advertising and business executives, judges, and other non-health community leaders to discuss these issues. Let's not simply try to put more people into existing prenatal services; let's look at a spectrum of activities that can change the root causes of this problem.

Part V

# APPENDICES

## Appendix A: Exemplary and Innovative State Health Department Programs Aimed at Reducing Infant Mortality

ASTHO FOUNDATION
ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICIALS FOUNDATION
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# Exemplary and Innovative State Health Department Programs Aimed at Reducing Infant Mortality

Prepared for the

Intergovernmental Health Policy Project

Conference on

Intergovernmental Options for Reducing Infant Mortality

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Denver, Colorado

This paper describes a number of exemplary or innovative programs developed by State Health Agencies to reduce infant mortality. In August, 1983, The Association of State and Territorial Health Officials (ASTHO Foundation) asked state and territorial directors of Maternal and Child Health programs to send descriptions of innovative state projects designed to reduce infant mortality. SHAs responded by sending descriptions of a variety of programs addressing a wide range of problems related to the causes of infant mortality.

The paper is divided into two parts. Part I summarizes programs by state. Part II is a chart of programs by category. In Part II, programs are grouped into the following four categories.

1) Low Birth Weight, Preterm Birth, and Prenatal Care Programs

2) Perinatal, Infant and Child Care Programs

3) Adolescent Pregnancy Programs

4) Special Programs

The fourth category (Special Programs) consists of several projects which do not fit easily into any of the three principal categories.

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## Part I

### Summary of Infant Mortality Programs, by State

State programs are summarized in alphabetical order by state. The numbers in parenthesis following the program title indicate the page number where that project may be found in the categorical listing.

#### Alabama

The Prematurity Prevention Project (page 15) is targeted to Jefferson County and the Central Alabama Public Health Region. The goal is to reduce the number of low birth weight and premature infants. Infant mortality rates are extremely high in Alabama; and more than 80% of deaths occur in infants weighing less than 2500 grams. The program provides special attention to patients at high risk for preterm delivery, including weekly visits from 20 to 36 weeks. In-service education is an important component and is given to every provider in the system, including clerical workers. From previous data, the spontaneous preterm delivery rate has been reduced by more than 50%.

Person to contact: Beverly W. Boyd, M.D.; Director, Family Health Administration; Alabama Department of Public Health; 434 Monroe Street; Montgomery, AL 36130; (205) 832-6525

#### Arkansas

Healthy Beginnings (page 15) is a demonstration project targeted to indigent pregnant women and children in East Arkansas. It is designed to reduce the high rate of infant mortality and low weight births caused by severe poverty and lack of affordable health resources. As many women as possible are enrolled in the program during the first trimester. High-risk patients who are income-eligible receive special treatment at the regional medical center in Memphis. This project adds intensive outreach, community education, and home visits to existing services and is complemented by a contractual arrangement for high risk deliveries at a tertiary center. Three nurse-midwife centers are also provided for early discharge of low-risk patients. An extensive evaluation component has been developed; however, it is too soon to have documented impact.

Person to contact: Charles McGrew; Director, Bureau of Public Health Programs; Arkansas Department of Health; 4815 W. Markham; Little Rock, AR 72201; (501) 661-2242

## California

The Obstetrical Access Project (page 15) was implemented as a pilot project in 1979. The target population was made up of low-income and Medi-Cal-eligible pregnant women. The program addressed problems of access to prenatal and maternity care, and the high percentage of low birth weight infants in this population. The SHA contracted with 11 community providers for clearly-defined prenatal services, which included nutritional services, psychosocial assessments, and education. Mothers were to have a minimum of 11 prenatal visits, and prenatal care was coordinated with other programs such as WIC. Evaluation of the program demonstrated that 84% of project registrants completed care and delivered live infants. The percentage of low birth weight infants was 4.7% compared to 7.1% for a matched group.

Person to contact: Thelma Frazier, M.D.; Chief, Community Health Services Division; California State Department of Health; 714 P Street - Room 300; Sacramento, CA 95814; (916) 322-2950

Donald O. Lyman, M.D.; Deputy Director, Public & Environmental Health Division; Department of Health Services; 714 P Street, Room 450; Sacramento, CA 95814; (916) 445-1102

## Colorado

Colorado's low birth weight rate for its white population is one of the highest in the United States. The Low Birth Weight Prevention Project (page 17) began as a pilot program in urban clinics in 1983. It provides education, counseling, and group support for clients who are pregnant, or intend to become pregnant; smoke, use alcohol, are underweight; or who have a hematocrit less than 30%. The project has developed a prenatal risk scale and low birth weight risk reduction strategies to reduce smoking, alcohol use, and nutritional risk. The goal is to reduce the low birth weight rate among clients in four prenatal clinics and in family planning clinics, and to duplicate the use of risk and reduction protocols statewide by 1986. Outcome data is still insufficient to measure impact; however, anecdotal information suggests success at reducing risk-taking behaviors.

Person to contact: Robert McCurdy, M.D.; Director, Division of Medical Affairs and Special Programs; Colorado Department of Health; 4210 East 11th Avenue; Denver, CO 80220; (303) 320-6137

Daniel Gossert, ACSW, MPH; Director, Family Health Services Division; Colorado Department of Health; 4210 East 11th Avenue; Denver, CO 80220; (303) 320-6137

## Connecticut

The Hispanic Maternal and Child Preventive Health Network: Comadrona Model(page 21) is a program that attempts to enhance pregnancy outcomes and prevent perinatal and child health problems in low-income Puerto Rican families by using the traditional birth attendant (comadrona) as a liaison between the community and the health care system. The goal is to bring the Hispanic population into the health care system and to provide understanding of Hispanic cultural issues affecting health care to the provider. The comadrona is trained to go into the community and develop support networks, provide education, and identify families in need of service. To date, 14 volunteer comadronas have been trained, linkages have been established with local health care providers, community-based support groups have been formed, and 47 health education workshops have been held.

Person to contact: Vijaya Bapat, M.D.; Chief, Maternal & Child Health Services; Connecticut Dept. of Health Services; 150 Washington Street; Hartford, CT 06106; (203) 566-5425

## District of Columbia

The Perinatal Education Exchange Program (page 20) and the Mayor's Advisory Board on Maternal and Infant Health (page 20) are city-wide programs providing education for professionals. The Perinatal Education Exchange Program is an educational outreach program which emphasizes the exchange of current information on optimal standards of care. The Mayor's Advisory Board provides for site evaluation of hospitals and the upgrading of neonatal transport, as well as professional education and outreach. This program was awarded the Wyeth Award by ACOG for the hospital site review project.

The Community of Caring (page 26) is an adolescent pregnancy program in which nurse-midwives form health care teams to provide prenatal care in public health clinics. Teens are seen every two or three weeks allowing for frequent, positive reinforcement. Nurse-midwifery services are also available for labor and delivery at D.C. General Hospital. The Baby Hotline (page 27) operates 24 hours a day and provides information on questions related to all areas of maternal and child health, including referrals. Training for operators is provided by the Office of Maternal and Child Health.

Person to contact: Harry C. Lynch, M.D.; Acting Chief, Maternal & Child Health and Crippled Children's Services; D.C. Department of Human Services; 1875 Connecticut Avenue, N.W.; Washington, DC 20001; (202) 673-6665

## Florida

Both the Improved Pregnancy Outcome Indigent Maternity Program (page 17) and the Preterm Birth Prevention Program (page 17) target low-income women and address the problem of low birth weight infants. Since 1975, the number of low birth weight infants in Florida has increased primarily due to the lack of adequate prenatal care. The Improved Pregnancy Outcome Indigent Maternity Program is a statewide program implemented in 1983 to provide more indigent women with access to prenatal care and to ensure that women at risk for delivering low birth weight infants receive quality care. Services, including home visits, are provided through county public health units.

The Preterm Birth Prevention Program, implemented in January, 1984, through the IPO Program, assesses each pregnant woman at the first prenatal visit. High-risk patients are seen weekly. Patients also receive counseling on preterm labor signs, nutrition, and stress management. If a patient goes into preterm labor, early admission and use of tocolytic drugs takes place. The number of low birth weight infants born to IPO project patients was reduced by 11.5% in FY 1983-84.

Person to contact: Paul T. Boisvert; Personal Health Program Administrator; Health Program Office; 1323 Winewood Blvd., Bldg. 1, Rm. 214; Tallahassee, FL 32301; (904) 487-1321

## Hawaii

The purpose of Maternity and Infant Care Projects (page 18) is to reduce the percentage of low birth weight infants, and improve and maintain the health of women and newborns in three economically-deprived rural communities. The MIC project is an example of a comprehensive inter-disciplinary health care system. The program's Community Services component links high-risk patients to existing community resources, raising utilization rates rather than duplicating services. The Regional Perinatal Planning Program (page 19) is a statewide project addressing the problem of access to effective perinatal care. A regional perinatal program has been developed which sets standards, assesses needs and develops networks of public and private providers. The Sudden Infant Death Syndrome Educational Program (page 22) is a response to the need for education, counseling and referral for families of SIDs victims. The project is targeted toward families with infants up to one year of age and health professionals, and is statewide in scope.

Two adolescent pregnancy programs are targeted to different geographic areas. The Adolescent Family Life Project (page 26) addresses teen pregnancy in three rural communities where the teenage birth rate is the highest. The incidence of late perinatal care and low birth weight is also high in these areas. This project has developed models for community-based programs through community volunteers and community agencies with the support of the Department of Health. The Teen Intervention Program (page 25), targeted to adolescents 18 years or less on the Island of Oahu, provides counseling in the areas of pregnancy, adoption, and parenting skills, as well as outreach to schools. It utilizes teen advocates who provide support to pregnant teens and assist with counseling by providing real-life examples of issues relevant to teen age parenting.

The Medical Genetic Services Project (page 28) is a statewide program providing genetic counseling and evaluation. In a given year, the program screens as many as 180 children and families, and provides a range of community and professional educational services related to genetic screening and prevention.

Person to contact: Henry Ichiho, M.D.; Chief, Maternal & Child Health Branch; Hawaii Department of Health; 741-A Sunset Avenue; Honolulu, HI 96816; (808) 548-6554

## Illinois

Parents Too Soon (PTS) (page 26) is a coordinated effort of 10 state agencies targeted to adolescents 10 to 20 years of age who are at-risk of becoming parents, are pregnant, or are already parents. Through this program, designed to reduce teen pregnancy, Illinois hopes to mitigate adverse social and health consequences of teen childbearing, including reduction of infant mortality. PTS provides medical care for pregnant teens, adolescent mothers, and their children. Other services include food and nutrition counseling through the WIC program, help with drug or alcohol-dependency problems, vocational counseling and training, day care for infants, and family planning. PTS is a statewide program; however, emphasis is placed on areas where teenage pregnancy, infant mortality, and unemployment are widespread.

Person to contact: Elsie Baukol, M.D., M.P.H.; Chief, Division of Family Health; Illinois Department of Public Health; 535 W. Jefferson Street; Springfield, IL 62761; (217) 782-2736

## Iowa

The Prenatal Care Program (page 16), the Iowa Perinatal Program (page 20), and the Sudden Infant Death Program (page 22) are statewide projects. The Prenatal Care Program is targeted toward high-risk, indigent mothers who are not entering early into prenatal care. The program provides multi-disciplinary prenatal care with identification of the appropriate level of care for delivery. This program has increased the percentage of high-risk women entering care in the first trimester. The Iowa Perinatal Program (1973) was instituted because the state had many small hospitals incapable of providing high-risk perinatal care. A perinatal system was developed, which set criteria and established standards. A hospital review system was designed to assess the ability to provide care, and perinatal deaths are now analyzed to identify problems. The program also provides education for professionals. Neonatal mortality has been reduced from 13.7/1000 in 1972 to 5.9/1000 in 1981.

The Sudden Infant Death Program addresses the need for organized care for infants prone to sleep apnea. It is a statewide program targeted to all potential infant apnea patients, which has led to the coordination and development of 10 regional centers.

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Michigan

Michigan's programs developed from a need to address the problem of high infant mortality rates caused by widespread poverty and unemployment. Both the Low Income Prenatal/Postpartum Care Program (page 15) and the Maternal Infant Care Project (page 15) directly address problems related to inadequate prenatal care and early identification of high risk pregnancies. The Low-Income Prenatal/Postpartum Care Program, which will be implemented in 1985, designates prenatal care as a "basic service," which means that any woman seeking care will find appropriate care available. The Maternal Infant Care Project, which has been in place for five years, provides team-oriented prenatal and postnatal maternity and infant care services to reduce the incidence of low birth weight. These services include health education and family planning. This project has resulted in a 12% increase in the number of women seeking care in the first trimester. Since 1979, there has been a 24% increase in mothers with 11 to 15 prenatal visits. Fetal deaths have been reduced from 28 (1.6%) in 1979 to 22 (1.2%) in 1983.

The Infant Health Initiative Program (page 26) is targeted mainly to adolescents. In Michigan approximately two-thirds of infant deaths are associated with low birth weight; and this program includes outreach to encourage early entry into prenatal care as well as nutrition, parenting skills, and family planning.

Person to contact: Jeffrey R. Taylor, Ph.D.; Chief, Division of Maternal & Child Health; 3500 North Logan Street; P.O. Box 30035; Lansing, MI 48909; (517) 373-1255

Mississippi

The state of Mississippi sent descriptions of programs in every category. The Delta Maternity and Infant Care Project (page 28) and the Limited Medically Needy Task Force Projects (page 29), which addressed funding problems and the need to increase access to care, were included under Special Programs. The High Risk Maternity Funded Program (page 16) is targeted toward high-risk pregnant women below the poverty level who are not eligible for Medicaid. Patients are risk-scored and those at high risk may apply for the program. Last year 1,750 maternity patients received hospitalization under this program.

High infant mortality rates, poverty, and insufficient access to primary and perinatal care provide impetus for a wide range of perinatal programs in Mississippi. Most programs target low-income women and infants. The High Risk Infant Funding Program (page 21) targets infants less than 18 months of age and provides hospitalization and physician care for acute conditions. The Primary Care Infant Mortality Reduction Program (page 21) provides improved access to Level III care as well as maternal postpartum, and infant tracking. It also includes professional education, as does the Outreach Perinatal Education Project (page 21), which targets providers in the public and private sectors and provides in-service education through the University of Mississippi Medical Center. The Perinatal Data Project (page 21) collects and analyzes data to determine high-risk groups and geographic areas so that programs can be instituted where the need is greatest. The Child Health Program (page 22), in addition to assuring access to care, attempts to coordinate services such as Immunization, WIC and Crippled Children's Services with well baby care to develop a focused effort to reduce infant mortality.

The Holmes County Maternity Project (page 22) makes Level I perinatal care available through utilization of midwives in a community hospital. It targets low-income women and infants in a county with extreme medical and economic problems, and demonstrates effective use of midwives as providers of low-risk maternity care. To provide access to appropriate care for mothers and children at all income levels the Perinatal Awareness Project (page 21) emphasizes cooperation among public and private health service providers, professional associations and consumer advocacy organizations. The project focuses on the elimination of existing barriers to risk-related maternity and infant health care services. It also provides information to state policy makers regarding the need for appropriate access.

Mississippi's adolescent pregnancy programs are directed toward specific geographic areas. The Jackson-Hinds Adolescent Pregnancy Prevention Program (page 25), targeted to students in five urban junior high and high schools, provides counseling for teens, as well as child care and health services for infants of teen mothers. The Teen Learning Center (page 25) attempts to keep pregnant adolescents in school by providing schooling in an alternative setting and education for pregnancy, delivery and child care. Mississippi reports that 80% of participants return to school after delivery and 85% practice family planning. The Teen Pregnancy Reduction Project (page 25) targets adolescents in the Mississippi Delta, which has one of the highest infant mortality rates and teen pregnancy rates in the nation. The project employs health education and a case management approach to reduce the incidence of repeat pregnancies and encourage postponement of sexual involvement. The Adolescent Counseling Program (page 25), due to be implemented in 1985, will address all Medicaid-eligible adolescents and risk factors, such as the use of drugs, alcohol, and tobacco, through counseling in reproductive health.

Person to contact: C. Earl Fox, M.D.; Chief, Bureau of Family Health Services; Mississippi Board of Health; 2423 North State Street; P.O. Box 1700; Jackson, MS 39205; (601) 354-6680

## Montana

The Montana Perinatal Program (page 20) is a statewide program targeted to all perinatal patients. The project addresses causes of infant mortality--preterm labor, fetal alcohol syndrome (FAS), and high-risk pregnancy--through professional and consumer education, and an anti-FAS campaign. The program involves 1,000 health care providers, 56 hospitals, public health nurses, and lay people.

Person to contact: Sidney Pratt, M.D.; Chief, Clinical Programs Bureau; Dept. of Health & Environmental Sciences; Cogswell Building; Helena, MT 59620; (406) 449-4740

## Kansas

In 1980, 17.3% of Kansas women did not receive adequate prenatal care. The objective of the Promotion of Prenatal Care Project (page 16) is to assure that 100% of pregnant women receive prenatal care. Each year since 1980 the Kansas Index of Adequacy of Prenatal Care has been used to review prenatal care at the county level. In 1983, 15.3% of women received less than adequate care based on the Index, an improvement of 2%. Hospital Perinatal Casualty Studies (page 20) was implemented in the early 1960s and targeted hospitals, where over 99% of Kansas births occur. Perinatal mortality rates were reduced from 25.6/1000 in 1965 to 12.2/1000 in 1983. Neonatal rates dropped from 15.3/1000 in 1965 to 5.9/1000 in 1983. Adolescent Maternity and Infant Care Project (page 27) targets adolescents in counties with 20 or more births per year to mothers less than 18 years of age. There are 11 projects which reach 750 adolescents and their children each year. The program is a modification of the Title V Maternity and Infant Care Projects adapted especially for adolescents. In addition, it provides for networking with private practitioners, hospitals, schools, and social agencies.

The Black Infant Mortality Reduction Project (page 28) was instituted as a pilot program in Kansas City in 1981 due to a black infant mortality rate which was twice the rate for white infants. In 1983 it was expanded to include three additional cities. The program includes pregnancy outreach, and enrollment in comprehensive prenatal care programs. Two programs use lay visitors for pregnancy outreach and newborn home visits. In Kansas City the black infant mortality rate was reduced from 17.9/1000 in 1980 to 14.3/1000 in 1983. The state mortality rate for black infants decreased from 19.9/1000 in 1982 to 16.8/1000 in 1983.

Person to contact: Patricia T. Schloesser, M.D.; Medical Director, MCH Programs; Dept. of Health & Environment; Forbes Field, Bldg. #740; Topeka, KS 66620; (913) 862-9360

## Kentucky

Under the Improved Pregnancy Outcome Project, Kentucky has undertaken several projects related to perinatal care and one prenatal project, the MCH Prenatal Risk Assessment Tool (page 16). The Risk Assessment Tool was developed to determine the level of care needed by the individual patient. The form is completed for every prenatal patient and used as a guideline for obstetrical consultation. The other three IPO projects are health education programs, two of which are targeted to providers. The Continuing Education Program for Professionals (page 19) provides in-service education for nurses on prenatal and post-partum care, and education on the regionalization concept for both nurses and physicians. The Audio Visual System (page 19) places audio-visual educational materials in all district health departments. Coordination is provided by the University of Kentucky and the University of Louisville. The Parenting Effort (page 19) provides health education in the areas of prenatal care, childbirth and parenting. It utilizes available resources and attempts to expand services without additional funding or staff.

A regional perinatal system was developed under the Regionalization of Perinatal Care Program (page 19). This program was instituted in 1978 and directed toward the 11% of newborns requiring other than normal newborn care. A statewide system of perinatal centers was developed. The program currently provides partial reimbursement of uncollectable costs associated with in-patient services for sick and critically ill newborns, as well as air and ground transport.

The Young Parents Program (page 27) is an adolescent pregnancy program for patients attending the University of Kentucky Medical Center. Emphasis is placed on medical care for mother and child, parenting education, educational counseling and family planning.

Person to contact: Patricia K. Nicol, M.D.; Director, Division of Maternal & Child Health; Bureau for Health Services; 275 East Main Street; Frankfort, KY 40601; (502) 564-4830

## Louisiana

The Improved Pregnancy Outcome Project - Media Campaign (page 26) was designed for the special needs of the New Orleans area. Even though medical facilities and trained personnel are abundant, Orleans Parish has a higher infant mortality rate than the rest of the state. The project gathered baseline data on the potential audience and developed radio commercials focusing on the importance of early and regular prenatal care, nutrition, and the use of alcohol, tobacco, drugs and medication during pregnancy. There is also a phone line for referrals. The program is targeted to males and females below the age of 20 and tries to focus on behaviors that are changeable. The target population was involved in the campaign from the beginning, and the last commercial in the series was developed by two classes of eighth graders. The project is currently being evaluated.

Person to contact: Louis Tractman, M.D.; Director, Division of Personal Health Services; Dept. of Health & Human Services; P.O. Box 60630, Room 605; New Orleans, LA 70160; (504) 568-5071

## Maryland

The state of Maryland has several programs designed to reduce infant mortality, teenage pregnancy, and the incidence of low birth weight infants in Maryland. These are the Improved Pregnancy Outcome Maryland State Expanded Maternity Plan; Infant Mortality Committee, Baltimore City: Prenatal Package Plan; and the JHH Adolescent Program (page 16). These programs target low-income pregnant women, including adolescents and women with a history of low birth weight infants. The projects are located in Baltimore City and the seven counties with the highest rate of infant mortality, low birth weight infants, and adolescent pregnancies. Under these programs high risk pregnancies are identified and referred to high risk centers. Maternal and infant transport is also provided. Professional education has been upgraded, and MCH services evaluated. Infant mortality has decreased from 14.7% to 12%, the lowest in Maryland's history.

Person to contact: Eric M. Fine, M.D., M.P.H.; Director, Preventive Medicine Administration; Dept. of Health &. Mental Hygiene; 201 West Preston St., 4th Floor; Baltimore, MD 21201; (301) 383-4797

Annelies Zachary, M.D., M.P.H.; Chief, Office of Maternal Health, Family Planning, and Hereditary Disorders; Dept. of Health & Mental Hygiene; 201 West Preston St., 3rd Floor; Baltimore, MD 21201; (301) 383-6464

North Carolina

North Carolina's programs are directed at reduction of its high infant mortality rate (46th in 1982), and its high rate of low weight births (45th in 1981). The Premature Birth Prevention and Infant Mortality Reduction Program (page 18) targets all pregnant women and involves both the public and the private sector. The project screens women at risk for delivering premature infants and provides special education for high risk women. It also provides financial support for health departments, physicians, and hospitals to cover indigent care.

The High Priority Infant Program (page 23) is a statewide program which targets high-risk infants. Under this program, at-risk infants are identified in the hospital. Follow-up consists of home visits, regular clinic visits, and developmental assessments. This project is also a cooperative effort involving both the public and private sectors. The Maternal Health/Perinatal Program (page 23) was first implemented in the 1960s and established a statewide network of prenatal and high-risk maternity clinics. A network of Level III Centers involving nine communities was also established. Since 1974, the fetal mortality rates have declined by 31%, neonatal mortality rates by 38%, perinatal mortality rates by 35%, and infant mortality rates by 32%. These declines in mortality rates were almost all due to increased birthweight specific survivals, especially at low weights for neonatal deaths, and at moderate and mature weights for fetal deaths.

Person to contact: Verna Barefoot, M.D.; Chief, Maternal & Child Care; Division of Human Services; Dept. of Human Resources; P.O. Box 2091; Raleigh, NC 27602; (919) 733-3816

Jimmie L. Rhyne, M.D.; Head, Maternal & Child Health Branch; Division of Health Services; Dept. of Human Resources; P.O. Box 2091; Raleigh, NC 27602; (919) 733-7791

North Dakota

The Native American Maternal/Child Health Program, Fort Totten, Indian Reservation (page 28) targets Native American women of childbearing age and their children up to five years. It is a comprehensive health care program designed to meet the special needs of the target population. In 1979, only 49% of pregnant women at Fort Totten enrolled in prenatal care. Participation in well-baby care was also low, and immunization levels for children were only 32%. The major focus of the project has been enrollment of women in prenatal care in the first trimester. Information is also provided on fetal alcohol syndrome and the effect of smoking. Since diabetes is a problem among Native Americans, blood sugar screening is conducted for all pregnant women at 26 weeks. Participation in well-baby clinics is encouraged, and in 1983 immunization levels had reached 90%. Enrollment in first trimester prenatal care was 72% in 1983; however, the average number of prenatal visits was still only five. The infant mortality rate has decreased from 35.7/1000 in 1976 to 17.3/1000 in 1983.

Person to contact: Robert N. Wentz, M.D.; Director, Division of Maternal & Child Health; North Dakota Department of Health; State Capitol; Bismarck, ND 58505; (701) 224-2493

Ohio

The "Thanks Mom" Improved Pregnancy Outcome Program (page 18) is a statewide program targeting adolescent and minority women. The goals are to increase the number of women initiating prenatal care in the first trimester, to increase coordination among agencies working to improve maternal and child health, and to increase awareness of problems associated with maternal PKU. A media campaign (radio, TV, and printed materials) was launched in March 1984. Geographic areas not well-served by the media are being given special attention and educational materials are also sent to providers.

Fetal Alcohol Syndrome: A Health Promotion to Improve Perinatal Outcome (page 22) is a campaign to increase awareness among pregnant women of the hazards of alcohol consumption during pregnancy. The Bureau of Maternal and Child Health in conjunction with the Bureau of Alcohol Abuse and Alcohol Recovery will 1) develop an educational program which will distribute educational materials relevant to Fetal Alcohol Syndrome and 2) train providers to deal with alcohol consumption among pregnant women.

The Family and Community Network Project (page 26) targets adolescents in a rural community. The project will provide education and counseling to pregnant adolescents to encourage them to finish school and to link them and "significant others" with community resources. Program objectives include decreasing the number of repeat pregnancies and increasing the number of financially-stable adolescent parents.

Person to contact: James F. Quilty, Jr., M.D.; Chief, Division of Maternal and Child Health; Ohio Department of Health; 246 N. High St., P.O. Box 118; Columbus, OH 43216; (614) 446-3263

Oregon

The Maternity Services Program (page 16) targets low-income women, especially those in two-parent families, not eligible for Medicaid. The goal of the project is to make early prenatal care more accessible and to identify individuals with high-risk pregnancies. The program increases the availability of maternity services; uses the WIC program as a case finder and a referral source; and expands the capability of family planning clinics and health departments in the area of pregnancy testing and counseling. It also incorporates a public education component to encourage early prenatal care and inform consumers of local resources.

Person to contact: Marianne Remy, P.N.P., M..P.H.; Coordinator, Maternal & Child Health Program; Oregon Health Division; P.O. Box 231; Portland, OR 97207; (503) 229-5593

South Carolina

The High Risk Perinatal Program addresses the problem of access to appropriate care for pregnant women at highest risk of a poor pregnancy outcome and access to appropriate care of the highest risk newborns. The goal of the program is to reduce fetal and neonatal mortality through a regionalized approach. The Program uses a two pronged approach to reach the goal—high risk obstetric care and high risk newborn care. The obstetric goal is to ensure infants are born healthy or, if not healthy, at least assure high risk births occur in the appropriate level hospital to ensure optimal neonatal care. The neonatal portion of the Program is also preventive and strives to prevent death and disability of high risk newborns. The statewide Program purchases appropriate prenatal, intrapartum and post-partum care for pregnant women identified to be at highest risk for a bad outcome. If the patient is found to be at high risk, has income less than 150% of HHS poverty schedule, and not a Medicaid recipient, the Program pays for special care to assure the best pregnancy outcome. This special care consists of medical evaluation and management, follow-up, social work evaluation, nutrition evaluation and health education. The patient is followed for one post-partum year by family planning staff.

Person to contact: Rita S. Hammack; Deputy Director, Division of Maternal Health; South Carolina Department of Health and Environmental Control; 2600 Bull Street; Columbia, SC 29201; (803) 758-8553

Texas

The Maternal and Child Health Jobs Bill Program for High Risk Maternity and Neonatal Care (page 17) targets high-risk, indigent women in 38 rural counties and 11 cities with unemployment rates greater than 12%. The purpose of this project is to assure continuity of care for high-risk pregnant women and to increase enrollment in early prenatal care. It consists of a comprehensive program of consultation and hospital care for high-risk patients. Arrangements have been made with local hospitals, physicians, health departments, and community health centers for delivery of care.

Person to contact: Walter Peter, M.D.; Chief, Bureau of Maternal & Child Health; Texas Dept. of Health; 1100 West 49th Street; Austin, TX 78756; (512) 458-7700

Virginia

The Preterm Birth Prevention Program (page 15) is a pilot program designed to reduce the number of preterm births. It is targeted to women who attend prenatal clinics at Virginia's three medical schools and to local health departments in those same areas. The program provides for identification of mothers at risk, weekly prenatal visits, patient education, and treatment with tocolytic agents for women in early labor. If the program demonstrates success in reducing preterm births, it will be expanded.

Person to contact: Alice Linyear, M.D.; Director, Bureau of Maternal & Child Health; Virginia Department of Health; 109 Governor Street; Richmond, VA 23219; (804) 786-7367

Washington

The Rural County Early Detection and Intervention Program (page 23) was implemented in 1980 and targeted to three rural counties. The program addresses problems of medically-isolated areas at a distance from secondary and tertiary care centers. The target population includes children from 0-3 years of age with questionable, ill-defined, or fully-documented developmental delay. It provides for developmental assessments, on-going monitoring, referral, and follow-up. It also provides training for local professionals and home visits when needed. The High Priority Infant Tracking System (page 23) addresses the problem of appropriate follow-up for high-risk infants. This is a pilot program located in one rural and one urban county and targets newborns who are at high risk. There is an initial evaluation of the infant in the hospital and referral to a local health department, which contacts the primary provider at stated intervals to be sure the child is receiving on-going care. If not, the family is contacted. After one year, 100% of children are still under the on-going care of a physician. Before tracking, only 50% of children were receiving on-going care after one year.

Assistance for People with Problems Large Enough to Share (APPLES, page 23) is a pilot project targeted to high-risk families in a two-county health

district which includes both urban and rural populations. The project is an addition to the traditional maternal and child health program and uses trained volunteers to provide support to high-risk families through home visits. This program was implemented in 1984 and has not yet been evaluated.

The Core Services Project (page 24) is proposed for implementation in 1985. This is a pilot program which will target children with disabling impairments resulting from a variety of conditions and diseases, served by the state's major tertiary pediatric care facility. The program will coordinate community and institutional care of these children by assigning case managers in both the hospital and the local health departments to oversee continuity and evaluate outcomes.

Person to contact: Fran Moellman; Manager, Maternal & Child Health Program; Office of Maternal & Child Health Services; Airport Building 3, MS-LC-12A; Olympia, WA 98504; (206) 753-2482

## Wisconsin

The objectives of the Healthy Birth Program (page 17) are to reduce the incidence of low birth weight and birth defects, and to ensure comprehensive health care for infants during the first year of life. The target population consists of all pregnant women, infants, and parents, with special attention given to adolescents and low-income families. The project, implemented in July 1984, will develop uniform standards of care and risk assessment tools for professionals and consumers. Consumer education will also be included to help achieve program objectives. This program will be a combined effort of the Department of Health and Social Services, private agencies, and professional organizations in order to develop a coordinated system of maternal and child health services.

Person to contact: Bill Reiser; Unit Supervisor, Maternal & Child Health Section; Division of Health; P.O. Box 309; 1 West Wilson Street; Madison, WI 53701; (608) 266-2661

## Wyoming

The Improved Pregnancy Outcome Program (page 20) is targeted to families in the childbearing years, and perinatal health care providers. It is a statewide program, implemented in 1978, that provides educational and prevention programs for providers and consumers, transport assistance to regional centers, and cooperative efforts for education and consultation with the regional centers. Wyoming's infant mortality rates have improved, and it now has the second lowest rate in the nation.

Person to contact: Lawrence J. Cohen, M.D.; Administrator, Division of Health & Medical Services; Hathaway Building; Cheyenne, WY 82002; (307) 777-7121

## PART II

## STATE HEALTH AGENCY INFANT MORTALITY PROGRAMS, BY CATEGORY


Page

1) Low Birth Weight, Preterm Births, and Prenatal Care Programs. . . . 15

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3) Adolescent Pregnancy Programs . . . . . 23

4) Special Programs. . . . . 26

Low Birth Weight, Preterm Births, and Prenatal Care Programs

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Healthy Beginnings | Arkansas | LBW & IM caused by poverty & lack of affordable health resources | Indigent pregnant women | 9 rural counties | 10/83 | 1) Education<br>2) Home visits<br>3) Nurse-midwife centers<br>4) High-risk tertiary care | Being monitored |
| Preterm Birth Prevention Programs | Virginia | > 60% of infants who die in first year are LBW infants | Women at risk for preterm births who attend selected clinics | Pilot Program Urban & Rural | 11/83-2/84 | 1) Weekly prenatal visits<br>2) Education<br>3) Treatment with tocolytic agents | Not documented |
| Prematurity Prevention Project | Alabama | Alabama has one of highest IM rates. 80% occur in births < 2500 grams | | Jefferson City & Central Alabama Public Health Region | | 1) Weekly visits from 20-36 wks<br>2) Education for providers | Based on previous data, preterm delivery rate reduced by > 50% |
| Maternal Infant Care Project | Michigan | High level of infant mortality due to lack of adequate prenatal care, especially in cities | Low-income pregnant women | 8 urban projects | Ongoing for 5 yrs | 1) Increased enrollment of first trimester patients<br>2) Team oriented pre and post-natal care<br>3) Family planning<br>4) Education | 1) 12% increase in women seeking care in first trimester<br>2) 24% increase in mothers with 11-15 prenatal visits<br>3) Fetal deaths reduced in 1979-1983 from 1.6% to 1.2% |
| Low Income Prenatal/ Postpartum Care | Michigan | Same as above. In addition, lack of early identification of high-risk pregnancies | 1) 5000 pregnant women below 185% of USDA poverty level<br>2) All high-risk groups | Selected urban & rural settings | 1/85 | 1) Provision of basic services to all women<br>2) Medical, nutritional, psychological, laboratory, & prescription services<br>3) Education | Not yet available |
| Obstetrical Access Project | California | High % of LBW. Lack of access to prenatal and maternity care | Low-income, Medi-Cal-eligible pregnant women | Pilot project in 13 counties | 7/79 | State contracted with 11 community providers for prenatal care:<br>1) Nutritional & psychosocial assessment, prenatal vitamins, birth ed.<br>2) A minimum of 11 prenatal visits<br>3) Coordination with other programs, such as WIC, FP, Genetic Diseases | 1) 84% registrants completed care & delivered live infants<br>2) LBW for population was 4.7% compared to 7.1% for matched grp.<br>3) Cost Benefit= $2.60 savings in neonatal care for every $1.00 of additional prenatal care |

LBW Preterm Births, Prenatal Care (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Maternity Services Program | Oregon | Diminishing access to maternity services | Low-income families, especially 2-parent families not eligible for Medicaid | 32 of 34 counties | 7/83 | 1) Development of maternity services: direct or contract with MD's.<br>2) Traveling consulting teams from Oregon Health Sciences University | |
| Prenatal Care Program | Iowa | High risk mothers not entering early into prenatal care | Indigent, high-risk pregnant women | Statewide | 1979 | 1) Multi-disciplinary approach to prenatal care<br>2) Identification of appropriate level of delivery care | Increased % of high-risk mothers entering care in first trimester |
| Promotion of Prenatal Care | Kansas | Inadequacy of prenatal care | All women of childbearing age | Statewide | 1980 | To assure 100% women receive prenatal care:<br>1) annual review of care at county level through Kansas Index of Adequacy of Care<br>2) Outreach at county level | Based on Index:<br>1980-17.3% received inadequate care<br>1983-15.3% received inadequate care |
| High Risk Maternity Funded Program | Mississippi | High percentage of poor & high risk mothers, many not eligible for Medicaid | High risk pregnant women below poverty level who are not eligible for Medicaid | Statewide | 1975 | 1) Patients risk scored on Hollister Maternity Record<br>2) Provide funds for high-risk patients to receive prenatal & delivery care at Level II/III hospital | In 1983, 1,750 patients received hospitalization |
| Improved Pregnancy Outcome Project: MCH Prenatal Risk Assessment Tool | Kentucky | Need to determine level of care commensurate with patient needs | All MCH prenatal program patients | Statewide | 7/83 | Prenatal risk assessment tool applied to each patient & used as guideline for obstetrical consultation | Currently being evaluated |
| Improved Pregnancy Outcome Md. State Expanded Maternity Plan; IM Committee, Baltimore City; JHH Adolescent Prograc | Maryland | In 1978, Md. ranked 26th in IM in U.S. | 1) Low-income pregnant women & adolescents<br>2) Women with history of LBW infants | 7 counties, Baltimore City | 1/80 | 1) Identify high-risk pregnancies<br>2) Referral to high-risk care & coordination of maternal and infant transport<br>3) Social Services & nutritional supplement services<br>4) Upgrade of MCH education<br>5) Improve access to care | IM decreased from 14.7% to 12%. LBW decreased from 7.8% to 7.4% |

LBW, Preterm Births, Prenatal Care (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Healthy Birth Program | Wisconsin | Need to reduce incidence of LBW and birth defects | 1) pregnant women, fathers, infants<br>2) adolescents<br>3) low-income families | Statewide & Pilot Projects | 7/84 | 1) Development of uniform standards of care and risk assessment tools for preconception, pregnancy, and infancy<br>2) Education for professionals & consumers | Evaluation measures being developed |
| LBW Prevention Project | Colorado | High rate of LBW infants: 8% in 1981 | Clients of 6 publicly funded clinics who:<br>1) are pregnant or intend to become pregnant<br>2) smoke, use alcohol, are underweight or gaining inadequate weight during pregnancy<br>3) have a hematocrit < 30% | Pilot project in urban clinics; statewide 1986-87 | 9/83 | 1) Develop prenatal risk scale<br>2) Strategies incl. education & support groups to address smoking, alcohol use & nutrition | Data insufficient to measure at this time |
| Improved Pregnancy Outcome Indigent Maternity Program | Florida | Lack of adequate prenatal care resulting in increase of LBW infants | Low-income women | Statewide | 7/83 | 1) Prenatal services including laboratory & some arrangement for delivery & postpartum care<br>2) Home visits to high risk patients<br>3) Sterilization | LBW infants born to project patients reduced by 11.5% in 1983-84 |
| Preterm Birth Prevention Program | Florida | Increase in number of LBW infants since 1975 | Low-income pregnant women | Statewide | 1/84 | 1) Patient assessment using scoring system<br>2) Weekly visits by high-risk patients<br>3) Education & counseling<br>4) Tocolytic drugs<br>5) Education for professionals | Same as above |
| MCH Jobs Bill Program for High Risk Maternity and Neonatal Care | Texas | Lack of health care at delivery and in neonatal period for high-risk, indigent patients | High-risk indigent pregnant women and infants | 38 rural counties & 11 cities with unemployment > 12% | 6/83-9/84 | 1) Local hospitals & physicians contracted with to provide needed care<br>2) Reimbursement:<br>A. $750-$1,000 for vaginal delivery<br>B. $900-$1,300 for Caesarean Section<br>C. Predelivery care also covered | Currently being evaluated |

LBW, Preterm Births, Prenatal Care (continuod)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Premature Birth Prevention and IM Reduction | North Carolina | High rate of IM (46th in 1982) and LBW (45th in 1981) | All pregnant women | Statewide | 7/84 | 1) Screening for women at-risk for premature delivery<br>2) Special education for high-risk women<br>3) Financial support to cover cost of indigent care | Not yet documented |
| Maternity & Infant Care Projects | Hawaii | High infant mortality, morbidity & LBW in economically deprived communities | Low-income, high-risk women in 3 rural areas | 3 rural communities on 2 islands | 1960s | 1) Links high-risk patients to existing community resources<br>2) Interdisciplinary approach providing preventive, diagnostic & treatment services; outreach & education | Steady reduction in IM & LBW. Population has shown more interest in their health care management |
| "Thanks Mom" IPO Program | Ohio | Late entry or lack of prenatal care | Adolescent & minority women | Statewide | 3/84 | 1) Media campaign (radio, TV, ed. materials) to promote awareness of importance of early prenatal care<br>2) Make available ed. materials for providers<br>3) Coordinate program with other agencies to improve MCH services | Not determined |
| High Risk Perinatal Program | South Carolina | Access to appropriate care for women @ highest risk of poor pregnancy outcome | Low income, non-medicaid women referred to or identified by the Public Health Dept. | Statewide | 1976 | 1) Purchases appropriate prenatal, intrapartum and post partum care for pregnant women identified @ highest risk for bad outcome<br>2) Provides medical evaluation management and follow-up, social work evaluation, nutrition evaluation, and health education<br>3) Assesses risk at birth and covers care at appropriate facilities, i.e. Level I or II. | Fetal mortality 15.2/1000 versus 23.3/1000 for matched group; neonatal mortalit 15.5/1000 versus 27.5/1000 for matched group;pe natal mortality 30.5/1000 versus 53.2/1000 for matched group. |

Perinatal, Infant and Child Care Programs

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Regional Perinatal Planning Program | Hawaii | 1) Variable infant mortality rate dependent on ethnicity & residence<br>2) Access to effective perinatal care | High risk pregnant women & newborns | Statewide | 1980 | Develop a regional perinatal system:<br>1) Assess needs & resources<br>2) Set standards & guidelines<br>3) Develop networks of public & private providers<br>4) Convene meetings for professionals | Developed a model perinatal health system |
| Regional-ization of Perinatal Care Program | Kentucky | High mortality & morbidity and high cost of neonatal care | 11% of newborns requiring other than normal services | Statewide | 7/78 | Phase 1: Provided funds for statewide system of perinatal care centers<br>Currently: Reimbursement of cost for inpatient services for critically ill newborns; air & ground transport | Decrease in maternal, perinatal, & neonatal death rates |
| Improved Pregnancy Outcome Project | Kentucky | | | | | | |
| A. Continuing Ed. for Profess-ionals | | Need to increase perinatal training | Health professionals providing high-risk obstetrical & new-born care | Statewide | 1978-current | 1) Five 6-day sessions for nurses on prenatal & postpartum care<br>2) Education on regionalization concept for nurses & physicians | |
| B. Audio-Visual System | | Need to increase perinatal training | Level II hospital & district health dept. staff | Statewide | 1981/82 | 1) Audio-visual materials placed in all district health depts<br>2) Use of materials & provision of additional resources facilitated by University project coord-inators (UL & UK) | Improved utilization of educational materials |
| C. Parenting Effort | | Need for parent ed. related to perinatal care | 21 selected communities | Statewide | 1984 | Coordinated effort to provide Health Ed. related to childbirth, prenatal period, parenting and sex ed. through available resources | |

Perinatal, Infant and Chidl Care (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Hospital Perinatal Casualty Studies | Kansas | Reduction of perinatal mortality & morbidity | Hospital births | Statewide | 1962 | 1) Annual comparison of hospital data<br>2) Local reviews of deaths through local perinatal review committees | IM Rates:<br>Perinatal 1965 25.6/1000<br>Perinatal 1983 12.2/1000<br>Neonatal 1965 15.3/1000<br>Neonatal 1983 5.9/1000 |
| Montana Perinatal Program | Montana | Causes of IM | All perinatal patients | Statewide | 6/83 | 1) Continuing ed. for professionals<br>2) Anti-FAS campaign & education | |
| Iowa Perinatal Program | Iowa | Many small hospitals not capable of providing high-risk perinatal care | All pregnant women | Statewide | 1973 | 1) Assess each hospital's ability to provide care<br>2) Analyze perinatal deaths to identify problems<br>3) Provide ed. to suit needs of providers | Neonatal mortality reduced from 13.7/1000 in 1972 to 5.9/1000 in 1981 |
| Improved Pregnancy Outcome | Wyoming | To reduce IM rate which was above the natl. average | Families in child-bearing yrs. & perinatal providers | Statewide | 12/78 | 1) Education and prevention for providers & consumers<br>2) Transport for mothers & infants to regional centers<br>3) Cooperative efforts for education & consultation with regional centers | IM rate went from 48th to 2nd lowest in nation |
| Mayor's Advisory Board on Maternal & Infant Health | District of Columbia | High rate of IM | At-risk women & infants | City-wide but concentrated in areas with high IM | on-going | 1) Education for professionals<br>2) Site evaluation of hospitals<br>3) Upgraded neonatal transport<br>4) Outreach | Decrease in infant mortality over 4 yrs |
| Perinatal Education Exchange Program | District of Columbia | Keeping knowledge of health professionals up to date | Health Care Professionals | Citywide | | 1) Comprehensive perinatal education through seminars, lectures.<br>2) Exchange of information on optimal standards of care emphasized | |

Perinatal, Infant and Child Care (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Hispanic Maternal & Preventive Health Network | Connecticut | Perinatal & Child health problems | Hispanic women & children | Selected urban Hispanic neighborhoods | 1/82 | To build trusting relationship with health care system and enhance outcomes, traditional birth attendants trained to: 1) develop neighborhood support networks 2) identify families needing services 3) provide health education | Being monitored: 49 pregnant women currently enrolled; 14 birth attendants trained; 47 workshops given; 7 support groups developed |
| Perinatal Awareness Project | Mississippi | Access to appropriate care for mothers & children at all income levels | Pregnant women & infants < 1 yr. below 125% of poverty level | State Health Dept; Hosp. Assn.; Academy of Pediatrics; Coalition for Mothers & Babies | 10/83 | 1) Coalition to form linkages among public & private providers, professional assn's. & consumer grps. to eliminate barriers to services 2) Conduct surveys on barriers to perinatal care & publish results 3) Provide information to policy makers 4) Hold workshops & publish newsletter | Has carried out stated activities and received endorsement of 61 organizations for efforts in behalf of improved access to care |
| High Risk Infant Funding Program | Mississippi | State has 2nd highest IM rate in U.S. | Infants < 18 mos. needing hospitalization or immediate care for acute conditions | Statewide | 10/83 | Provides hospital/physician care for high-risk infants: 1) Up to 5 days in hospital + physician services 2) Office visits for acute care | In first 9 mos. 77 infants approved for care: 37 hospitalized, 40 physician acute care visits |
| Outreach Perinatal Education Project | Mississippi | To decrease IM during perinatal period | Perinatal care providers in public & private sectors | Statewide | 10/84 | Univ. of Mississippi Medical Center to conduct series of five 2-day sessions in obstetrics & neonatal care for providers | Hospital records will be reviewed before & after intervention to measure impact |
| Perinatal Data Project-Mothers & Babies Book | Mississippi | High IM rates | | Statewide | 10/84 | Analyze perinatal data to determine high risk grps. & geographic areas & then target program where needed | |
| Primary Care-Infant Mortality Reduction Program | Mississippi | Lack of sufficient access to primary & perinatal health services | Low-income women & children | 11 counties in N.E. Mississippi | 7/83 | 1) Access improved to Level III perinatal care 2) Maternal post-partum & infant tracking 3) Team approach to care based on risk criteria 4) Provider education | Not yet known |

Perinatal, Infant and Child Care (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Holmes County Maternity Project | Mississippi | Extremely high IM & poverty | Low-income women & infants | 1 rural county with extreme health & social problems | 1975 | 1) Prenatal & intrapartum care for low-risk women<br>2) Risk scoring & referral<br>3) Infant care & follow-up | 1) Demonstrates effective use of nurse-midwives for low-risk care<br>2) IM reduced |
| Child Health Program | Mississippi | Appropriate health services not available through private practice for a substantial segment of the population | Children at or below 125% of poverty level & others in need of care | Statewide | 1982 | Assures access & availability of health care:<br>1) Health assessments<br>2) Appropriate intervention and follow-up<br>3) Combines services such as Immunization, WIC, EPSDT & Crippled Children's Services with well child care | |
| Sudden Infant Death Program | Iowa | Lack of organized care for infant apnea patients | All potential infant apnea patients | Statewide | 1982 | 1) Development of regional infant apnea centers<br>2) Establish criteria for centers | Developed 10 centers |
| Sudden Infant Death Syndrome Educational Program | Hawaii | Need to develop an educational program and a system of referral & counseling for SIDS victims, a problem affecting the total community | 1) Families with infants 0-1 yr.<br>2) Health professionals | Statewide | 10/82-9/84 | 1) Identification of all SIDS cases<br>2) Autopsy examinations<br>3) Counseling for families<br>4) Education | 1) Conducted study of SIDS incidence<br>2) Provided identification & follow-up for 70 families<br>3) Conducted 80 educational sessions for professionals |
| Fetal Alcohol Syndrome; a Health Promotion To Improve Perinatal Outcome | Ohio | Percentage of women of childbearing age who consume alcohol regularly | Women of childbearing age | Statewide | 1/85 | 1) Development & dissemination of ed. materials related to FAS<br>2) Train consultants and providers to deal with alcohol consumption by pregnant women<br>3) Program developed in conjunction with Bureau of Alcohol Abuse & Alcohol Recovery | Not determined |

Perinatal, Infant and Child Care (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| High Priority Infant Program | North Carolina | High rate of IM (46th in 1982) | High-risk infants | Statewide | 7/84 | 1) ID of at-risk infants in hospital<br>2) Follow-up with home visits<br>3) Regular clinic visits<br>4) Developmental assessments | Not yet documented |
| Maternal Health/Perinatal Program | North Carolina | High IMR | All pregnant women and newborns | Statewide | Late 1960s | Statewide network of:<br>1) Prenatal clinics, involving 90 county HDs<br>2) High-risk maternity clinics, involving 19 clinics<br>3) Level III centers, involving 9 communities | Since 1974:<br>IMR declined by 31%<br>NNMR declined by 38%<br>Perinatal MR declined by 35%<br>Infant MR declined by 32% |
| Rural County Early Detection & Intervention Program | Washington | Medically isolated counties with few specialty resources at a distance from tertiary centers | Developmentally delayed children 0-3 years | 3 rural counties | 1980 | 1) Training for local professionals<br>2) Public ed.<br>3) Developmental assessments, monitoring referral & follow-up<br>4) Home-based intervention | 1) Increase in number of referrals<br>2) Phase II will evaluate effectiveness of early intervention |
| High Priority Infant Tracking System | Washington | High-risk infants lost to follow-up, which prevents early intervention | Newborns at risk for developmental delay or other health hazard | 1 rural & 1 urban county | 1/83 | 1) Evaluation by hospital and referral to health dept. for follow-up<br>2) Follow-up by health dept. at intervals to assure child receives on-going care<br>3) If not, initiation of contact with family | After 1 year, 100% of children still under care; prior to tracking only 50% still under care |
| Assistance for People with Problems Large Enough To Share (APPLES) | Washington | IMR in high-risk families | High-risk families | 2 counties (rural & urban) | 1984 | 1) District staff identify & refer families<br>2) Recruitment & training of volunteers<br>3) Home visits by volunteers to provide support, foster independence & relieve stress | Not yet documented |

Perinatal, Infant and Child Care (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Core Services Project (proposed) | Washington | Lack of coordination in care of children with disabling impairments, resulting in less than optimum outcome | Children with disabling impairments due to injuries, disease, developmental disabilities, & birth defects being, served by the states major tertiary pediatric facility | Pilot project | proposed for 7/85 | 1) Assignment of case management coordinator at hospital<br>2) Assignment of case manager at LHDs<br>3) These to oversee jointly continuity of care & to evaluate outcomes | NA |

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Adolescent Pregnancy Programs

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Teen Intervention Program | Hawaii | LBW & premature infants resulting from adolescent pregnancies | Teens 18 yrs. or less who are, or have been pregnant | Island of Oahu | 1982 | 1) Counseling in pregnancy family planning & parenting skills<br>2) Outreach t[o] schools<br>3) Professional education<br>4) Use of teen advocates as support persons | Services 37% of pregnant adolescents |
| Teen Learning Center | Mississippi | High birth rate among adolescents | High school age pregnant girls | Lauderdale County | 4/75 | To keep teens in school & improve chances for a healthy baby:<br>1) Provide school in alternate setting<br>2) Provide education for pregnancy, delivery & child care<br>3) Perinatal care | 1) 80% return to school after delivery<br>2) 85% practice family plan[n]ing |
| Jackson-Hinds Adolescent Pregnancy Program | Mississippi | Excessive rates of teen pregnancies, contributing to high infant mortality rat[e] | Students at 5 urban junior high & high schools | Hinds County | 1/79 | 1) Family planning services<br>2) Counseling for teens not sexually active to postpone involvement<br>3) Child care & health services for infants of teen mothers | Among 328 mothers, repeat pre[g]nancies = 2%. 868 persons have received FP services. |
| Adolescent Counseling Program | Mississippi | High incidence of teen pregnancy & teen use of alcohol & drugs | Medicaid-eligible adolescents | Statewide | 1/85 | 1) Health screening activities<br>2) Counseling in reproductive health; contraception; STD's; and use of drugs, alcohol, & tobacco | Undetermined |
| Teen Pregnancy Reduction Project | Mississippi | Reduction of IM through FP services | Adolescents in 13 counties in Mississippi Delta | 13 rural counties with one of highest teen pregnancy and IM rates in U.S. | 7/84 | 1) Ed. to encourage postponement of sexual involvement<br>2) Case management services to assure compliance by contracepting teens & reduce repeat pregnancies | |

Adolescent Pregnancy Programs

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Infant Health Initiative Program | Michigan | High infant mortality as a result of poverty & lack of access to care | 1500 pregnant women with focus on adolescent pregnancy | Statewide | 1982 | 11 projects that provide:<br>1) family planning<br>2) nursing intervention in high-risk families<br>3) outreach<br>4) education<br>5) nutrition<br>6) parenting skills | Evaluation in progress |
| Parents Too Soon | Illinois | High infant mortality rate and its link with adolescent pregnancy | Boys & girls age 10-20 at risk for becoming parents | Statewide | 4/83 | Coordinated effort of 10 state agencies and 110 local agencies to provide health, social & vocational services | Evaluation to be undertaken by sponsoring agencies |
| Community of Caring | District of Columbia | Due to health habits, lifestyle & age, adolescents tend to deliver LBW infants | Pregnant adolescents | Citywide | 1/83 | 1) Nurse-midwives in 2 public health clinics have formed teams which provide care<br>2) Patients seen every 2-3 weeks during pregnancy and provided education & reinforcement | |
| Adolescent Family Life Project | Hawaii | Adolescent birth rate 18.9/1000 in some communities & these also have high rate of LBW infants | Pregnant & parenting adolescents in 3 rural areas | Demonstration project in 3 rural communities | 1982 | 1) To develop models for 3 community programs which will assure effective delivery of care<br>2) System designed by community agencies & consumers on a volunteer basis | Each community has developed a volunteer committee to define adolescent concerns and community resources |
| Improved Pregnancy Outcome Project | Louisiana | High IM rates in area where trained personnel are available | 1) Non-white, low-income females & males, all ages<br>2) White low-income females & males < 20 yrs | Pilot Program Orleans Parish | 1983 | Media Campaign (Radio)<br>1) Audience research to gather baseline data<br>2) On-air commercials: pre-natal care, nutrition, alcohol, smoking, drugs<br>3) Hotline for listeners<br>4) Involved audience in design of messages | Currently being evaluated |
| Family & Community Network Project | Ohio | Effects of high rate of teen pregnancy | Pregnant adolescents in Marion, Ohio | Pilot project in rural community | 9/84 | Education & counseling to increase number finishing school; to decrease repeat pregnancies; to improve support from significant others; to increase number of financially-stable teen parents; to decrease child abuse & neglect | Not determined |

Adolescent

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Adolescent Maternity & Infant Care Project | Kansas | Higher incidence of health problems in teen pregnancies: infant mortality & morbidity; LBW | Adolescents in counties with 20 or more births per year to mothers < 18 years | 4 urban & 7 middle-sized counties | 1975 | Title V Maternal & Infant Care Project tailored for adolescents. Includes: Networking with private medicine, hospitals, schools & social agencies; inter-disciplinary approach to education & outreach | 1983 IM Rate = 8/1000<br>Expected IM Rate = 18/1000<br>1983 LBW Rate = 7%<br>Expected LBW Rate = 14% |
| Young Parents Program | Kentucky | Increased teen pregnancy with little or no prenatal care & tendency to drop out of school | Pregnant women 18 yrs. or less | University of Kentucky Medical Center OB population | 12/81 | 1) Medical care for mother & child by Univ. Hospital<br>2) Parenting education<br>3) Career counseling<br>4) Psycho social support of family<br>5) Family Planning | Serves 500 women per yr.<br>Increase in number finishing school<br>Increase in parenting skills<br>Reduction of unplanned pregnancies |

Special Programs

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Black Infant Mortality Reduction Projects | Kansas | IM rate for black infants that is twice the rate for white infants | Black women of childbearing age | Urban: Kansas City, Topeka, Wichita & Junction City (where 75% of black births occur) | 1982-K.C. 1983-all others | 1) Enrollment in comprehensive prenatal care, including nutrition & education<br>2) Enrollment in health dept's family planning services, child health clinics & WIC<br>3) Lay visitors for pregnancy outreach & newborn home visits | Black IM Rate:<br>State<br>19.9/1000-1982<br>16.8/1000-1983<br>Kansas City<br>17.9/1000-1980<br>14.3/1000-1983 |
| Native American Maternal/Child Health Program, Fort Totten Indian Reservation | North Dakota | Low enrollment in prenatal care (49% in 1979) by high-risk population; lack of postpartum & parenting ed; child immunization levels at 32%; no health education in schools; population also at high risk for diabetes | 1) Women of childbearing age<br>2) Children 0-5 yrs | Rural, Reservation level | 1978 | 1) Enrollment in prenatal care<br>2) Education on FAS, smoking, nutrition, well-baby care & immunizations<br>3) Home visits<br>4) Blood sugar screening for pregnant women | 1) Decrease in IM rate from 35.7/1000 in 1976 to 17.3/1000 in 1983<br>2) Enrollment of women in first trimester care in 1983 72%, but number of visits remains at 5<br>3) 1983 immunization levels at 90% |
| Medical Genetic Services | Hawaii | 30% of hospitalized children have genetic diseases | 3% of Hawaii's population of 23,100 infants | Statewide | 10/80 | 1) Provides genetic counseling & evaluation<br>2) Inservice training for professionals<br>3) Community ed. on genetic screening & prevention | Screens as many as 180 children & families per yr |
| Delta Maternity Infant Care Project | Mississippi | Patients without care due to closing of a federally-funded hospital in an area with one of highest IM rates in U.S. | Indigent pregnant women & infants | 4 rural counties in Mississippi Delta | 9/82 | 1) Purchase of delivery services for indigent, low risk women<br>2) Hospitalization & physician care for infants to 1 yr<br>3) Prenatal services provided by health departments | 900 applications for service have been received |

Special Programs (continued)

| Title | State | Problem | Target Population | Scope | Date | Activities | Impact |
|---|---|---|---|---|---|---|---|
| Limited Medically Needy Task Force | Mississippi | Access to medical services by pregnant women & children | All poor pregnant women regardless of marital status & their children | | 1/85 | 1) Task force involved in passage of legislation granting Medicaid coverage to mothers, children & intact families<br>2) Currently working with governor's office on implementation to ensure broadest coverage | Will provide coverage to an additional 4,000 women & approximately 18,000 children |
| Baby Hotline | District of Columbia | Need for information by those unwilling or unable to use public health services | Individuals in need of MCH services or referrals | Citywide | 1981 | Telephone hotline (24 hrs.) provided through Area Council on Alcoholism & Drug Abuse: provides information, counseling & referrals for office of MCH | |

# Appendix B: Preventive Services Under Medicaid as a Vehicle for Funding Prenatal Care

# PREVENTIVE SERVICES UNDER MEDICAID AS A VEHICLE FOR FUNDING PRENATAL CARE

The following information concerns how States can utilize existing Medicaid authority for coverage of preventive services as a means of funding prenatal care. Broadly defined, preventive services can include any activity that helps preclude the occurrence of illness or injury, or that helps detect or arrest an already-existing condition. In the specific context of the Medicaid program, preventive care is interpreted as including those services that (1) involve direct patient care; and (2) are for the express purpose of diagnosing, treating or preventing (or minimizing the adverse effects of) illness, injury or other impairments to an individual's physical or mental health. Many of the services covered under Medicaid have preventive elements, and some of these are specifically directed toward the care of children and pregnant women. For example:

- EPSDT may be used to provide pre-pregnancy risk education and an enriched package of services to pregnant teenagers. States may also provide enhanced service for at-risk infants under EPSDT.

- State medically needy programs at a mimimum include coverage of prenatal care and delivery services. The Medicaid comparability requirements further assure that those services provided to the medically needy must also be provided to the categorically needy.

In addition to the preventive care that is included as an integral part of other Medicaid services, States can also choose to cover preventive care as a separate, optional benefit. Regulations at 42 CFR 440.130(c) define these optional preventive services as

> . . . services provided by a physician or other licensed practitioner of the healing arts within the scope of his practice under State law to--
> (1) Prevent disease, disability, and other health conditions or their progression;
> (2) Prolong life; and
> (3) Promote physical and mental health and efficiency.

Prenatal services of a preventive nature can be included under this coverage authority as long as they meet the Medicaid coverage principles that apply to preventive services generally, which were set out on March 27, 1984, in a notice in the Federal Register (49 FR 11717, copy attached). This means that they must involve direct patient care (as opposed, for example, to services that are concerned with the patient's environment rather than directly with the patient); they must also be directly and primarily concerned with the recipient's health needs (as opposed to services aimed primarily at addressing basic life needs which affect health, if at all, only indirectly).

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Tuesday
March 27, 1984

Department of Health and Human Services
Health Care Financing Administration
Medicaid Program; Preventive Services under Medicaid.

**Health Care Financing Administration**

**Medicaid Program; Preventive Services Under Medicaid**

**AGENCY:** Health Care Financing Administration (HCFA), HHS

**ACTION:** Notice.

**SUMMARY:** The purpose of this notice is to encourage States to maximize the availability of preventive services to their Medicaid populations, and to solicit public comment on the criteria HCFA plans to use to evaluate new State plan amendments concerning preventive services. We are also soliciting public comment on the benefits and costs of preventive services. By using the methods described in this notice, States will be able to make a wider range of preventive services available and accessible to Medicaid-eligible individuals.

**DATE:** To assure consideration, comments must be received by May 29, 1984.

**ADDRESS:** Address comments in writing to: Health Care Financing Administration, Department of Health and Human Services, Attention: BERC-285-N, P.O. Box 26676, Baltimore, Maryland 21207.

If you prefer, you may deliver your comments to Room 309-G, Hubert H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C., or to Room 132, East High Rise Building 6325 Security Boulevard, Baltimore, Maryland.

In commenting, please refer to file code BERC-285-N.

Comments will be available for public inspection beginning approximately 2 weeks from publication in Room 309-G of the Department's office at 200 Independence Avenue, S.W., Washington, D.C., on Monday through Friday of each week from 8:40 a.m. to 5:00 p.m. (202-245-7890).

**FOR FURTHER INFORMATION CONTACT:** Bill Ullman, 301-594-9627

## I. Background

Preventive services are acknowledged to be of great value in helping an individual to maintain health and well-being. These services can assist an individual in avoiding or minimizing the occurrence of disease and disability. A corollary result is that individual health care costs may be reduced. We have developed this notice to encourage States to maximize the availability of preventive services to their Medicaid populations and to provide guidelines for State plan amendments on coverage of these services.

A number of States already offer an effective package of preventive care under their Medicaid programs. Other States have included coverage of at least some preventive services under their Medicaid programs. Often, however, a wide range of preventive services may already be available in a State, but the services are fragmented among numerous agencies and programs in addition to Medicaid. As a result, Medicaid-eligible individuals may not receive a complete and coordinated program of preventive care. To address this problem, this notice also provides guidance as to how a State Medicaid agency can use increased coordination and referrals to create a more unified program of preventive care.

## II. Discussion

The following sections of this notice discuss:

- The nature of preventive services and of scientific and professional opinion regarding their effectiveness;
- Information about preventive services currently available under various Federal programs;
- The various preventive service coverages under the Medicaid program, both within various benefits and separately as optional "preventive services";
- A program for self-evaluation of a State Medicaid program's approach to the overall issue of prevention, and steps to take as a means of assuring that the Medicaid program offers maximum use of existing resources both within and outside of the current State plan; and
- Criteria HCFA will be using to evaluate new State plan amendments concerning preventive services.

### *A. Types of Preventive Care*

Preventive services traditionally have been divided into three categories:

1. Primary prevention that consists of actions, such as immunizations and prenatal care, which are directed at well persons and are intended to help avoid entirely the occurrence of disease and other impairments to health;

2. Secondary prevention that involves detecting the presence of a disease or other impairment in its earliest stages (for example, through screening procedures), when the condition may be most responsive to medical intervention; and

3. tertiary prevention that involves treatment of an already-established medical condition in order to avoid further damage and arrest the process of deterioration.

An additional distinction is made between personal preventive services (which are performed on a one-to-one basis by a qualified health care professional for the purpose of preventing disease or maintaining health) and preventive efforts that are applied at a community level (which involve no direct patient care). Broadly defined, the term "preventive services" can encompass a large range of activities of both types, including interventions applied directly to individuals (such as immunizations and screening for disease) as well as environmental interventions applied at a community level (such as water purification).

For the purpose of Medicaid coverage of preventive services, however, it is necessary to make a further distinction between those services that are medical or remedial in nature and those that are not. The statute defines Medicaid as a program of medical assistance, and repeatedly uses the terms "medical" and "remedial" to describe the general types of care for which Medicaid will make payment (see sections 1903(a)(1), 1905(a)(6), and 1905(a)(18) of the Social Security Act). Since the inception of the Medicaid program, this medical-remedial orientation has been interpreted to include those services that: (1) Involve direct patient care, and (2) are for the express purpose of treating or preventing, or minimizing the adverse effects of illness, injury, or other impairments to an individual's physical or mental health. In order for any service to be covered under the Medicaid program, it must meet both of these elements. Therefore, preventive services applied at the community level are excluded from Medicaid coverage, since they do not involve direct patient care. Preventive services that are furnished to individuals but deal with external social or environmental factors are also excluded, since they do not directly address an individual's physical or mental health. Some examples of non-covered preventive services at the community level and nonmedical services that address broader social or environmental concerns are as follows:

- Activities such as fluoridation of a community's water supply are not covered under Medicaid, since there is no direct patient care involved. However, fluoride dental treatments furnished directly to a Medicaid-eligible individual are covered.
- Investigations to determine the source of a child's elevated blood level are patient-oriented and, therefore, covered; however, environmental interventions to remove the lead source are not.

• Nonmedical preventive services that address broader social or environmental concerns are not covered under Medicaid, even when furnished directly to individuals (e.g., counseling on the importance of smoke detectors, instruction on traffic safety, etc.).

At present, there is no uniformly accepted nationwide standard that specifies a single set of preventive services, or a particular schedule for their delivery, as being the most effective (and we do not attempt to prescribe one here). Medical professional organizations and scientific bodies have given considerable thought to recommendations about those preventive procedures which should be offered to individuals. Groups such as the Canadian Task Force on the Periodic Health Examination, the Ad Hoc Committee of the Institute of Medicine, the American Cancer Society, and the Public Health Service Advisory Committee on Immunization Practices have recommended schedules of diagnostic tests and other preventive services to be administered in the context of periodic examinations over a person's entire lifetime. In addition, certain professional medical groups have developed preventive services guidelines that apply to specific patient populations. These groups include organizations such as the American College of Obstetricians and Gynecologists, the American Academy of Pediatricians, the American College of Physicians and the American Medical Association.

The presence (or absence) of agreement among various professional and scientific groups regarding the application of individual services and procedures can, in large part, be attributed to the strength of the scientific data base supporting the efficacy of each service or procedure. For example, while there is extensive scientific evidence to support the efficacy and schedule of administration of most immunizations, the data to support many counseling services are not as complete. Decisions regarding coverage of particular services or procedures generally should be guided by criteria which include evidence of the efficacy, acceptability and safety of the procedure, the availability of effective interventions for diseases detected in the asymptomatic state, and the prevalence of the condition in the population at risk. They should also reflect advances in medical research as the scientific data base which supports preventive services is updated. (See section D(1) for criteria that HCFA will use in evaluating States' proposals for coverage of preventive care under Medicaid.)

*B. Federal Funding for Preventive Care*

In addition to Medicaid, various other programs provide Federal funding of personal preventive services. For example, the Center for Prevention Services, a component of the Centers for Disease Control makes grants to State health departments to help ensure that children receives appropriate immunizations. Other Federal programs may also fund preventive services that do not involve direct, medically-oriented care of individual patients, but instead address broader social or environmental conditions that also may affect health. These services might include such activities as removal of lead-based paint from the home or promotion of good health through injury prevention.

Additionally, a large portion of the Federal funding for preventive care (other than under the Medicaid program) takes place under the authority of the Public Health Service (PHS) Act. As a result of the Omnibus Budget Reconciliation Act of 1981, a number of former categorical grant programs were consolidated into several PHS block grants. Specifically, this legislation amended title XIX of the PHS Act to establish the Alcohol and Drug Abuse and Mental Health Services Block Grant and the Preventive Health and Health Services Block Grant. It also amended title V of the Social Security Act to establish the Maternal and Child Health Services Block Grant. Under these block grants, States fund varied services of a preventive nature.

*C. Medicaid Coverage of Preventive Care*

Medicaid program funding can support preventive care in a variety of contexts. For example, the preventive aspects of some services are specifically included in the definitions of those services in the Medicaid regulations. These services include outpatient hospital services (42 CFR 440.20(a)), clinic services (§ 440.90), dental services (§ 440.100(a)), services for individuals with speech, hearing, and language disorders (§ 440.110(c)(1)), and prescribed drugs (§ 440.120(a)). The Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program for individual under age 21 has a definite preventive orientation, since its purpose is to detect and treat physical and mental health problems in their early stages (§ 440.40(b)). For example, initial and periodic health examinations, and certain dental care, immunizations, and necessary hearing and vision services are mandatory under EPSDT.

Other covered Medicaid services may also include preventive elements. For example, physicians generally include, as part of the services furnished to a patient who is recovering from a heart attack, counseling on the affect of diet, exercise, and smoking. (Such counseling is an inherent part of the physician's covered services for which payment has already been made; thus a separate, additional payment for the counseling aspect of the services would not be made, since this would represent a duplicate payment.)

In addition to inclusion as an integral component of other covered services, preventive care can be furnished as a separate optional Medicaid benefit. Additional diagnostic, screening, or rehabilitative services also can be covered at State option (see 42 CFR 440.130 for definitions of those services). An informal telephone survey recently indicated that a wide variety of preventive care currently is being covered under the preventive services option (§ 440.130(c)). Including are such services as immunizations, medical check-ups, fluoride treatment of teeth, well-baby and well-child care, vision screening, and genetic screening. States may include other types of personal preventive services under this option that are medical or remedial in nature and which are delivered on a personally-oriented basis. In developing an approach to preventive care, each State should consult with local health authorities to identify the most effective set of preventive services for its Medicaid population. We encourage States to share with us their experiences in offering various types of preventive services and informing Medicaid-eligible individuals of their availability.

*D. State Preventive Initiatives*

States that are interested in initiating or expanding a Medicaid preventive care effort can take a two-fold approach: A) Medicaid funding of the medically-oriented personal preventive services for which Federal financial participation (FFP) is available under title XIX; and B) increased coordination between Medicaid and other programs that fund or provide preventive care, including referral to social and environmental programs and services.

1. *HCFA Criteria for Evaluating Medicaid Preventive Services Proposed by States.* As discussed in section A above, there currently is no single set of preventive services or schedule for their delivery that is uniformly acknowledged to be the most effective. In light of this, and in keeping with the nature of the Federal-State partnership in

administering the Medicaid program, we believe that States which wish to cover preventive services should have the flexibility to design their own packages of preventive care. States should be aware of certain general criteria which HCFA plans to use in reviewing plan amendments for preventive services coverage:

- The proposed services must be preventive in nature and must fit within the basic medical-remedial framework of the Medicaid program (see section A).
- The proposed services must be directed at the patient rather than at the patient's environment.
- The proposed services must not be otherwise available to recipients without cost, nor may they duplicate other Federally-funded services.
- The proposed services must not entail an additional payment for a service which is logically an inherent part of otherwise paid-for services (see section C).

Although the Medicaid statute does not preclude States from funding experimental types of care if they so choose, we encourage States to consider, in addition, the following guidelines when they develop proposals for coverage of preventive services:

- Services to detect disease in its early state should be those proven to be safe and reliable and should be directed at diseases for which an effective intervention exists.
- Services proposed to prevent occurrence of disease or disability (including those to modify predisposing risk factors) should have a demonstrated efficacy in preventing disease or disability.

We welcome any public comments regarding our criteria for evaluating Medicaid State plan amendments that contain preventive care proposals.

2. *Coordination With Other Programs.* Although the range of currently available preventive services (described in sections B and C above) is quite broad, these services sometimes are fragmented among a number of agencies and programs. In the absence of interaction between these agencies and programs, there may be little or no overall coordination in the provision of preventive care. As a result, a Medicaid-eligible individual may not know that many of these preventive services are available, or how to obtain them. We believe that the benefits an individual derives from the preventive services that are covered under Medicaid can be significantly enhanced when these services are provided in coordination with the preventive care available under other programs. In an effort to maximize scarce Medicaid dollars available for preventive services, many States have sought the cooperation and active participation of other public as well as voluntary health agencies, such as State, county, and local health agencies, Head Start, Public Health Service community health centers, neighborhood health centers, and others. All States considering the inclusion of preventive services in their plans are encouraged to follow this example. Such coordination and joint planning avoids costly duplication and overlapping of services. Coordination can be achieved through interagency agreements, informal cooperative arrangements and increased referrals between the Medicaid agency and other programs that offer preventive care.

Medicaid regulations (42 CFR Part 431, Subpart M) and the Medical Assistance Manual (section 5-40-000) contain requirements and options for interagency agreements. These include the following:

- The Medicaid agency is required to have an interagency agreement with the State health agency and the State vocational rehabilitation agency, as well as the title V program. The agreements are designed to make maximum use of the services of these agencies. (Specific characteristics of agreements between the EPSDT program and title V are described in section 5-70-71 of the Medical Assistance Manual.)
- The Medicaid agency, in addition, may execute interagency agreements with other health and social service agencies and organizations, involving services that utilize Federal, as well as State or local funds. For children, youth and pregnant women, these programs could include Head Start, title XX (Social Services Block Grant), certain education programs, and the Special Supplemental Food Program for Women, Infants and Children (WIC).
- Examples of services furnished by other programs and reimbursed by Medicaid through interagency agreements include examinations, immunizations and treatment services, and such activities as informing recipients about available health services, assisting recipients with transportation to health services and health care case management (ensuring continuity of care).

The Medicaid agency can perform a valuable referral function for Medicaid-eligible individuals and can help to supplement the preventive services available to them under the State plan, by directing them to appropriate preventive care available from other sources. In certain situations, the State agency can also help to utilize available Federal funds most effectively by coordinating Medicaid-funded preventive services activities with those of other programs offering related services. (Information on funding arrangements is contained in section 5-40-000 (H) and (I) of the Medical Assistance Manual.)

The use of preventive services holds promise for the Medicaid population, both in terms of improvements in individual health and reductions in the cost of treating illness and injury. We encourage States to review their current programs and determine the desirability of making a wider range of preventive services available and accessible to Medicaid-eligible individuals.

(Catalog of Federal Domestic Assistance Program No. 13.714, Medicaid Assistance Program)

Dated: March 21, 1984.

Carolyne K. Davis,

*Administrator, Health Care Financing Administration.*

[FR Doc. 84-8052 Filed 3-26-84; 8:45 am]

BILLING CODE 4120-03-M

# PREVENTIVE SERVICES UNDER MEDICAID AS A VEHICLE FOR FUNDING PRENATAL CARE

The following information concerns how States can utilize existing Medicaid authority for coverage of preventive services as a means of funding prenatal care. Broadly defined, preventive services can include any activity that helps preclude the occurrence of illness or injury, or that helps detect or arrest an already-existing condition. In the specific context of the Medicaid program, preventive care is interpreted as including those services that (1) involve direct patient care; and (2) are for the express purpose of diagnosing, treating or preventing (or minimizing the adverse effects of) illness, injury or other impairments to an individual's physical or mental health. Many of the services covered under Medicaid have preventive elements, and some of these are specifically directed toward the care of children and pregnant women. For example:

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Prenatal services of a preventive nature can be included under this coverage authority as long as they meet the Medicaid coverage principles that apply to preventive services generally, which were set out on March 27, 1984, in a notice in the Federal Register (49 FR 11717, copy attached). This means that they must involve direct patient care (as opposed, for example, to services that are concerned with the patient's environment rather than directly with the patient); they must also be directly and primarily concerned with the recipient's health needs (as opposed to services aimed primarily at addressing basic life needs which affect health, if at all, only indirectly).

PRENATAL CARE: A HEALTH BEGINNING for MICHIGAN'S CHILDREN
A Proposal for a Basic Health Service

Report of Directors Special Task Force
Michigan Department of Public Health

In 1983, the Michigan legislature charged the Department of Public Health with preparing a plan to include prenatal and postpartum maternity care as a 'basic health service.' A 'basic health service' is one that is available and accessible to all state residents without regard to personal traits (age, sex, marital status, etc.) or ability to pay. This report contains the findings of the Special Task Force, including the status of and need for services, and a proposed program statement for establishing prenatal and postpartum care as a basic service.

With regard to the relationship between the social and economic climate in Michigan and health care, the report notes that:

1. Nearly 10,000 women are believed to be ineligible for Medicaid or other public or private health assistance but in need of prenatal or postpartum care and unable to pay for it themselves.

2. In 1982, three-quarters of a million people were unemployed, and in most instances their job-related health benefits expired within 1 month of termination. Blue Cross and Blue Shield enrollment figures indicate that from 1979 to October 1982, 566,633 people dropped their insurance coverage, a change attributable to factory closings. Only one-tenth of those people were picked up by AFDC or Medicaid.

3. It is estimated that Michigan currently has 720,000 to 900,000 uninsured residents and half a million people out of work.

4. Of the seven factors believed to contribute to the incidence of low birth weight babies--low socioeconomic status, unplanned pregnancies, adolescent mothers, pregnancies spaced too close, late or inadequate prenatal care, poor maternal nutrition, and substance abuse--four are exacerbated by unemployment, and the fifth (teenage

pregnancy is considered to be affected by it, if not directly related to it.

Prenatal and postpartum care was found to be available and accessible to a majority of Michigan's women through a variety of providers and funded by a mix of reimbursement mechanisms. Problems, however, were noted in the following areas:

1. Women at or below 185% of the poverty level but without health insurance or personal financial means, women living in a sparsely populated area or without access to transportation, and women who lacked awareness of the need for early prenatal care keep statewide accessibility and availability from becoming a reality.

2. The state's infant mortality rate dropped between 1981 and 1982, but it remains 8% higher than the national average. This improvement did not extend to all Michigan residents, however. The infant mortality rate for black babies continued to be double that for white children:

| | White Infants | Black Infants |
|---|---|---|
| 1981 | 10.9% | 24.8% |
| 1982 | 9.7% | 24.6% |

3. Low birth weight ratios worsened for black infants between 1981 and 1982, and the rate of black women who did not receive prenatal care escalated 42% during this time period in both Detroit and the state.

4. Michigan has the worst infant mortality rate for black infants in the country, and Detroit has the worst rate for any city at 26.9%.

# ESTIMATING the NEED for PRENATAL CARE

University Associates
for
the Michigan Department of Health

March 1984

Michigan has experienced double digit unemployment for approximately four years. This problem directly affects the ability of nearly three quarters of a million of Michigan's unemployed citizens to provide food, shelter, heat, clothing and health care for themselves and their families.

In addition, Michigan has experienced a concurrent rise in infant mortality rates. In 1981, Michigan was hit with its greatest single yearly increase in infant mortality rates since World War II. Rates rose to 13.2 deaths per 1,000 live births. This ranked Michigan near the bottom quartile, 36th of 50 states, substantially below the national average. Several cities and counties have been hard hit by this problem.

The utilization of prenatal care has been closely tied to infant birth weight. Low birth weight is one of the primary predictors of infant death. In addition, unemployment and poverty have been identified as major correlates of infant mortality. Most health care professionals would argue that these are causally linked factors rather than mere correlates of infant mortality (Children's Defense Fund, 1984).

Michigan is attempting to address this health care crisis. The Michigan legislature called for the Department of Public Health to submit a proposed program statement to make prenatal care a basic health service. University Associates was awarded a contract to establish a source of data from which to empirically derive an accurate estimate of the need for prenatal care in Michigan.

Through scientifically rigorous survey methodology, prenatal care patterns of Michigan mothers were determined. Women delivering in Michigan hospitals during the month of December 1983 were administered surveys by hospital staff. Eight-nine percent of the women (n = 1879) who delivered during a specified time interval in ninety-five percent of Michigan's hospitals with Obstetric Units responded to the survey.

The 33-item Prenatal Care Questionnaire was specifically

designed to obtain information about the prenatal care received by the woman, the availability of sources of payment for prenatal care, the self-reported need for assistance in obtaining prenatal care, and a variety of demographic information.

A woman in need of assistance in obtaining prenatal care was operationally defined by the Blue Ribbon Prenatal Task Force to have the following characteristics:

- Family income below 185% of poverty level.
- No alternative sources of payment for prenatal care (e.g., insurance).
- Not Medicaid eligible.

Survey results indicated that 7.2% of Michigan women were in need of assistance in obtaining prenatal care. This proportion represents 9504 women. Ninety% confidence bounds were established around this projected figure. This confidence interval ranges from 7,828 to 11,180. Better than one in four of those identified as financially needy were in the tri-county Metro area (i.e., Wayne, Macomb and Oakland counties).

Approximately 39% of the women in Wayne County were from families where the major income earner was unemployed. However, two-thirds of the Black women in Wayne county were from such families. Unemployment in general has an enormous impact on many factors related to prenatal care. For example, women from families where the major wage earner was unemployed were twice as likely to deliver low birth weight babies and twice as likely to experience some delivery complication.

In addition, 72% of those from unemployed families were living below the United States Department of Agriculture's 100% poverty guidelines. Less than 10% of the employed group were living in such poverty. Nearly 80% of the women from unemployed familied received Medicaid benefits that provide for prenatal care. However, 20% were without this form of support.

The "financially needy" group (defined by this program statement as below 185% poverty) was compared with the Medicaid group and the insured group. On many dimensions (e.g., trimester prenatal care began, age, educational level of the mother), the financially needy occupied a central position between the extremes defined by the Medicaid and the insured groups. On the other hand, the financially needy more closely resemble the insured group on other variables of interest (e.g., racial breakdown, proportion of mothers under 18 years

of age).

Race has been a major factor of interest when attempting to determine the need for human services. Survey results suggested that 9.5% of those deemed financially needy were black. However, the proportion was considerably larger in the Wayne County area (36%). Race is also frequently confounded with the general income level of the individual. In fact, survey results showed no relationship between race and eligibility when the effect due to income is held constant.

Findings suggest that a substantial number of Michigan women are currently experiencing sufficient economic hardships that they are finding it difficult to pay for preventive prenatal care. Additionally, significant numbers of the insured and Medicaid groups reported difficulty in obtaining prenatal care due to a variety of barriers, including transportation, the availability of providers willing and able to provide care, and legal complications associated with pregnant women who are underage. Most importantly, the infant mortality issue is everyone's problem in that the need is spread across the entire state.

# INFANT MORTALITY IN ALASKA: 1975 TO 1984

## Part I

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Regionalization of perinatal care in Alaska has considerably improved survival and morbidity in the neonatal population (Jacob J, Ak Medicine 24:55, 1982; Jacob J, Ak Med. 1986; Williams RL, NEJM, 306:207, 1982). Major improvements in infant mortality have been experienced by the United States and Alaska over the past decade, but the widening gap in postneonatal mortality (PNM) leaves several important questions open for discussion. The first part of this paper will outline population demographics, birth and death statistics, intra-state variables which contribute to mortality rates and intra-regional factors which may be contributing to Alaska's apparently high infant mortality rate.

METHODS

The study population consisted of all live born infants in Alaska, who died in infancy (11 months of age, twelve months minus 1 day). Neonatal mortality included the subset of infants who were 28 or less days and the post-neonatal period began at twenty-nine days and ended at twelve months minus one day. Rates for infant mortality were obtained from the National Center for Health Statistics (NCHS) monthly vital statistics report and modified from Wegman's Annual Infant Mortality Summary, except those used to determine ethnic origin of the Alaska Native population. The Alaska vital statistics section supplied this information.

Rates for Alaskan neonatal and postneonatal mortality were obtained from the State's Section for Vital Statistics, when NCHS data was unavailable. Alaska census tract areas were grouped according to medical service areas or proximity (see figure census area MAP). The number of resident infants who may have died outside of Alaska was not determined. Paired Student t-test was used in comparing infant, neonatal, post-neonatal, ethnic groups, and inter-census tract area mortality. A relative risk was generated when comparing mortality rates inter-census tract and intra-regionally. The relative risk is an indication of the magnitude of increased risk of a population.

The region was defined as all states west of the Mississippi River (20 states 3g). The mortality and sub-regional breakdown is used in the annual statistical report in the December issue of Pediatrics (Wegman, Peds 76, No. 6, p861, 1985).

RESULTS

The number of live births in the United States increased 2.2 percent in 1984 over that of 1983 (Wegman, Peds 76, #6. p 861, 1985), while Alaska's live births increased 6.5 percent or a rate of 24.5 during the same time period. Montana, Idaho and Wyoming experienced a similar number, but much different pattern of live births. These States were chosen because they represent large geographic areas, widely dispersed populations, and similar numbers of live births when compared to Alaska. Montana is the only state with an

increase in live births, 13,846 in 1984 and 13,794 in 1983. This represents less than a one percent increase in live births during these years. Idaho and Wyoming had decreases in the number of live births, 17,072 in 1984 and 18,540 in 1983, 9,026 and 9,515 respectively.

During the ten year period 1975 through 1984, the infant mortality rate in the U.S. has progressiv y declined (1g). A major factor which contributed to the decline was improvement in neonatal mortality. Regionalization and improved perinatal care have been well documented causes for this progress (Myer BP, Harris TC, etal: Statewide reduction of neonatal mortality through effective regionalization of newborn intensive care. Pediatr Res 7:404, 1973 Stewart AL, Reynolds EOR: Improved prognosis for infants of very low birthweight. Peds 54:724, 1974 Lee k, Paneth N, etal: Neonatal mortality: an analysis of the recent improvement in the United States. Am J Public Health 70:15, 1980).

The highest infant mortality rate during this period was in 1975, 16.1 per thousand live births, but the neonatal mortality rate was 11.6 or seventy-two percent of the infant mortality.

The PNM rate was 4.5 per thousand live births for 1975, the highest of this period (page 2g). There is progressive improvement in the U.S. PNM rate to a low of 3.7 in 1984. The improvement in the neonatal mortality rate has been more dramatic (53% reduction) than infant mortality (34% reduction and PNM (18% reduction).

Populous states in the region had an increase [illegible] (Wegman Peds v76, 12/85, p661). The six [illegible] California, Oregon, Washington and Alaska [illegible] high rate of in-migration.

When comparing infant mortality [illegible] of the Mississippi River, 3g, it is apparent that Alaska has slipped from the 39th to the 10th highest standing in infant mortality during the past decade (13g). Alaska has assumed the highest standing in infant mortality in states west of the Mississippi River. This includes states with large 'Native' and migratory populations. Montana, for example, experienced a rate of 7.4 in 1984 which was down from 7.7 in 1983. This comes from a state which has one major metropolitan center (Billings) and number live births which is similar to Alaska. Idaho and Wyoming also had low infant mortality rates in 1984 (7.9 and 7.4) and 1983 (9.2 and 6.3) respectively. Although the other western states have higher infant mortality rates than the above, they are lower than Alaska (table of 4g). Infant mortality rates for these states, shown in figure 4g., are all lower than Alaska for 1982 through 1984.

The neonatal mortality statistics for 1975 through 1977 supplied to the NCHS from the State Vital Statistics Section show Alaska's rates are lower than the U.S. average. The data collection methodology for those years was plagued by inconsistencies (personal communication, Alaska Vital Statistics Section reports 'the accuracy of birth and death data is inaccurate and the mother's ethnic origin was not

always reported). Regardless, the neonatal mortality rate has progressively declined during the past decade, except for 1978 and 1979 (figure 5g). Since 1980, Alaska's neonatal mortality rate has been equal to or less than that for the U.S. ($p < .05$). (Ref Jacob J, Ak Med.)

The Alaska PNM rate has been higher than the U.S. average for the period under consideration (except for 1975 and 1978, figure 2g). The United States PNM rate by ethnic group has progressively declined, although the Black PNM rate continues to be two times higher that the White PNMR (fig 4g). Since 1980, there has been a concerted effort to improve access and level of medical care to the indigent population in the continental United States (Binkin NJ, Williams RL, etal: Reducing Black Neonatal Mortality. JAMA Jan 18, 1985, 253(3), p372 David RJ, Siegel E: Decline in Neonatal Mortality, 1968 to 1977. Peds 1983; 71:531 Infant Mortality in a rural health district- Georgia. MMWR 1983: 32:567). This may explain the decline in postneonatal mortality rates in the Black population from 7.3 to 6.5 during this period. The Alaska PNM rate of 6.6 in 1984 exceeds that of the indigent population of the United States. The Alaska PNM rate by ethnic group in 1983, demonstrates that the 'Native' rate is 1.9 times higher than the White rate ($p < .005$). The PNM rate in the Alaska Black population has been minimal (2 such infants died in 1983) and will be excluded from this analysis. The U.S. Black PNM rate in 1984 (6.5) continues to be 66% of the Alaska 'Native' rate ($p$ = NS) (4g). The PNM rate for the Alaskan

White population in 1983 is 48% higher than the U.S. White rate (p <.005), while the rate for Alaska 'Native' is 34% higher when compared to the U.S. Black rate (figure 4g). Furthermore, the Alaska post-neonatal mortality rate has increased since 1981 (5.1) to the present 6.6 while the neonatal rate has declined from 7.5 to 5.4 over the same interval. Like the rest of the United States, the non-native population fares better with respect to postneonatal mortality. The non-native rate is 3.8 and the native rate is 8.9.

Alaska's post-neonatal mortality rate by census area is shown in figure 6g. There were 68 total post-neonatal deaths in 1983. In census area 13, Anchorage, there were 15 deaths by place of residence. The census tract areas are used to collect and report vital statistics as seen in (see table 8g and census area map 7g) and we grouped several census areas together by medical service area or proximity.

Twenty-two percent of the State's postneonatal deaths in 1983 (9g column 4) occurred in Anchorage, census area number thirteen. The Fairbanks region, census areas 5,6 and 7, (Fairbanks, S.E. Fairbanks and South Hampton), had the highest number of post-neonatal deaths and nearly 30% of the State's mortality. The metropolitan area of Fairbanks and SE Fairbanks, areas 5 and 6, had a PNM rate of 19.3 for 1983, which was 31% of the Alaskan total postneonatal mortality. Anchorage had 42% of the States' total live births in 1983, and only 22% of Alaska's post-neonatal mortalities (IN MORT.DATA6). The remainder of the State had

58% of total live births and 78% of the post-neonatal mortalities.

The PNM rate by census area is seen in column four (10g). Anchorage, census area 13, has a PNM rate of 2.98 per thousand live births, while Bethel, census area 8, has the highest rate (12.47). The Kenai penninsula is the only region which has a lower PNM rate (2.81) than Anchorage.

DISCUSSION

The infant mortality rates of the U.S. and Alaska have shown a progressive decline over the past decade. The difference in their rate of decline is not significant (p =.375). A major factor in this decline has been reduction of neonatal mortality. The efforts of regionalized perinatal care and tertiary center development has been well recognized (Myer: Stewart: Lee k references). Alaska continues to have, since 1980, one of the lowest neonatal mortality rates in the United States (6.3 in 1980 and 5.3 in 1984). These rates are lower than rates in the United States (p <.05) and the relative risk is less than one (p = NS).

Comparision of the infant mortality rates for the United States, selected States and Alaska is depicted in graph 4. The Alaska, U.S. and selected States rate ratios reveal that the ratio continues to be greater than one when infant mortality is compared, but the neonatal mortality rate ratio has been equal to or less than one since 1983. This indicates a more rapid decline in Alaska neonatal mortality than that of the U.S. (see graph 11g). However, this indicates that the Alaskan PNMR has not improved. While the Alaska infant and neonatal mortality rates continue to parallel the decline experienced by the U.S., the gap in the PNM rate has been diverging for the last six years (12g) (p < .005). This apparent lack of progress may be criticized from a statistical model perspective, but it can be useful to State health care planners and providers

(Kleinman JC: State trends in infant mortality, 1968-83. AJPH June 1986, V76, No. 6, p681 and Zemach R: Comments on 'State trends in infant mortality'. AJPH June 1986, v76, No 6, p688). The postneonatal mortality ratio, a comparision of rates, for 1984 is 1.78, an increase from 1.21 of 1983. This means that the Alaska post-neonatal mortality rate is nearly twice that of the United States. The ratio has increased over the past decade from 0.91 to 1.78 ($p < .005$). The Alaska/Montana infant mortality rate ratio, for example, has increased from 1.57 in 1983 to 1.62 in 1984, while Alaska has shown some improvement in the Wyoming and Hawaii ratios (4g), we have not reached unity (one).

The breakdown of Alaska by census area is seen in the (census area map 7g). These are the same census areas used by the State's Vital Statistic Section in 1983. For ease of comparision, we will use the designated census area number rather than name. For example, census area 13 is Anchorage. The post-neonatal mortality rate (per 1000 regional live births) for areas 1-4 is 11.14, for areas 5-7 is 9.92, for area 8 is 12.70 and area 12 is 8.34 (see 10g). All of these census areas are north of area 13. When comparing different census area/ area 13, the ratios for the aforementioned northern areas are three to four times higher (10g, column 5). For example, census areas 5-7/area 13 shows a ratio of 3.33. The highest ratio is seen when comparing area 8 to 13 (4.18). Interestingly, the comparision of area 13/ U.S. is 0.82, indicating that the Anchorage area does as well with post-neonatal mortality as the continental United States.

If the U.S. postneonatal rate (3.9 in 1983) were applied to area 13 for the same year, then we would expect 20 deaths rather than the sixteen observed. In applying this same U.S. rate to all other census areas, we would expect 27 postnecnatal deaths rather than the observed fifty-three (9g). In census areas 5 and 6 (Fairbanks metropolitan area) we would expect 7 deaths rather than the 17 observed.

The actual/expected ratio for postneonatal mortality rate for area 13 is 0.82 (p = NS); therefore, the relative risk is less than one. The relative risk is 2.4 for a postneonatal death in areas 5 and 6 and for all areas (excluding area 13) in the state is 1.96. Postneonatal mortality for all other census areas is nearly twice the expected national rate, while it is 3.5 times that of area 13.

The U.S. and Alaska infant mortality rate continues to decline. The U.S. and the Alaska neonatal mortality rates continue to improve, but the Alaska rate is now less than that of the U.S. The United States post-neonatal rate continues to decline. This means that the Alaska post-neonatal mortality rate is increasing. The census areas north of Anchorage contribute an inordinate proportion of the State's postneonatal mortality. If access, a widely dispersed population and/or numbers of live births were responsible for this, then Montana, Idaho and Wyoming should demonstrate a similar proclivity. They do not. There is a highly significant difference between infant mortality rates in these States and Alaska ($p < .001$). Apparently, medical

care proximity is not a major factor in reducing infant mortality (area 12 (Mat-su), rate is 13.81 and area 14 (Kena. Penins), rate 8.59 or area 3 (Nome), rate 13.10 and area 6 (SE Fairbanks), rate 18.87). On the other hand, these mountain states do have some of the lowest postneonatal mortality rates in the United States. They also have a well developed pediatric transport system, regionalization of post-neonatal intensive care and extensive outreach programs.

There appear to be problems in analyzing and using mortality statistics unique to Alaska. Successful regionalization of perinatal care in the State has been associated with decreased neonatal mortality. The contribution of this group of infants, once discharged from the neonatal intensive care facility, to postneonatal mortality has not been reported in Alaska. The high frequency of delayed neonatal mortality is a controversial subject which may be regional in nature (Peds v62, no 2, Aug 1978; J Peds, Feb 1985, p301). Neonatal survivors may have an increased risk of death in the postneonatal period, so neoonatal mortality may be only delayed.

Since Alaska does not have necropsy standards for investigating and evaluating infants who may die of the Sudden Infant Death Syndrome (SIDS), this etiologic category may contain a subset of infants dying of other causes. A recent study indicated a very high SIDS rate amoung the Native population (Adams M., AJEpi). In review of several autopsy reports during the last 2 years, we have found major

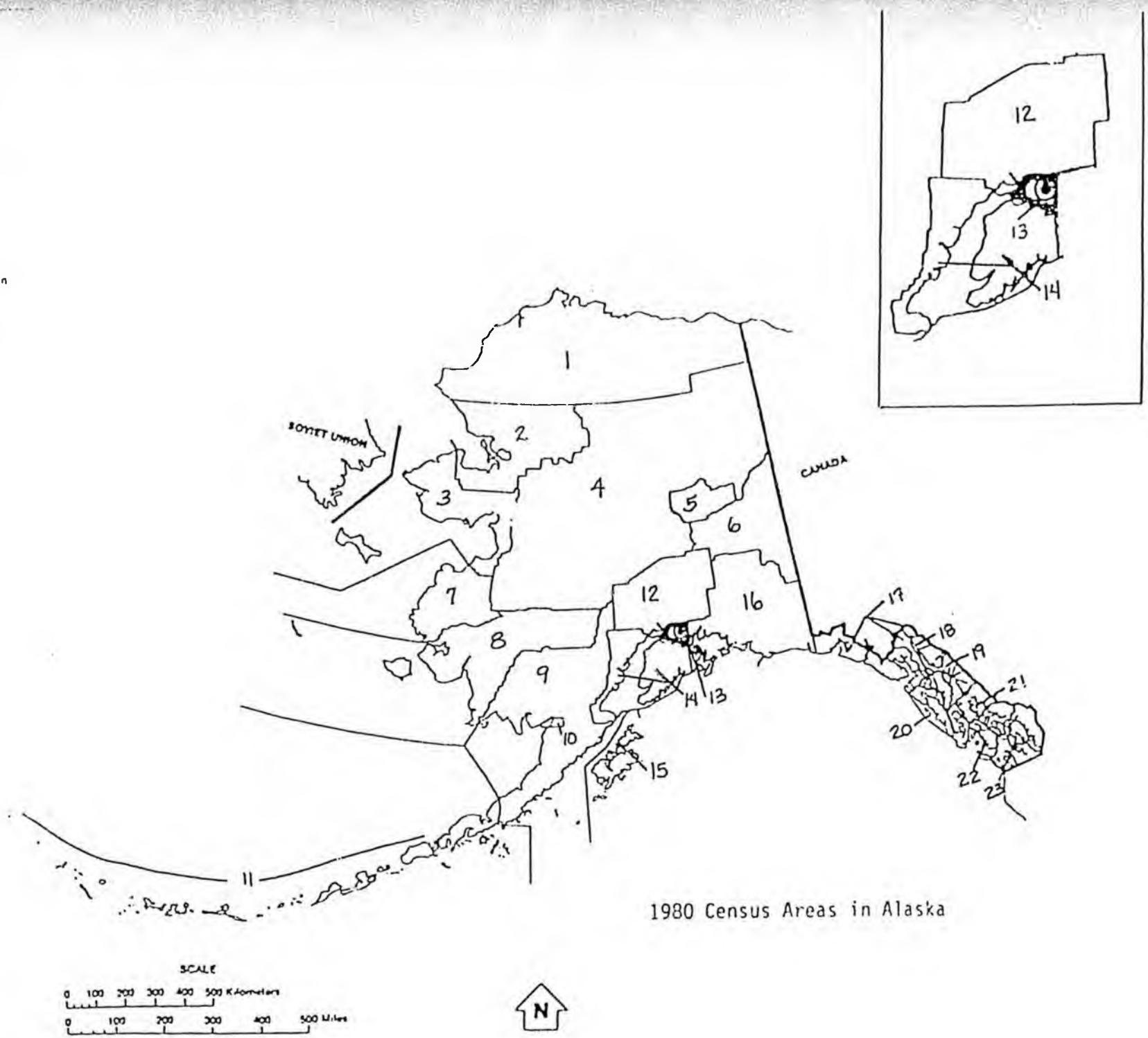
departures in how SIDS is determined around the State from necropsy standards suggested by Beckwith and Keeling. (Beckwith JB: Observations on the pathological anatomy of the suddeninfant death syndrome. In: Sudden Infant Death Syndrome: Proceedings of the Second International Conference on Causes of Sudden Infant Death ir Infants, Bergman AB, Beckwith JB, Ray CG, eds. Seattle: University of Washington Press, 1970, 83; Keeling JW: Sudden infant Death syndrome and non-accidental injury. In: Paediatric pathology, Berry CL, ed. 1981, 671-86.) A reasonable question is raised about the SIDS rate in Alaska.

The large geographic dimensions and rural nature of the state also raises problems of medical care access. This is of particular importance when considering tertiary pediatric intensive care. Major cases of postneonatal morbidity, infections, congenital anomolies and accidents, may not gain access to specialized medical care until the infant is severely compromised owing to the distance involved in a medical evacuation.

The distribution of postneonatal mortality may also be different in Alaska when compared to the United States. The large rural, culturally diverse population may contribute an inordinate proportion of fatal accidents, infections and alcohol related abuse.

Further study is indicated to determine whether the aforementioned factors play a major role in the apparently high postneonatal mortality rate in Alaska.

Alaska
01 North Slope
02 Kobuk
03 Nome
04 Yukon-Koyukuk
05 Fairbanks-North Star
06 Southeast Fairbanks
07 Wade Hampton
08 Bethel
09 Dillingham
10 Bristol Bay
11 Aleutian Islands
12 Matanuska-Susitna
13 Anchorage
14 Kenai
15 Kodiak Island
16 Valdez-Cordova
17 Skagway-Yakutat-Angoon
18 Haines
19 Juneau
20 Sitka
21 Wrangell-Petersburg
22 Prince of Wales
23 Ketchikan




1980 Census Areas in Alaska

TABLE CENSUS AREAS

| CENSUS AREA | |
|---|---|
| 1,2,3,4 | N SLOPE, KOBUK, NOME, YUKON |
| 5,6,7 | FAIRBANKS, SE FAIRBANKS, W. HAMPTON |
| 8 | BETHEL |
| 9,11 | DILLINGHAM, ALEUTIANS |
| 12 | MATANUSKA VALLEY |
| 13 | ANCHORAGE |
| 14,15,16,17 | KENAI, KODIAK, VALDEZ, SKAGWAY |
| 19,20,21, 22, 23 | JUNEAU, SITKA, WRANGELL, PR WALES, KETCHIKAN |

Postneonatal Mortality by
Census Area in Alaska for 1983

| Census Area | TDTH | % of TDTH | Area Rate | Relative Risk Ratio of Census Area / Anchorage |
|---|---|---|---|---|
| 1,2,3,4 | 9 | 13.2 | 11.14 | 3.74 |
| 5,6,7 | 20 | 29.4 | 9.92 | 3.33 |
| 8 | 5 | 7.4 | 12.47 | 4.18 |
| 9,11 | 2 | 3.0 | 5.58 | 1.96 |
| 12 | 6 | 8.8 | 8.34 | 2.8 |
| 13 | 15 | 22.0 | 2.98 | 1.00 |
| 14,15,16,17 | 4 | 5.9 | 2.81 | 0.94 |
| 19,20,21,22.23 | 7 | 10.3 | 5.36 | 1.8 |
| Alaska Total | 68 | 100 | 5.7 | |
| U.S. | | | 3.9 | 1.46* |

* Alaska/U.S.

TDTH is total deaths

Rate per 1000 live births

80N

States West of the Mississippi River

West North Central

- Minnesota
- Iowa
- Missouri
- North Dakota
- South Dakota
- Nebraska
- Kansas

Mountain

- Montana
- Idaho
- Wyoming
- Colorado
- New Mexicoo
- Arizona
- Utah
- Nevada

Pacific

- Washington
- Oregon
- California
- ALASKA
- Hawaii

Wegman ME. Annual summary of vital statistics-1984. Peds 1985;76:861.

Comparision of Infant Mortality
United States, Selected States and ALASKA

| | 1984 | '83 | '80 | Relative Risk AK/US '84 | '83 |
|---|---|---|---|---|---|
| U.S. | 10.6 | 11.2 | 11.5 | 1.13 | 1.17 |
| Neonatal | 6.9 | 7.3 | 8.0 | 0.78 | 1.0 |
| Postneonatal | 3.7 | 3.9 | 4.1 | 1.78 | 1.46 |
| White | 3.1 | 3.3 | 3.5 | | |
| Black | 6.5 | 6.8 | 7.3 | | |

| Selected States | | | | AK/State Risk 1984 | 1983 |
|---|---|---|---|---|---|
| Montana | 7.4 | 7.7 | 7.4 | 1.62 | 1.57 |
| Idaho | 7.9 | 9.2 | 8.6 | 1.52 | 1.32 |
| Wyoming | 7.4 | 6.3 | 6.3 | 1.62 | 1.92 |
| Hawaii | 11.1 | 9.8 | 8.9 | 1.08 | 1.32 |
| ALASKA | 12.0 | 13.1 | 12.3 | | |
| Neonatal | 5.4 | 7.4 | 6.5 | | |
| Postneonatal | 6.6 | 5.7 | 5.8 | | |
| White | 3.8 | 4.9 | 2.6 | | |
| Native | 8.9 | 9.1 | 9.9 | | |

Births, Selected Years, by State

| State | Births '84 | Births '83 |
|---|---|---|
| U.S. | 3697 | 3614 |
| Montana | 1.38 | 1.38 |
| Idaho | 1.71 | 1.85 |
| Wyoming | 0.9 | 0.95 |
| Wash. | 7.36 | 6.37 |
| Oregon | 3.95 | 4.10 |
| Calif. | 45.5 | 41.4 |
| Hawaii | 1.09 | 1.90 |
| ALASKA | 1.22 | 1.15 |

Births in 10,000's

Wegman ME. Annual summary of vital statistics-1984. Peds 1985;76:861.

80N

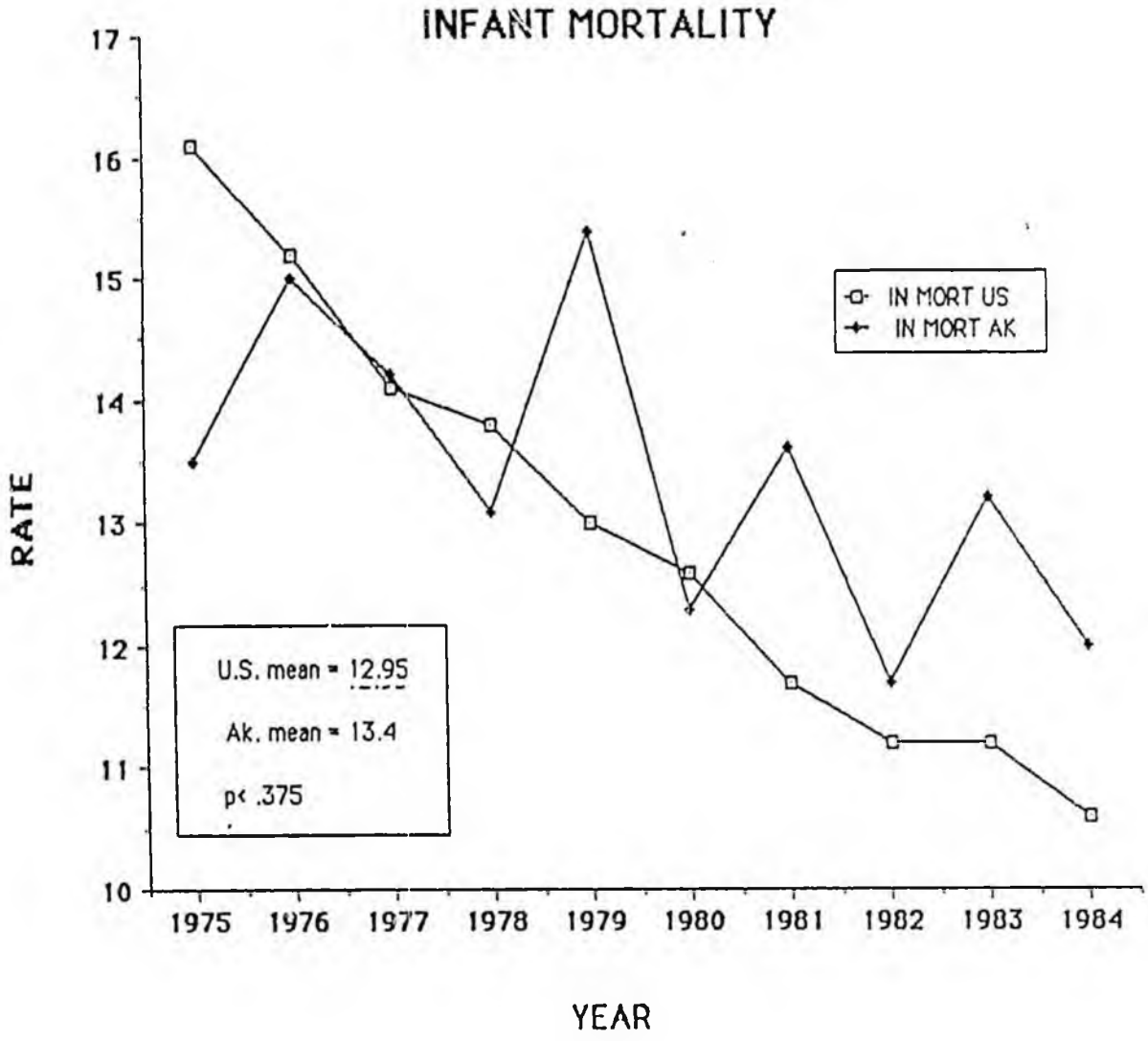
Comparision of TBTH and TDTH in Alaska
by Census Area, 1983

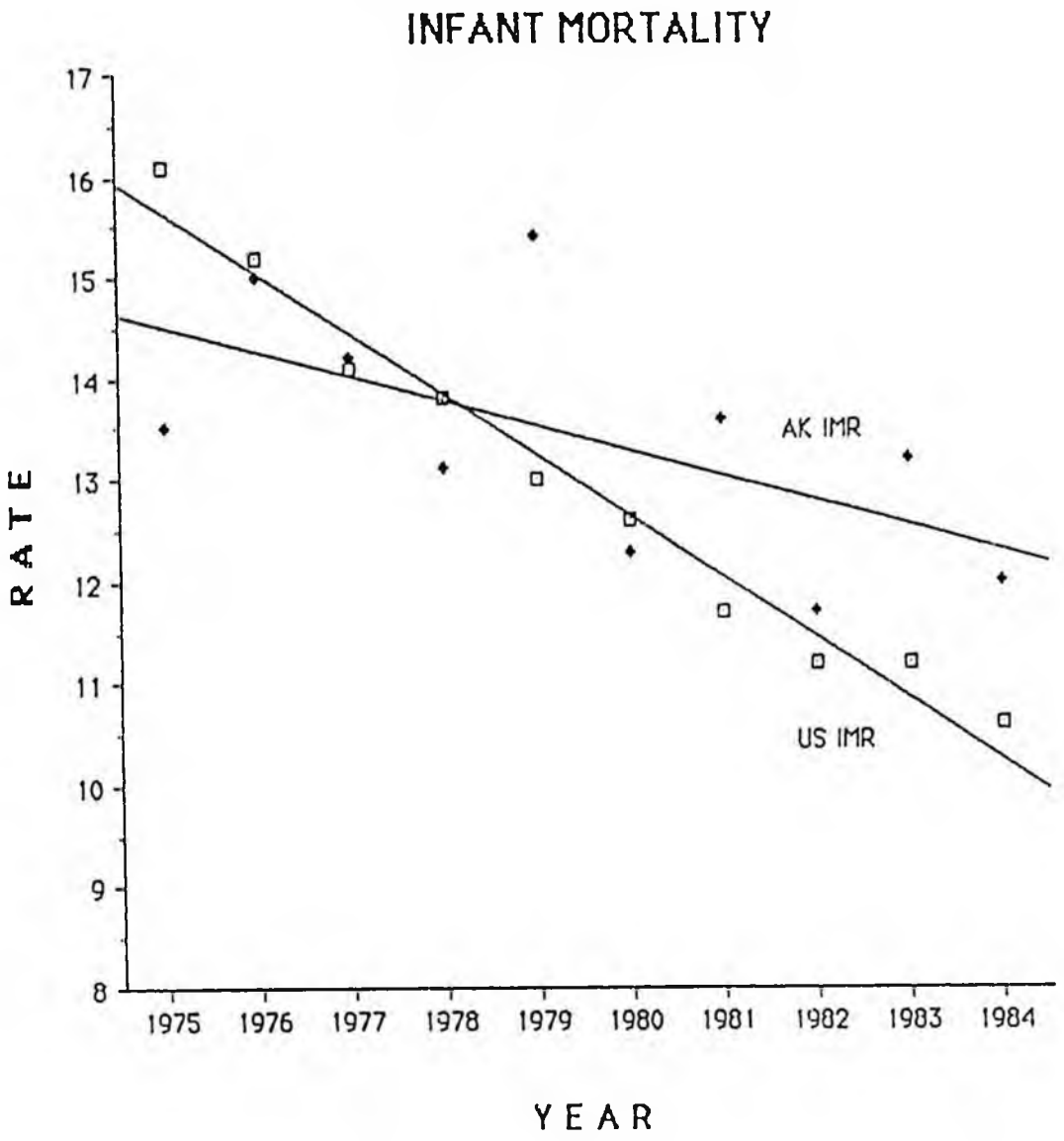
| Census Area | TBTH % | Actual TDTH | TDTH % | Expected TDTH | Actual / Expected |
|---|---|---|---|---|---|
| 13 | 42 | 15 | 22 | 20 | 0.76 |
| All Others | 58 | 53 | 78 | 27 | 1.96 |

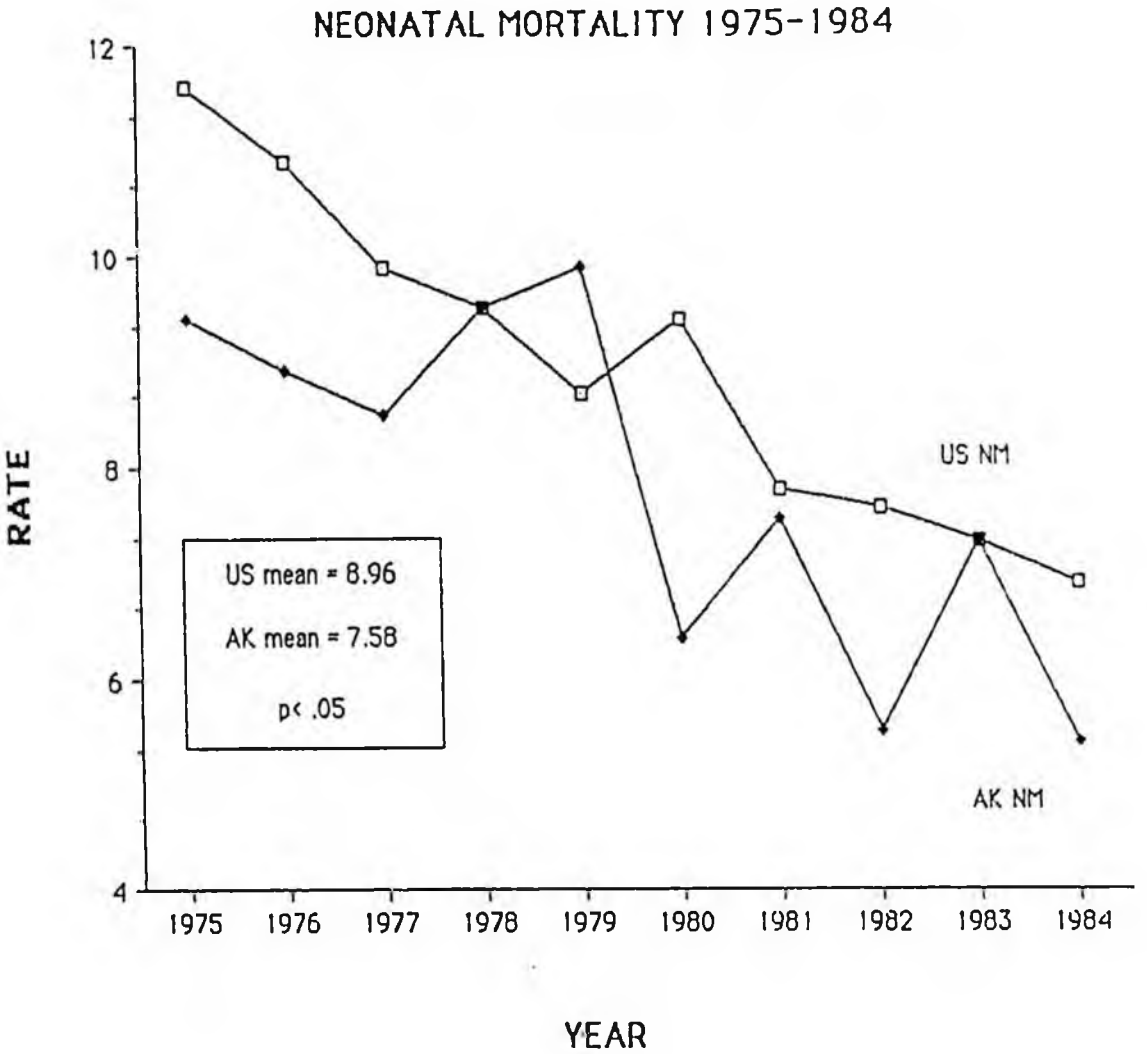
TBTH is total births
TDTH is total deaths

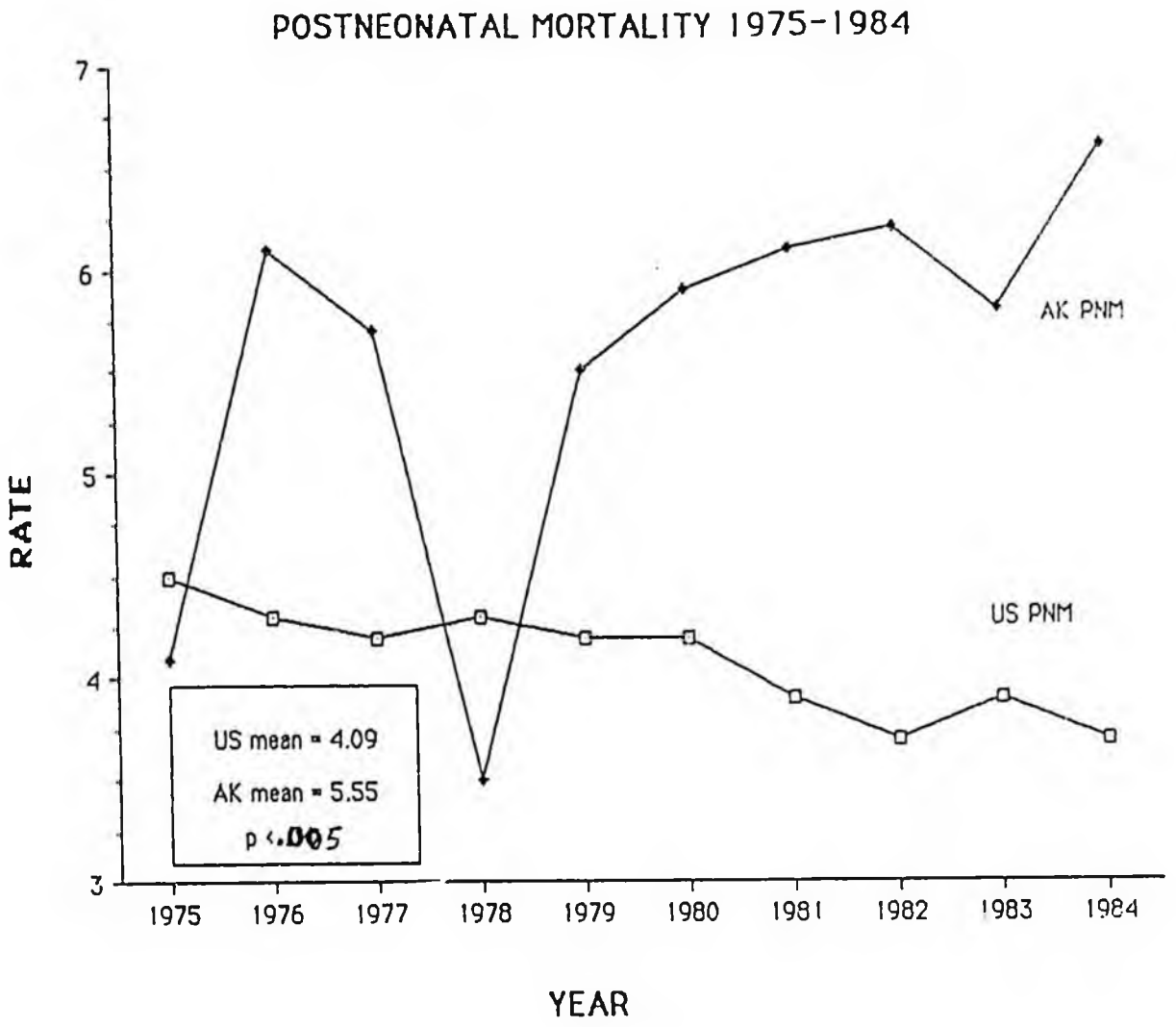
Postneonatal Mortality by Year

| | 1984 | '83 | '80 |
|---|---|---|---|
| U.S. | 3.7 | 3.9 | 4.1 |
| White | 3.1 | 3.3 | 3.5 |
| Black | 6.5 | 6.8 | 7.3 |
| ALASKA | 6.6 | 4.7 | 5.9 |
| White | 3.8 | 4.9 | |
| Native | 8.9 | 9.1 | |

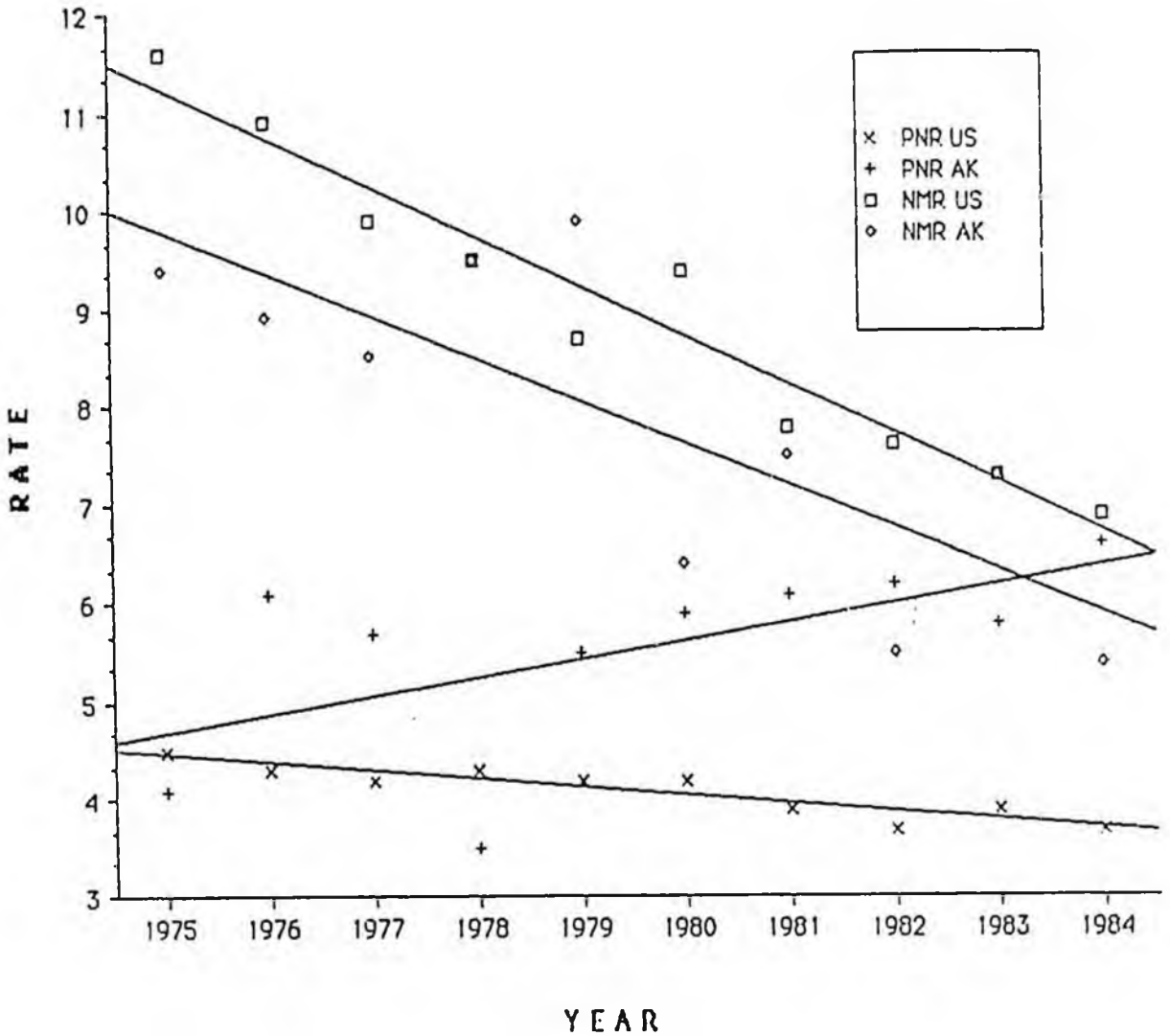

INFANT MORTALITY
17
16
15
14
13
12
11
10
RATE
IN MORT US
IN MORT AK
U.S. mean = 12.95
Ak. mean = 13.4
p< .375
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
YEAR

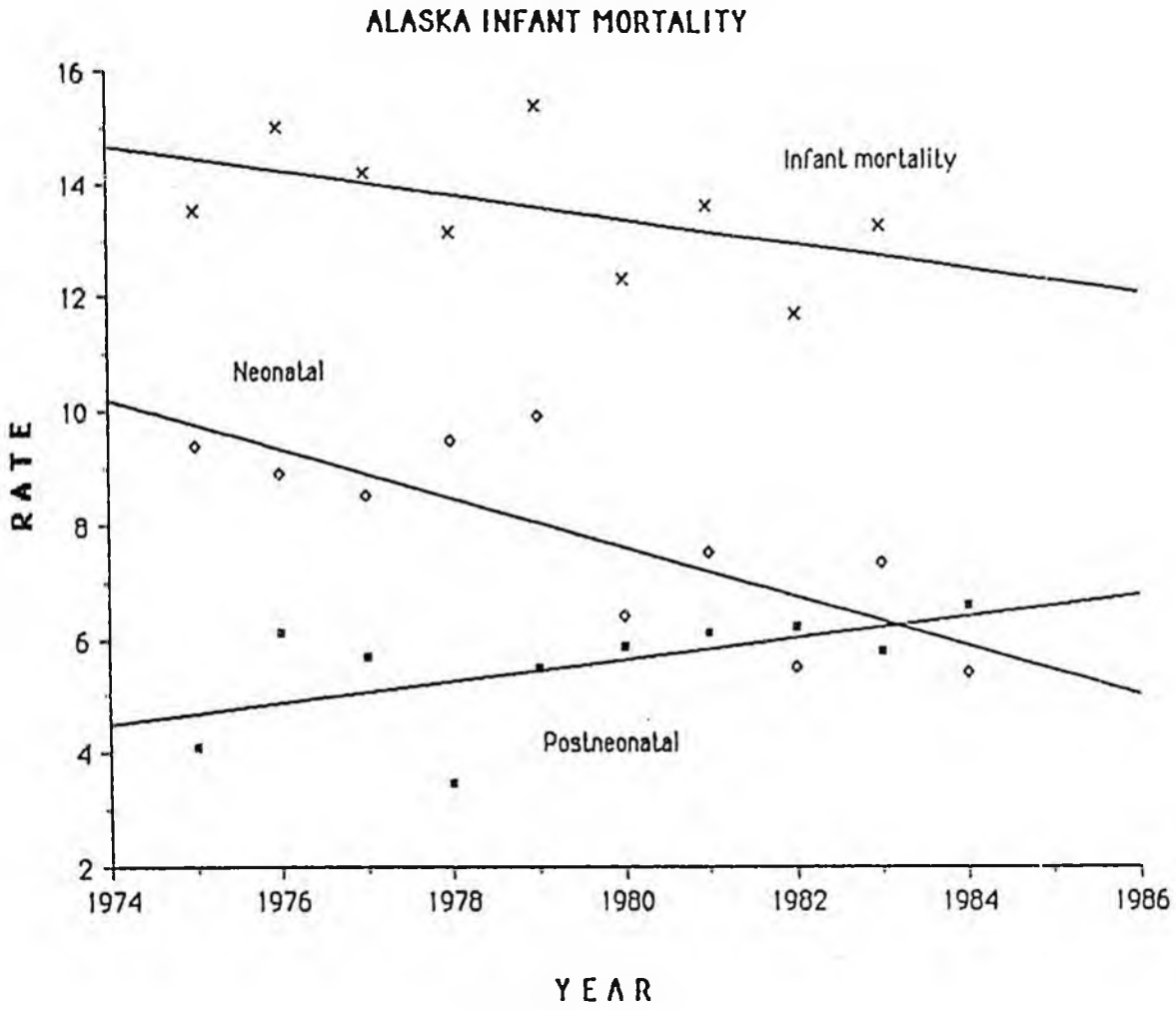

INFANT MORTALITY
17
16
15
14
13
12
11
10
9
8
RATE
AK IMR
US IMR
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
YEAR

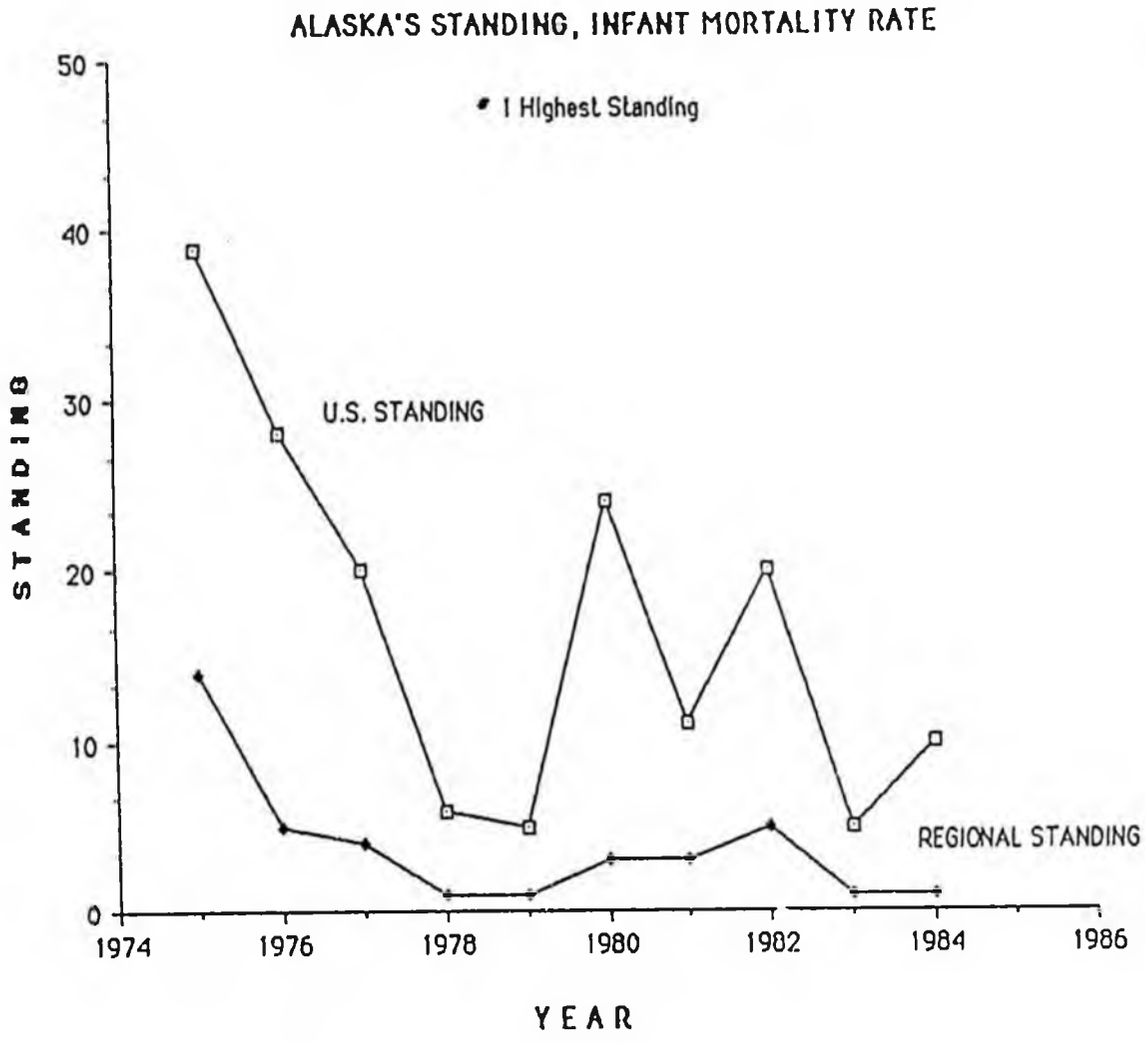

NEONATAL MORTALITY 1975-1984
RATE
12
10
8
6
4
US mean = 8.96
AK mean = 7.58
p< .05
US NM
AK NM
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
YEAR


POSTNEONATAL MORTALITY 1975-1984
RATE
7
6
5
4
3
AK PNM
US PNM
US mean = 4.09
AK mean = 5.55
p <.005
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
YEAR

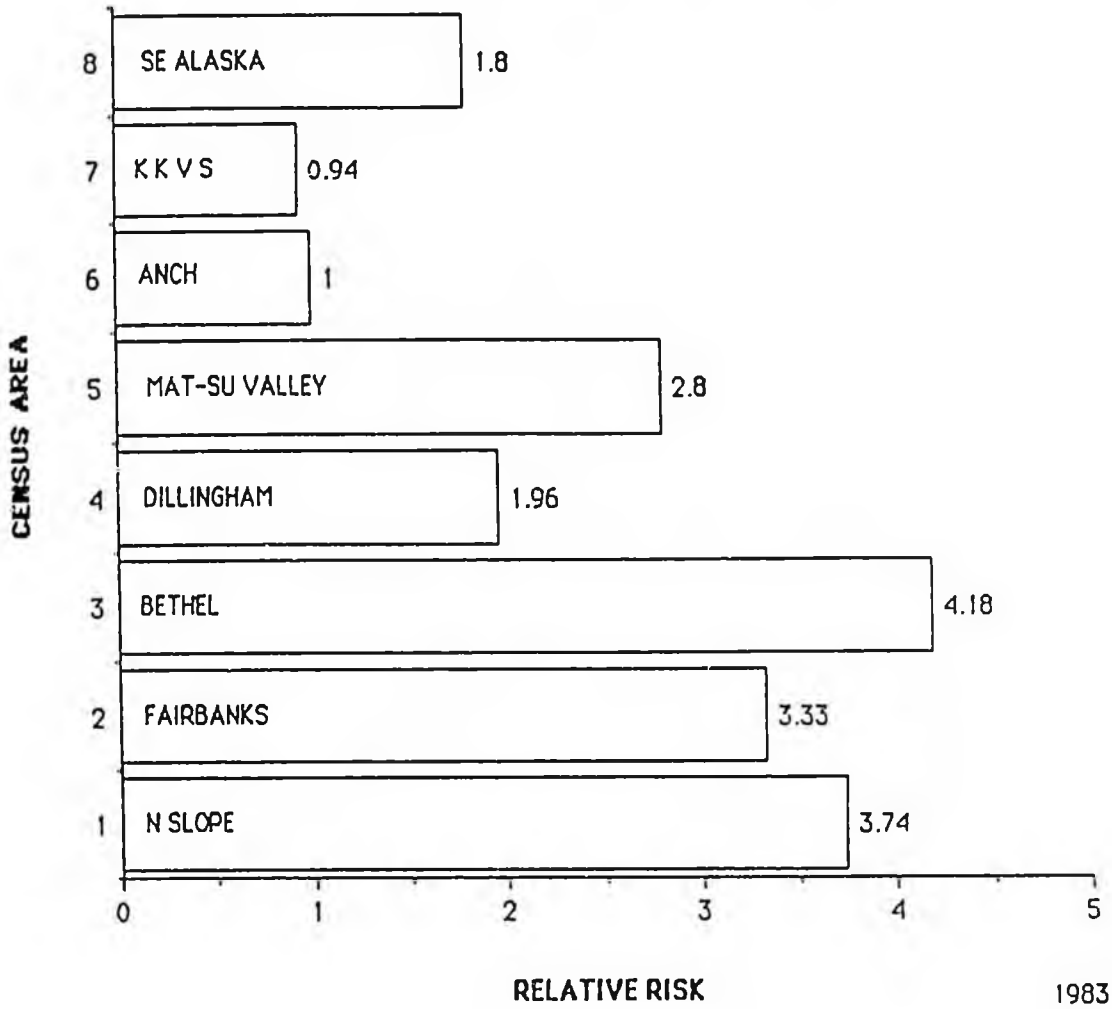
## NEONATAL & PNM RATES




ALASKA INFANT MORTALITY
Infant mortality
Neonatal
Postneonatal
RATE
YEAR
16
14
12
10
8
6
4
2
1974
1976
1978
1980
1982
1984
1986

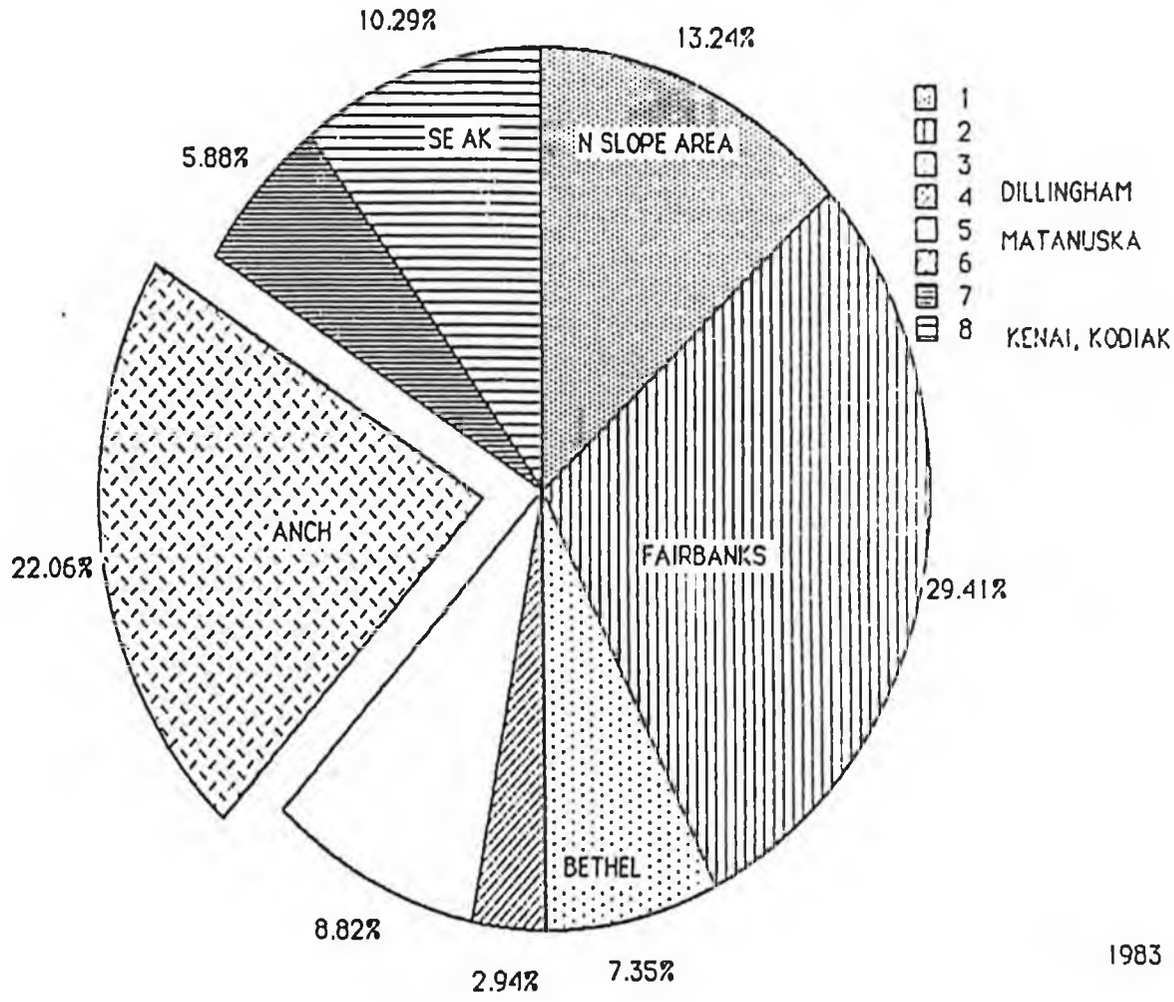

ALASKA'S STANDING, INFANT MORTALITY RATE
1 Highest Standing
50
40
30
20
10
0
STANDING
U.S. STANDING
REGIONAL STANDING
1974
1976
1978
1980
1982
1984
1986
YEAR

POSTNEONATAL RATIO, Anchorage as Index




1983

## POSTNEONATAL MORTALITY, by CENSUS AREA




1983

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