LEGISLATIVE FINANCE-HOUSE/SENATE FINANCE COMM. FILES 8879

SB 174 cont.; SB 175 1989-1990 631

11. Infant Learning Program. Mary Diven of the state division of Maternal and Child Health reports these figures are "deceptively low", under estimating the true cost of rural service. Infant Learning Program costs as much as $6,000/year in some rural areas.

12. Handicapped Children's Program. Cost estimates include averages for children with heart problems, cleft palate and developmental delay. Children with physical problems can be on the program for 21 years; children with developmental delays may be on the program for as few as three years. Cost estimates by Kathy Robinson, Maternal and Child Health, Alaska Department of Education. This report estimates that one child per year has heart problems (a low estimate in view of the 30 to 70 percent with heart problems); three have cleft palates; and three more have other physical problems such as spina bifida, progressive scoliosis, or severe visual and hearing loss.

13. Minimal Special Education. Costs cover only $4,000/year for additional special education for learning disabled children, above normal operating and capital education costs (Tom Buckner, Department of Education). Christine Hagmeier of the Department of Health and Social Services cautions that patients with IQ's above 70 and below 100 "may well be more expensive than those with lower IQ's" because they an become involved in counselling, corrections and the law. These costs are not reflected in this report. The 42 percent prevalence estimate is from Streissguth.

14. Child Mental Retardation. Cost of special education for severely retarded children is $20,000 - $23,000/year, in addition to normal operating and capital education costs. Estimates from Tom Buckner, Department of Education.

15. Developmentally Disabled Child (HSS). Cost estimate by Christine Hagmeier of the Department of Health and Social Services. Costs can include foster care, in-home care, shared care, respite care, in-home training, advocacy and family support. Hagmeier reports that severely disabled children can cost between $35,000 and $85,000 with average cost of $55,000.

16. Alaska Youth Initiative. Cost estimate from John Van Den Berg, Department of Health and Social Services. This is a program for 52 severely troubled youths. The average age is 15.8 years; the average number of failed housing placements is 16. Currently five FAS youths are in the program. This report estimates children remain on the program an average of 12 years (based on Van Den Berg's report that "absolute minimum lifetime costs per child are $1 million".) It further assumes that one FAS child would enter this program every two years. Streissguth reports that aggressive behavior may be a problem for about 40% of the boys. Those from a less structured and protected environment may be "quick to anger when crossed and quick to strike out impulsively".

17. Developmentally Disabled Adult Initial Training. Costs include $25,000 residential care (example: foster care and independent living) plus initial vocational rehabilitation costs of $20,000, for a total of $45,000. Initial vocational rehabilitation costs average between two and five years. Estimate by Christine Hagmeier.

18. Developmentally Disabled Adult Supervised Work. After initial rehabilitation costs (see #17 above), costs can "fade" to between $10,000 and $25,000 for lifetime residential care plus $5,000 lifetime vocational rehabilitation care (Hagmeier). The average of this $15,000 to $30,000 range is $22,500.

19. Institution. Estimate by Ellen Ganley, Governor's Council for the Handicapped and Gifted.

20. FAE Births. Annual FAE births are calculated in this report at twice that of FAS births. This is a conservative estimate. Hild believes the actual number of FAE births annually is ten times the FAS births (or 290 FAE births and 168 developmentally disabled FAE persons.) In this report, cost estimates for FAE births are limited to mental retardation. They do not include costs associated with mild learning disabilities, physical anomalies, child abuse, sexual abuse or the justice system.

21. See #11.
22. See #15.
23. See # 14.
24. See # 7.
25. See # 18.

SOURCES

Ernest L. Abel and Robert J. Sokol, "Incidence of Fetal Alcohol Syndrome and Economic Impact of FAS-Related Anomalies", Department of Obstetrics and Gynecology, Wayne State University, Drug and Alcohol Dependence, Vol. 19, 1987, pp. 51-70.

James Berner, M.D., Letter to George Brenneman, M.D., February 10, 1988 and Letter to Chief, Area Community Health Services Branch, Alaska Area Native Health Service, February 3, 1988.

Henrick J. Harwood and Diane M. Napolitano, "Economic Implications of the Fetal Alcohol Syndrome", Alcohol World Health & Research, National Institute on Alcohol Abuse and Alcoholism, Fall 1985.

Ruth Little, "Moderate Alcohol Use During Pregnancy and Decreasing Infant Birthweights", American Journal of Public Health, Vol. 67, 1977.

Ann P. Streissguth, A Manual on Indian Adolescents and Adults with Fetal Alcohol Syndrome, University of Washington Medical School, July 1, 1986.

PERSONS CONSULTED

James Berner, M.D., Chief, Area Community Health Services Branch, Alaska Area Native Health Service.

Tom Buckner, Special Education, Alaska Department of Education.

Mary Diven, Infant Learning Program, Alaska Department of Health and Social Services.

Ellen Ganley, Governor's Council for the Handicapped and Gifted.

Robert Gregovich, formerly with Mental Health and Developmental Disabilities, Alaska Department of Health and Social Services.

Christine Hagmeier, Mental Health and Developmental Disabilities, Alaska Department of Health and Social Services.

Henrick Harwood, National Institute of Medicine, Rockville, Md. (202-334-3017)

Vicki Hild, FAS Coordinator, Alaska Native Health Board.

Kathy Robinson, Handicapped Children's Program, Alaska Department of Health and Social Services.

Sandra Randalls, R.N., University of Washington Medical School, Seattle (Ann Streissguth was out of town).

John Van Den Berg, Mental Health and Social Services, Alaska Department of Health and Social Services.

Lisa Wolf, Providence Hospital.

POSITION PAPER/Department of Health & Social Services

POSITION PAPER

ON

SENATE BILL NO. 175

"An Act requiring the holder of a license or permit related to selling or serving alcohol to post signs warning patrons that consumption of alcohol during pregnancy can cause birth defects."

Alcohol consumption during pregnancy can produce effects on the fetus depending on alcohol dose, timing and consumption pattern. The effect on the child both in the fetal stage and postnatally can range from unsubstantial to severe damage or death. No safe level of consumption of alcohol during pregnancy has been established.

The common term for the most severe form of damage is called "Fetal Alcohol Syndrome" (FAS). Full-blown FAS victims are recognized by certain physical conditions: growth retardation, low birth weight, small head circumference, altered facial characteristics (flat facial appearance, eyes wide-set and too small horizontally, an unshaped, flat area between the lip and nose, a flat upturned nose, and poor cheek formation). This is caused by excessive cell death in the central nervous system that interferes with the proper development and organization of the brain, skull and face. Other adverse alcohol-related delivery results include stillbirth, spontaneous abortion (especially during the second trimester*), pre-term delivery, low birth weight, neuro-behavioral abnormalities, mental retardation, cerebral palsy, and attention deficit syndrome with learning difficulties.

According to Dr. Kenneth Jones, in an article in "Pediatrics in Review", 1 out of every 10 pregnant women who drinks moderately (2 standard drinks per day) will bear a FAS child. This disease is the third leading cause of mental retardation in the United States and more prevalent nationwide than downs syndrome. Alaskan Natives have the highest FAS rate of any population studied in the world. Most babies who are born with full-blown FAS will have physical defects that will require special services for life. Lesser damage, termed Fetal Alcohol Effects (FAE) or Alcohol Related Birth Defects (ARBD), are a cause of approximately 5% of all congenital anomalies and can cause behavioral disorders, learning disorders, blindness, deafness, abnormal liver and kidney functioning, and cleft palate or lip. FAS, FAE, and ARBD are completely preventable, and totally caused by alcohol.

The National Institute of Alcohol Abuse and Alcoholism (NIAAA) estimates the incidence of FAS in the United States to be from 1 to 3 per 1000 live births. Rates in Alaska have been estimated to be as high as 4.7 per 1000 live births.

DHSS Position Paper

Position Paper on Senate Bill No. 175

Estimated costs incurred by infants with ARBD born during calendar year 1987, not including Indian Health Service (IHS) facility expenses were $1,162,500. Children with FAS averaged $168,000 per child for care, and ARBD children averaged $100,833.

Alcohol advertising is a major industry in the United States. The messages presented are always positive--"drink alcohol and you will be glamorous, sexy, you'll have more friends, be successful, and less bored." A campaign to place warning signs in restaurants, clubs, breweries, package stores, common carriers, pubs, etc., would present a realistic picture of one of the dangers of alcohol abuse to Alaskans and reinforce the educational efforts of the programs aimed at preventing FAS. The information provided would be an important means of health education in providing heightened awareness of the dangers of drinking during pregnancy.

From a public health education/prevention standpoint, the Office of Alcoholism and Drug Abuse is highly supportive of this Act. Fetal Alcohol/Syndrome has been identified by the Governor's Interim Commission on Children and Youth, the State of Alaska Department of Health and Social Services, Office of Alcoholism and Drug Abuse (SOADA), and the Alaska Native Health Board as a priority health problem that must be dealt with. The posting of warning signs regarding health hazards to the unborn is considered an important part of the current SOADA FAS program and the IHS FAS prevention program.

* This is reported among women drinking as low as 2 standard drinks per day--a standard drink is 12 oz. of beer, 5 oz. of wine or 1.5 oz. of 80 proof distilled spirits.

Recommended by: _____
Matthew C. Felix
Coordinator
Office of Alcoholism & Drug Abuse

Date: 3/16/89

Approved by: _____
Myra M. Munson
Commissioner
Department of Health & Social Services

Date: 3/20/89

CS SENATE BILL 175 (HESS)

by Senators Binkley, Adams, Zharoff, Pourchot, Frank, and Pearce

An Act requiring the holder of a license or permit related to selling or serving alcohol to post signs warning patrons that consumption of alcohol during pregnancy can cause birth defects.

Section 1. Amends AS 04.21 regarding the posting of warning signs.

(a) requires the holder of certain licenses or permits to post a sign or signs.

(b) specifies size, wording, and placement of signs. ABC board shall determine compliance.

WARNING: Drinking alcoholic beverages such as beer, wine, wine coolers, and distilled spirits during pregnancy can cause birth defects.

(c) requires ABC Board to furnish signs.
(d) provides for issuance of a citation by a peace officer.
(e) provides for issuance of a citation by ABC Board employee.
(f) sets fines for violation: $20 to $300.

Section 1 (g) - (l) and Section 2. deals with procedures for citation process.

PROPOSED CS SENATE BILL 175 (Finance)

Page 2, line 29 — Reference to "A person who violates this section" is changed to "A holder of a license or permit who violates this section"

Although only a licensee or permit holder is required to post the sign or signs (page 1, line 17) and therefore is the person who would be cited, this change has been drafted at the request of the ABC board to clarify any concern that a bartender or other employee may be cited.

Page 3, line 29 — New section (m) provides that the board may not suspend or revoke a license for violation.

AS 04.11.370 (4) provides that a license or permit shall be suspended or revoked if there is a conviction of a violation of provision of the title. Under bail procedures outlined in this bill a "judgment of conviction" is entered when bail is forfeited [CSSB 175 ( ), Page 3, line 17]. This is patterned after citation procedures established elsewhere, i.e., traffic and No Smoking sign violations.

Note: Failure to post signs will result in a fine. Each day a violation continues after a citation has been issued constitutes a separate violation. [CSSB 175( ), page 3, line 3]

ALCOHOL RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome

Fetal Alcohol Syndrome is a pattern of mental, physical and behavioral defects that may develop in an unborn child when its mother drinks alcohol during pregnancy. FAS birth defects may include:

- prenatal and postnatal growth deficiency (low birth weight; failure to catch up)
- facial malformations, including small head size, misshapen eyes and midportion of the face
- central nervous system damage which can include mental retardation, brain damage, developmental delays, hyperactivity, short attention span, behavioral problems
- heart, joint, kidney, genitalia malformations to varying degrees

Fetal Alcohol Effects

Fetal Alcohol Effects are less severe alcohol-related birth defects but may include degrees of any of the FAS defects.

OTHER FACTS

58% of both FAS and FAE patients have **IQ's below 70** (developmentally disabled).

There is **no treatment** for a child born with FAS or FAE.

Alcohol Related Birth Defects is totally **preventable.** The woman who is pregnant (or nursing or considering pregnancy) is advised to refrain from drinking alcohol.

Paternal Influence is being studied. Recent research from the University of Michigan found that babies born to fathers who drank regularly during the month before conception were lighter birthweight.

The Indian Health Service estimates the **incidence of FAS** among Alaska Natives to be 4.2 per 1,000 live births, the highest of any reported group. Currently no one is keeping statistics on the non-Native population, but medical personnel believe these rates to also be high.

The **lifetime cost** per Alaska FAS birth is **$1.4 million.** The lifetime cost for each group of FAS babies born each year (29 births, 26 survivers) is $39.8 million.

Other States with FAS Warning Sign Legislation

Georgia	South Dakota
Maine	California

Numerous cities and counties have enacted ordinances.

New York City commissioned a **Gallup Poll** a year after enacting an ordinance requiring a warning sign at all points of sale of alcoholic beverages. The poll showed a **14% increase in awarness** of the danger of drinking during pregnancy.

Briefing Paper

Alaska State Chapter
March of Dimes
Birth Defects Foundation
130 Seward St., #412A
Juneau, AK 99801
Telephone 907 586 6962

March of Dimes Preventing Birth Defects

March 20, 1989

The Honorable Johne Binkley
Alaska State Senate
Pouch V
Juneau, AK 99811

Dear Senator Binkley:

The Alaska March of Dimes Chapter concurs wholeheartedly with Senate Bill 175 (warning signs for establishments selling or serving alcohol) alerting expectant mothers to the fact that alcoholic beverages can cause birth defects.

The prevalence of Fetal Alcohol Syndrom and Fetal Alcohol Effects is far too great among our Alaska population. Many birth defects are not preventable and need treatment after birth. FAS and FAE are preventable and cannot be corrected after birth. Our unborn babies should not be subjected to this type of abuse. Research indicates (1) there is no safe amount - even one drink a day could cause FAS or FAE, and (2) has yet to determine when the fetus is most vulnerable. Therefore, the March of Dimes Birth Defects Foundation recommends you refrain from drinking any alcoholic beverages during pregnancy.

The Alaska March of Dimes Chapter has targeted the "alcohol warning signage project" as one of their top priorities and would like to assist you in any way possible to assure passage of this bill, and perhaps even assist in the production and distribution wherever possible.

We look forward to working with you.

Sincerely,

Venetta Hildebrand

Venetta Hildebrand
Chapter Director

Letters of Support

NEA-ALASKA

AFFILIATED WITH THE NATIONAL EDUCATION ASSOCIATION

ANCHORAGE REGIONAL OFFICE
1411 W. 33RD AVENUE
ANCHORAGE, ALASKA 99503
(907) 274-0536

JUNEAU OFFICE
105 MUNICIPAL WAY, SUITE 302
JUNEAU, ALASKA 99801
(907) 586-3090

FAIRBANKS REGIONAL OFFICE
2118 CUSHMAN STREET
FAIRBANKS, ALASKA 99701
(907) 456-4435

March 21, 1989

Senator Johne Binkley
Alaska State Legislature
P.O. Box V
Juneau, Alaska 99811

Dear Johne:

We are writing relative to SB 175 and to indicate that NEA-Alaska strongly supports this legislation.

The importance of public knowledge about the potentially harmful effects of the consumption of alcohol before and during pregnancy is increasing dramatically. We view SB 175 to be only one step in a series of steps which must be taken in Alaska to better inform the general public about the seriousness of the problem.

It is particularly discouraging that a problem which so is totally preventable and unnecessary receives so little attention. Parental awareness and active involvement are key elements in the eventual elimination of this problem.

FAS and FAE are not only a burden for the individual and immediate family but create a need for additional services and resources in our public schools and in society in general. The toll is measured not just in dollars and cents but has the effect of creating a drain on critical services at all levels of government.

We applaud your efforts with this legislation and wish to support it in whatever way possible.

Sincerely,

Judy Salo

Bob Manners
Executive Secretary

Judy Salo
President

cc: Rep. Eileen MacLean; Re: HB 230

UNITED STATES GOVERNMENT

memorandum

DATE: February 3, 1989

REPLY TO ATTN OF: Chief, Area Community Health Services Branch Refer to: A-CHSB

SUBJECT: Alaska Area Native Health Service

Update: Incidence of Fetal Alcohol Syndrome (FAS) in Alaska Natives

TO: Director
Alaska Area Native Health Service

RECEIVED FEB 9 1989

In 1986 the Alaska Area Community Health Services Branch conducted an area-wide survey to determine the incidence and prevalence of FAS in Alaska Native children. The target population included all Alaska Native children born since January 1, 1981 and before May 30, 1986. Children suspected of having FAS, by FAS diagnostic criteria, were transported with their mothers or caregivers to a regional facility to be examined. The children were examined by the same consultant, a pediatric dysmorphologist from the University of New Mexico who is a nationally-recognized expert in identification of FAS in American Indians.

The incidence of FAS calculated from the data was 4.2/1000 live births, which was the highest reported rate for any population thus far studied. It was pointed out at that time that the true incidence was higher than 4.2/1000, as case-finding was difficult in certain parts of the state and several children suspected of having FAS were, for various reasons, unable to attend the scheduled clinics.

In response to this problem, the Alaska Area IHS initiated an Area-wide FAS Prevention Program through a contract with the Alaska Native Health Board. The program was designed to obtain accurate data, provide education, offer intervention therapy, pursue follow up of high-risk mothers and infants, engage in ongoing research, and assist regional Native Health Corporations in developing their own FAS prevention programs.

Identification of new FAS cases has continued with the diagnosis being made by an IHS pediatrician either at ANMC or at a regional pediatric clinic. In instances where the pediatrician feels a second opinion is needed the child is referred to the FAS Diagnostic Clinic, which is held twice a year at ANMC.

OPTIONAL FORM NO. 10
(REV. 1-80)
GSA FPMR (41 CFR) 101-11.6
5010-114
★U.S.GPO:1987-0-181-247/40255

-Incidence of FAS in ALASKA Natives-

Identification of new FAS cases for the initial study period (January 1, 1981, through May 30, 1986) resulted in the revised area-wide rate for this time period of 5.1/1000 for FAS and 1.7/1000 for FAE (Fetal Alcohol Effects).

During June 1, 1986 through December 31,1988 the Area FAS Prevention Program began a major statewide education effort and began training and assisting the regional Native Health Corporations in the devlopment of FAS prevention programs. Seven corporations have established FAS prevention programs, with the others involved in FAS education activities, as well as regional FAS program development.

For the period June 1, 1986, through December 31, 1988, the FAS rate is 2.7/1000, and 1.7/1000 for FAE. While the FAE rate has remained the same, the FAS rate has decreased by almost one half (47%) of the prior FAS rate of 5.1/1000. Although this is most encouraging, there is no region whose rate is equal to or below the average national rate for FAS of 1.7/1000. Regional rates vary from 1.2 to 20 times the average national FAS rate.

The cumulative (January 1, 1981 through December 31, 1988) FAS rate for Alaska Natives is 4.2/1000 and 1.7/1000 for FAE.

If the trend for FAS incidence holds, it would appear that the programmatic efforts may be having an impact on the FAS rate. Continuation and expansion of these efforts may in time provide strategies that will prevent FAS long before pregnancy. It is felt the FAE rate is deceptive i.e. under diagnosed, for two reasons. First, case-finding efforts have been geared for diagnosing FAS not FAE. Secondly FAE, if the major effect is developmental delay and behavior disorders, is not easily diagnosed at birth, but is noticed later, often after the child enters in school.

The Area FAS Program has also gathered information on other drug usage in our prenatal population. Reported prenatal cocaine usage has dramatically increased as have the number of infants born with cocaine-related medical problems. A cocaine education component is currently being developed, and will be incorporated into the Area FAS Prevention Program.

In response to the FAS problem, as well as other prenatal drug use and abuse, Southcentral Foundation submitted a proposal in March 1988 for the establishment of a residential treatment center for pregnant Native women in Alaska. The proposed intervention and treatment approach would be far more cost effective than the chronic care of a child born with FAS, FAE, or birth defects caused by other prenatal drug usage. There is a great need for chemical dependency treatment services for pregnant women, services which are currently unavailable.

James E. Berner, MD

Vicki Hild,
FAS Cordinator

Office for Substance Abuse Prevention

THE FACT IS . . .

Alcohol and Other Drugs Can Harm an Unborn Baby

Every pregnant woman wants a healthy, normal baby--and there are many things a woman can do to help ensure that she has one. In addition to regular prenatal check-ups and a nutritious diet, an expectant mother should also be extremely careful about the kinds and amounts of all drugs she takes--including alcohol, illicit drugs, and drugs available at the pharmacy or grocery store.

Alcohol

Drinking alcohol during pregnancy, especially in the early months, can be very dangerous to a developing baby. Alcohol passes freely from the mother's body to the baby's body and affects the developing systems of the unborn baby. The more a pregnant mother drinks, the greater the chances of harm to the unborn child.

Children whose mothers drink frequently or heavily during pregnancy may be born with fetal alcohol syndrome (FAS). Between one and three of every 1,000 babies born has FAS. FAS is one of the leading known causes of mental retardation in this country.

There are many more children who have been affected by alcohol in utero but who lack he full set of characteristics that define FAS. These babies may be at higher risk because they are too small at birth, or they may have some, but not all of the features of FAS. These problems, when attributable to alcohol, are called fetal alcohol effects.

Unfortunately, the lower limits of how much alcohol a woman can drink without any risk to her baby is still unknown. Some studies link an average of 1 to 2 drinks a day to decreased birth weight, and abnormal behavioral attributes.(1) The safest choice is not to drink any beer, wine, or hard liquor while pregnant. Since most women do not know they are pregnant until a month or more has passed, it is best to stop drinking before becoming pregnant. Women who have difficulty abstaining from alcohol use during pregnancy should consult their physician. It is never too late to seek help--whenever drinking is stopped during pregnancy, the risks of fetal alcohol effects and consequences of alcohol exposure are decreased.(2)

Illegal Drugs

Any drug that can cause addiction or alter basic body functions (including thinking or feeling) is dangerous. They may be particularly damaging to a pregnant woman and her baby.

Recent studies suggest that pregnant women who smoke marijuana are frequently at higher risk of stillbirth, miscarriage, low birthweight babies, and fetal abnormalities, especially of the nervous system. Women who use marijuana during pregnancy also deliver infants 5 times more likely to have features like those with FAS. In addition, the active ingredient in marijuana, THC,

MS 353

National Clearinghouse for Alcohol and Drug Information
☐ P.O. Box 2345 ☐ Rockville, MD 20852

☐ U.S. Department of Health and Human Services ☐ Public Health Service ☐ Alcohol, Drug Abuse, and Mental Health Administration

passes through the placenta to the baby--in other words, the baby of a mother who recently smoked marijuana may be born "high." All of these effects are greatest toward the end of pregnancy, but may occur at any time. Like other unnecessary drugs, marijuana should not be used during pregnancy.

Heavy cocaine use has been linked to higher rates of miscarriage and premature onset of labor. Infants born to women using cocaine often experience painful withdrawal from cocaine at birth. Such infants can actually suffer prenatal strokes before birth because of the fluctuations in blood pressure that cocaine can produce.(3) Children born to women who use cocaine during their pregnancy also experience a higher than normal rate of kidney and breathing disorders and an increased risk of sudden infant death syndrome (SIDS).(4) Such children also suffer from an increased incidence of visual and coordination problems and developmental retardation.(5) Cocaine use during pregnancy poses serious risks for the unborn child.

Infants of women addicted to heroin, methadone, or other narcotics are more likely to be stillborn or to have low birthweights. These women usually give birth to addicted babies who must go though withdrawal soon after birth.

Pregnant addicts often forget their own health care, adding to their unborn babies' risk. Pregnant women addicted to cocaine or narcotics should consult a physician or treatment center to establish a safe detox or methadone maintenance plan.(6)

Other Substances

Cigarettes. Women who smoke while pregnant have a higher percentage of stillborn babies, miscarriages, and premature deliveries than women who don't smoke. Mothers who smoke are also more likely to have low birthweight babies who are at greater risk of dying soon after birth. These effects are directly related to the number of cigarettes smoked daily, so the fewer the better (changing to low-tar cigarettes will not correct smoking-related problems in pregnancy). However, if a women quits smoking by the fourth month, her risk of delivering a low birthweight baby is similar to that of a nonsmoker.(7)

Prescription and Over-the-Counter Drugs. Almost all drugs get passed through to a growing fetus. Because the effects of most of these drugs to unborn babies are not known, every pregnant women should tell all doctors and dentists caring for her that she is pregnant and discuss the use of any drugs she is taking at her first prenatal visit. Some prescription drugs are known or thought to cause birth defects or other complications in a baby's development when taken during pregnancy. Among them are birth control pills, tranquilizers, and some antibiotics. Tetracycline, for example, may cause a child's first or permanent teeth to be discolored or may affect bone growth. The acne drug Accutane (generic name isotretinoin) is known to cause birth defects.

Some over-the-counter drugs should also be discussed with the doctor. For example, many doctors recommend sodium-free antacids for their pregnant patients. Aspirin used in the later stages of pregnancy may prolong pregnancy and labor and cause excessive bleeding in the mother and child before and after delivery. Pregnant women should not take ibuprofen (the active ingredient found in several aspirin alternatives) without first discussing it with their physician--especially during the last 3 months of pregnancy when it may cause problems in the unborn child or complications during delivery.

Seemingly unharmful, even some vitamins can "pile up" in the body and cause damage to an unborn baby.(8) Although the obstetrician may prescribe a prenatal vitamin supplement, eating a variety of foods most likely will supply all the vitamin needs of a pregnant women and her unborn child.

Caffeine. Caffeine is found in tea, coffee, colas, some medications, and chocolate. Experiments with animals show that high doses of

caffeine may cause birth defects. In addition, excessive caffeine consumption (more than six cups a day) can cause anxiety, interfere with a pregnant woman's rest, and suppress her appetite. Thus, doctors recommend that a pregnant woman drink fewer than four cups of coffee a day and that she not drink colas excessively.

Summary

The use of all drugs is a serious matter for pregnant women. Virtually all drugs she uses enter her baby's body as well and the effects on the developing fetus can be much different than for the mother. Even drugs we may take for granted, like aspirin, vitamins, and other over-the-counter items may cause harm to the unborn child. Scientists have learned a lot about the effects of alcohol and other drugs in pregnancy. But they would be the first to say they still don't know enough. Therefore , every pregnant women should play it safe and avoid the use of all but the most necessary drugs.

References

(1) "Facts on Alcohol-Related Birth Defects," National Council on Alcoholism, Inc., NY, NY. 1987.
(2) Ibid.
(3) "Cocaine" by Steve Newman and Bryn Anderson, The Drug Education Center, Charlotte, NC. 1986.
(4) Ibid.
(5) Ibid.
(6) "Drugs and Pregnancy, a Guide for Women." The Drug Program Office, Santa Barbara County Health Care Services, Santa Barbara, CA. 1987.
(7) Ibid.
(8) "Drugs, Alcohol, Tobacco Abuse During Pregnancy," March of Dimes, White Plains, NY. 1985.

Resource List

Fetal Alcohol Syndrome and Other Drug-Related Risks During Pregnancy

The following list is general up-to-date information on fetal alcohol syndrome, fetal alcohol effects and other drug effects resulting from substance use during pregnancy. Materials were selected for their information, appropriateness and availability. Using these resources, health professionals and community program providers can inform pregnant women, and women planning a pregnancy, about the risks of using alcohol or other drugs during pregnancy. The media can be encouraged to air public service announcements, and publish articles on these risks as well. For more information on preventing alcohol and other drug related birth abnormalities, contact the National Clearinghouse for Alcohol and Drug Information (NCADI) at P.O. Box 2345, Rockville, MD. 20852, or call NCADI at (301) 468-2600 and ask to speak to an information specialist. Your comments and recommendations for additional materials to be included in future updates of this publication are welcome.

Brochures, Pamphlets and Fact Sheets

Alcohol and Birth Defects: The Fetal Alcohol Syndrome and Related Disorders reviews advances in research and in our understanding of this topic. It is intended primarily for lay readers but is

and the fathers role, and the Surgeon General's warning on drinking during pregnancy. 1986. 7 pp.

Availability
Do It Now Foundation
P.O. Box 21126
Phoenix, AZ 85036
(602) 257-0797
$.25, bulk discount

No Thanks . . . I Want a Healthy Baby is a brief succinct pamphlet of facts about the effects of drinking during pregnancy. Poster with the same message is also available. 1986. 2 pp.

Availability
Prevention Resource Center
901 South Second Street
Springfield, IL 62701
1-800-252-8951
Single copies free

Alcohol, Tobacco, Caffeine, and Pregnancy encourages women to avoid alcohol, tobacco, and caffeine during pregnancy and while breastfeeding. It explains the dangers of these substances and the benefits of a healthy pregnancy. 1985. 8 pp.

Availability
Do It Now Foundation
P.O. Box 21126
Phoenix, AZ 85036
(602) 275-0797
$.25, bulk discounts

What Everyone Should Know About Fetal Alcohol Effects is an illustrated, easy-to-read booklet of information on the effects of alcohol on the growing fetus, alternatives to drinking, and places women can go to get help with a drinking problem. 1985. 15 pp.

Availability
Channing Betz Co., Inc.
200 State Road
South Deerfield, MI 01373
(413) 665-7611 or
(800) 628-7133
25 minimum order, $19.50 postpaid; complimentary review copies available

What You Should Know About. . . Babies and Booze, a brochure geared toward young women, provides basic data about alcohol consumption, explains the dangers of drinking alcohol during pregnancy, and encourages expectant mothers not to drink. 3 pp.

Availability
Oakland County Health Division
1200 N. Telegraph Road
Pontiac, MI 48053
(313) 858-1308
Single copies free

Fetal Alcohol Syndrome and Other Drugs Update, a newsletter for health providers and others interested in the effects of alcohol and other drugs during pregnancy, contains general information on topics such as alcohol and mental retardation, reviews of conferences and workshops, and updates on awareness campaigns.

Availability
Prevention Resource Center
901 S. Second Street
Springfield, IL 62704
(217) 525-3456
Free: New issue mailed out quarterly

The Growing Child With Fetal Alcohol Syndrome describes some of the social, physical, and intellectual consequences of fetal alcohol syndrome on the growing child. A case study of a 6-year-old child is presented, as is a comprehensive list of clinical features of the syndrome. 1985. 5 pp.

Availability
Thomas W. Perrin, Inc.
One Madison Street
East Rutherford, NJ 07073
(201) 777-2277
$.81 postpaid

also useful for health professionals who are not specialists in this area. 1987. 56 pp.

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
(301) 468-2600
No cost; request PH238

Program Strategies for Preventing Fetal Alcohol Syndrome and Alcohol-Related Birth Defects provides program planners with a foundation for developing a comprehensive community-based program aimed at reducing the number of alcohol-related birth defects. This "how-to" manual is filled with practical advice, based on the latest research. It also contains appendices rich in referral and bibliographic information. 1987. 78 pp.

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
(301) 468-2600
No cost; request PH236
(out of stock until 8/88)

My Baby . . . Strong and Healthy recommends that women not drink if pregnant or planning to become pregnant. The brochure describes the risks and potential effects of drinking on an unborn baby. 1986. 16 pp. (Also available in Spanish; see Spanish Language Publications.)

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
(301) 468-2600
No cost; request PH225
(out of stock until 8/88)

Taking Care of Your Baby Before Birth, A Message for Pregnant Women is an easy-to-read, action-oriented brochure for women that recommends that they not drink if pregnant or planning a pregnancy. 1988. 4 pp. (Also available in Spanish; see Spanish Language Publications.)

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
(301) 468-2600
No cost; request PH239

Marijuana and Reproduction reviews current research findings about the effects of marijuana on the reproductive system. This is a useful booklet for researchers and health care professionals who study or treat young adults and pregnant women. 1982. 30 pp.

Availability
American Council for Drug Education
5820 Hubbard Drive
Rockville, MD 20852
(301) 984-5700
$2.50

Prenatal and postnatal care, a brochure for parents or parents-to-be, advocates a good diet and abstaining from drinking and smoking during pregnancy and using safety restraints after the baby is born. 1986. 3 pp.

Availability
American Medical Association Auxiliary, Inc.
535 North Dearborn Street
Chicago, IL 60610
(312) 645-4470
$10.00 per 100

Cause and Defect. Questions and Answers About Fetal Alcohol Syndrome reviews current medical knowledge on risks and damage to the fetus of fetal alcohol syndrome. The pamphlet includes signs of the syndrome, prevention,

Fact Sheet: Fetal Alcohol Syndrome is a one-sided fact sheet providing a definition of fetal alcohol syndrome (FAS), the process by which FAS is contracted, symptoms of FAS, incidence and prevalence data, and recommendations to women who are pregnant or anticipating a pregnancy. 1987.

Availability
Missouri Department of Mental Health
Division of Alcohol and Drug Abuse
1915 Southridge Drive
P.O. Box 687
Jefferson City, MO 65102
Single copies free

Facts on Alcohol-Related Birth Defects is a fact sheet providing information on the incidence of fetal alcohol syndrome, its symptoms, and some reasons that women continue to drink during pregnancy. 1987.

Availability
National Council on Alcoholism, Inc.
12 West 21st Street
New York, NY 10010
(212) 206-6770 or
or
1511 K Street, NW
Washington, DC 20005
(202) 737-8122
or
(800) NCA-CALL
Single copies free

Healthy Mothers, Healthy Babies Quiz focuses on the extent of low birthweight and infant mortality in the United States. It is useful for generating group discussions and for educating students and the general public. National and State-by-State statistics are included. 1987.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
50 for $2.00, postpaid

Facts You Should Know About Teenage Pregnancy spells out the physical and psychological risks of teenage pregnancy. It is designed as a reference for both teenagers and adults. (Also available in Spanish; see Spanish Language Publications. 1987.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
50 for $2.00, postpaid

You Are Pregnant, You're in Your Teens, and You Need Help is a pamphlet for pregnant teens on ensuring healthy beginnings for their babies. It stresses the importance of regular prenatal care; eating right; and not smoking, drinking, or taking drugs. The teen is reassured that she is not alone and is guided to other sources of help. 1986. 3 pp.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
50 for $3.50, postpaid

Be Good To Your Baby, Before It Is Born is a booklet that guides the pregnant woman from the first prenatal visit through the delivery. It covers the first checkup, diet

and weight gain, risks to the baby from smoking and alcohol, exercise, rest, and more. (Also available in Spanish; see Spanish Language Publications.) 1986. 2 pp.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
50 for $3.00, postpaid

Bookmark reminding mothers-to-be to eat nourishing foods, see the doctor regularly, and be aware of the dangers of alcohol, tobacco, and drugs.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
100 for $2.50, postpaid

D*A*T*A--Drugs, Alcohol, Tobacco Abuse During Pregnancy helps the mother-to-be understand the effects of these substances on her unborn baby so she can avoid them--and increase her chances for having a healthy baby. 1987. 5 pp.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
100 for $3.50

Will My Drinking Hurt My Baby? answers common questions about fetal alcohol syndrome. Describes the effects to the baby and encourages mothers-tobe to abstain from drinking during their pregnancy. (Also available in Spanish; see Spanish Language Publications.) 1987. 2 pp.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
100 for $2.50, postpaid

Babies Don't Thrive In Smoke-Filled Wombs is a folder outlining the risks of smoking during pregnancy to the baby, including premature birth. The pregnant woman is advised to stop smoking now--for her own health and her baby's. 1987.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
100 for $2.50, postpaid

Alcohol Warning Signs: How To Get Legislation Passed In Your City is a manual designed to assist citizens groups secure the passage of alcohol-warning legislation in their city, county, or State. Focuses on laws requiring the posting of signs warning of the dangers of drinking during pregnancy. 1986. 52 pp.

Availability
Center for Science in the Public Interest
1501 16th Street, NW
Washington, DC 20036
(202) 332-9110
$4.95

Keep the Pride briefly describes the Fetal Alcohol Syndrome Project being carried out among the Indian population in the southwestern United States. 2 pp.

Availability
Alcoholism and Substance Abuse Program, Indian Health Service
Room 6A-53
5600 Fishers Lane
Rockville, MD 20857
(301) 443-4297
No cost
(Limited quantities presently available; plans for reprinting in 1988.)

Alcohol and Pregnancy: How Drinking May Harm the Unborn Baby describes fetal alcohol symptoms, including facial abnormalities, abnormal brain development, physical deformities, growth problems, and personality problems. Written for the American Indian Community but useful for a wider audience. 2 pp.

Availability
Alcoholism and Substance Abuse Program, Indian Health Service
Room 6A-53
5600 Fishers Lane
Rockville, MD 20857
(301) 443-4297
No cost
(Limited quantities presently available; plans for reprinting in 1988.)

Drugs and Pregnancy discusses how alcohol, cigarettes, prescriptions, and over-the-counter and illegal drugs, when consumed by the mother, pose a threat to the health of an unborn child. (Also available in Spanish; see Spanish Language Publications.) 1987. 4 pp.

Availability
Health Department of Santa Barbara County
300 N. San Antonio Road
Santa Barbara, CA 93110
(805) 681-5440
$.30

Books and Journals

Alcohol Problems in Women: Antecedents, Consequences and Intervention, Wilsnack, S.C. and Beckman, L.J., eds. Explores specific alcohol problems experienced by women drinkers. Attention is given to problems that may be experienced by both alcoholic and nonalcoholic women, including health consequences of heavy alcohol consumption, fetal alcohol syndrome and other fetal alcohol effects, alcohol-drug interactions, and alcohol-related family problems. 1984. 480 pp.

Availability
Guilford Publications
72 Spring Street
New York, NY 10012
(212) 431-9800
$50 plus $2 postage
(NY residents add sales tax)
Catalog #2164
or
Library

Women and Alcohol: Health-Related Issues: Research Monograph #16, Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse and Mental Health Administration. Sets forth current information on a alcohol abuse and alcoholism among women as reported through workshops on research, prevention, and treatment areas and provides state-of-the-art reviews on selected subjects. 1986. 375 pp.

Availability
Library

Women and Alcohol: A Dangerous Pleasure, Youcha, G. An overview of the problems faced by women who drink. The topics include the physiological effects of alcohol, effects on personality and behavior, the family, pregnancy, and treatment. Included are a guide to drug interactions with alcohol, suggestions for hostesses, a quiz, and a listing of resources. 1978. 272 pp.

Availability
Crown Publishers
225 Park Avenue South
New York, NY 10003
(212) 254-1600, ext. 763
$7.95, plus postage (billed separately)

Special Focus: Preventing Alcohol-Related Birth Defects, a reproduction of Alcohol Health and Research World, Fall 1985. Includes articles on the effects of alcohol on pregnancy outcome and prevention strategies that have been developed in the area of alcohol-related birth defects. 1985. 75 pp.

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
No cost; request RPO 560

Alcohol and pregnancy: an overview and an update, Streissguth, A.P. Substance and Alcohol Actions/ Misuse 4(2/3):149-171, 1983. Reviews the literature on fetal alcohol syndrome; describes the syndrome, and includes discussions of children of alcoholic mothers, effects of alcohol use during pregnancy, laboratory animal studies, and implications. The article also suggests that pregnancy outcomes may be difficult to predict because of individual differences, timing and dose, and vulnerability of the fetus.

Availability
Library

Alcohol use during pregnancy, Kruse, J. American Family Physician 29(4):199-203, 1984. Discusses the effects of maternal drinking on the fetus, including low birthweight, congenital abnormalities, mental retardation, and behavioral and learning disabilities. Also provides a brief discussion of the history and incidence of fetal alcohol syndrome.

Availability
Library

Fetal alcohol syndrome: Implications and counseling considerations, Elliott, D.J., and Johnson, N. Personnel and Guidance Journal 62(2):67-69, 1983. Discusses the effects of maternal drinking on the fetus with a special focus on implications for counselors. Current trends in care and services for the family of the developmentally disabled child are reviewed, and the need for more prevention programs for adolescent females is stressed.

Availability
Library

Fetal Alcohol Syndrome and Fetal Alcohol Effects, Abel, E.L. Provides a historical perspective on the occurrence of FAS and FAE. An overview of recent research is presented and the physiological effects of alcohol on the fetus are described in detail. Prevention efforts are also reviewed. 1984.

Availability
Plenum Publishing Corporation
233 Spring Street
New York, NY 10013
(212) 620-8000
$32.50 plus postage
or
Library

The Effects of Alcohol on Pregnancy Outcome, reprinted from the Fifth Special Report to the U.S. Congress on Alcohol and Health from the Secretary of Health and Human Services. Provides information on the relationship between maternal drinking during pregnancy and FAS. A historical overview is presented, research findings and the results of treatment and prevention programs, including public education efforts, are reviewed. The effects of paternal drinking are also discussed.

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
No cost; request RPO 496

Posters

No Thanks. . . I Want a Healthy Baby depicts a silhouette of a pregnant women refusing a variety of alcoholic beverages. The message: "No thanks. I want a healthy baby." Accompanying pamphlet also available. 1986.

Availability
Prevention Resource Center
901 South Second Street
Springfield, IL 62701
(800) 252-8951
Single copies free

An Inner Voice Tells You Not To Drink is a colorful poster with the image of a pregnant American Indian woman. Suitable for audiences of all ethnic backgrounds. 1987

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
(301) 468-2600
No cost; request AV161

No One That Young Should Drink is a bright poster of a baby in the womb with the message: "Alcohol can cause birth defects. When you drink so does your baby. If you're pregnant. . . DON'T DRINK!" Can be adapted with local phone numbers. Oakland County has also printed this poster on plastic tote bags.

Availability
Oakland County Health Division
1200 N. Telegraph Road
Pontiac, MI 48053
(313) 858-5102
Single copies and single bags are free

Audiovisuals

Drugs, Smoking and Alcohol During Pregnancy discusses the confusion many pregnant women face about what may be harmful to their unborn babies. Facts about smoking, alcohol, and drug use during pregnancy are provided, and the effects of over-the-counter medications, such as cold and headache remedies, are discussed. 20 min., 1985.

Availability
Milner-Fenwick, Inc.
2125 Greenspring Drive
Timonium, MD 21093
(301) 252-1700 or call toll free (800) 638-8652
Videotape, $250
Preview, $15

One For My Baby presents information about fetal alcohol syndrome and its symptoms, risks, and prevention through abstinence. Also, two couples who have children with the syndrome--one natural born, one adopted--share their feelings. 27 min., 1982.

Availability
AIMS Media
6901 Woodley Avenue
Van Nuys, CA 91406-4878
(800) 367-2467 or
(818) 785-4111
16-mm film, $430;
Videocassette, $225
Preview, Free

Cocaine's Children a videotape documentary outlining the harmful effects of cocaine on the fetus and newborn. Stunning pictures of cocaine-affected babies are included. The infants bring home the message that pregnant women who use cocaine are exposing their young to suffering at birth and the risk of long-term developmental problems. 9 min., 1987.

Availability
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
16mm film, $70
1/2" VHS, $40
3/4" VT, $40
$10 preview fee for the film only

I Didn't Mean to Hurt You Baby depicts a young woman confronted with the question of whether or not to give up casual, "social" drinking during the term of her pregnancy. The film confirms that the risk of drinking during pregnancy is great. Designed as an educational tool for the classroom and for community education programs. 16 min., 1984.

Availability
Virginia Department of Mental Health/Mental Retardation
Prevention/Information/Training
P.O. Box 1797
Richmond, VA 23214
(804) 786-3909
Loan: 1/2" VHS and 3/4" Beta

Curriculum Guides and Kits

Fetal Alcohol Syndrome Education Guide and FAS Information Packet includes an educator's guide to fetal alcohol syndrome and a packet of training materials. Fact sheets, articles, a glossary, graphs, and an annotated resource guide are provided.

Availability
State of California
Alcohol and Drug Programs
111 Capitol Mall, Room 250
Sacramento, CA 95814
(916) 324-7260
Single copies free

Healthy Mothers, Healthy Babies Curriculum Package is designed to help educators in preschool through high school integrate information about healthy pregnancy and birth into their lessons. The guide covers four concept areas (with resources for each): nutrition, environment, genetics, and human growth and development. Fold-out chart supplements the guide and outlines the key objectives at each grade level. 1987. 64 pp.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
Concept guides: 5 for $13, postpaid

A Secondary Level Curriculum on Fetal Alcohol Syndrome is a booklet of activities and topic areas for secondary-level educators who want to include sessions on fetal alcohol syndrome in their classes. Includes material for three sessions--including a fact sheet about the effects of alcohol in humans and videotape/film discussion guides for "One for My

Baby," "Born Drunk," and "I Didn't Mean to Hurt You Baby." Also lists further resources. 1986.

Availability
Minnesota Prevention Resource Center
2829 Verndale Avenue
Anoka, MN 55303
(612) 427-5310
$3.25, postpaid
$5 rental fee per film or videotape

Better Beginnings for Babies is a workbook for program planners and health care providers working with high-risk youth or pregnant women. It describes the dangers of drinking during pregnancy and provides guidelines for conducting a successful campaign against fetal alcohol syndrome. 1982. 115 pp.

Availability
Washington-Greene Prevention Corporation
87 East Maiden Street
Washington, PA 15301
(412) 228-0810
$7.50, postpaid

Fetal Alcohol Syndrome Community Education Kit can assist in educating a community on fetal alcohol syndrome (originally written for the American Indian Community). The kit contains 17 components, including kit script, poster, bumper stickers, recipe cards, fact sheets, bookmarks, a brochure entitled "Techniques for Approaching Women at Risk," resource guides, and much more. The kit also contains information on video rentals, handbooks, and manuals. 1980.

Availability
California Urban Indian Health Council, Inc.
2422 Arden Way, Suite A-32
Sacramento, CA 92825
(916) 920-0313
$78

Spanish Language Publications

Tenga Beun Cuidado de su Bebe Antes de que Nazea (Be Good To Your Baby, Before It Is Born) is a booklet that guides the pregnant woman from the first prenatal visit through the delivery. It covers the first checkup, diet and weight gain, risks to the baby from smoking and alcchol, exercise and rest, and more. 1986. 2 pp.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
50 for $3, postpaid

Datos Que Usted Debe Saber Sobre Las Adolescentes Embarazado (Facts You Should Know About Teenage Pregnancy) spells out the physical and psychological risks of teenage pregnancy. It is designed as a reference for both teenagers and adults. 1987.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
50 for $2, postpaid

Mi Bebe. . . Fuerte y Sano (My Baby. . . Strong and Healthy) recommends that women not drink if pregnant or planning to become pregnant. This brochure describes the risks and potential effects of drinking on the unborn baby. 1986. 16 pp.

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
(301) 468-2600
No cost; request PH237

El Cuidado de su Bebe Antes del Nacimiento, Un Mensaje para Mujeres Embarazadas (Taking Care of Your Baby Before Birth) is an easy-to-ready, action-oriented brochure for women that recommends that they not drink if pregnant or planning a pregnancy. 1988. 4 pp.

Availability
NCADI
P.O. Box 2345
Rockville, MD 20852
(301) 468-2600
No cost; request PH239

Afectara a mi bebe el tamar bebidas alcoholicas? (Will My Drinking Hurt My Baby?) answers common questions about fetal alcohol syndrome. It describes the effects to the baby and encourages mothers-to-be to abstain from drinking during their pregnancy. 1987. 2 pp.

Availability
Contact your local March of Dimes chapter
or
March of Dimes Birth Defects Foundation
1725 Mamaroneck Avenue
White Plains, NY 10605
(914) 428-7100
100 for $2.50, postpaid

Las Drogas y Cl Embarazo (Drugs and Pregnancy) discusses how alcohol, cigarettes, prescriptions, and over-the-counter and illegal drugs, when consumed by a mother, pose a threat to the health of her unborn child. 1987. 4 pp.

Availability
Departamento De Salud Del Condado
De Santa Barbara
300 N. San Antonio Road
Santa Barbara, CA 93110
(805) 681-5440
$.30

Prepared by the National Clearinghouse for Alcohol and Drug Information (NCADI). NCADI is a service of the Office for Substance Abuse Prevention (OSAP), of the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA), Public Health Service, U.S. Department of Health and Human Services.

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: SB No. 175
PUBLISH DATE: 2/15/89

FISCAL NOTE

REQUEST:

Revision Date:
Title: An Act requiring posting of alcohol related birth defect signs."
Sponsor: Binkley, et. al.
Requestor:

Agency Affected: Health & Social Services
BRU: Alcohol & Drug Abuse Services
Components: Administration

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary)

Prepared by: Matthew C. Felix Matthew C. Felix Phone: 586-6201
Division: Office of Alcoholism & Drug Abuse Date: 3/6/89

Approved by Commissioner: Myra M. Munson Myra M. Munson Date: 3/20/89
Agency: Health & Social Services

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

RECEIVED
MAR 21 1989
LEGISLATIVE FINA...

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: SB 175
PUBLISH DATE: 3/28/89

FISCAL NOTE

MAR 1 0 1989

REQUEST:

Revision Date:
Title: Warning signs on liquor premises

Sponsor: Senator Binkley et al.
Requestor: Senate HESS Committee

Agency Affected: Department of Revenue
BRU: Alcoholic Beverage Control Board
Components:

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	4.3	1.6	1.6	1.6	1.6	1.6
SUPPLIES	.3	.2	.2	.2	.2	.2
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	4.6	1.8	1.8	1.8	1.8	1.8
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND	4.6	1.8	1.8	1.8	1.8	1.8
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	4.6	1.8	1.8	1.8	1.8	1.8

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary)

Prepared by: Patrick L. Sharrock, Director
Division: Alcoholic Beverage Control Board
Phone: 277-8638
Date: March 6, 1989

Approved by Commissioner: High Malone by POA
Agency: Revenue
Date: 3/9/89

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

Initial Issue

beverage dispensary	689	
restaurant or eating place	319	
club license	87	
brewery	2	
package store	471	
common carrier	158	
recreational site	19	
pub license	1	
winery	0	
caterer's permit	663	
special events permit	110	
community license	3	
club caterer's permit	50	est.
theatre site license	2	est.
restaurant caterer's permit	14	
	2,588	
assume 2 signs per premises (avg.)	x 2	
	5,176	

Annual Issue

caterer's permits	675
special events permits	120
club caterer's permit	50
restaurant caterer's permit	25
wear and teat	500
approximately 50%	1,370

	Initial	Annual
Approx. $300 per thousand (per PIF)		
Initial: $300 x 5,176	1,553	
Annual: $300 x 1.370		411
Postage		
Initial: 1.05 for 2 signs x 2,588	2,717	
Annual: .85 for 1 sign x 1,370		1,164
Envelopes		
Initial: 2,588 x .12	311	
Annual: 1,370 x .12		164
Letters	26	-
	4,607	1,739

Will My Drinking Hurt My Baby?

March of Dimes
Preventing Birth Defects

March of Dimes
Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains NY 10605

For more information on drinking and pregnancy, ask your doctor or your local March of Dimes chapter.

This pamphlet is made possible through contributions to the March of Dimes.

For additional copies contact your local March of Dimes chapter.

10/86

09-165-00

March of Dimes Birth Defects Foundation

Would You Give Your Newborn Baby A Drink of Liquor or Wine or Beer?

Of course you wouldn't. You know that a baby doesn't need or want alcohol in any form. You wouldn't think of putting an alcoholic drink in your baby's bottle because you know it's not good for him or her.

Well, exactly the same is true *before* your baby is born. When you are pregnant, every time you take a drink, your baby takes one too. The drink he gets is just as strong as the one you get, and because he is so much smaller than you are, it hits him a lot harder.

What is worse, his hangover could last a lifetime.

What Is Fetal Alcohol Syndrome?

Fetal alcohol syndrome (FAS) is a pattern of physical and mental birth defects that are the direct result of the mother's drinking alcohol while pregnant.

FAS babies are abnormally small at birth, especially in head size. Unlike many newborns who are too small, few of these children catch up to normal growth. Most of them have small brains and show some amount of mental retardation. Many are jittery and poorly coordinated. They have short attention spans and behavioral problems. Their mental problems may not improve with age.

FAS babies usually have narrow eyes and short upturned noses. Some have heart defects, which may require surgery.

I Don't Drink That Much. Could It Happen To My Baby?

We don't know how much alcohol is "safe." The best decision is not to have any while you are pregnant—or when you might be.

About *one out of every 750 babies born has FAS!* * That's a lot of damaged babies. We don't realize how common FAS is because we don't hear about it as much as other birth defects. We haven't known about FAS for very long.

What Can I Do About It?

Everything. Unlike many other birth defects, FAS is *completely preventable.* By you. Nobody else can do it for you—not your doctor or your mother or the baby's father.

FAS is forever. There is no cure. But it doesn't have to happen at all. All you have to do is say "no" to the next drink, and keep on saying it until after your baby is born.

Other Than The Tragedy Of FAS, Are There Any Other Reasons Not To Drink While I'm Pregnant?

Alcohol is a drug that adds calories, but no food value, to the diet— your diet and your developing baby's. Having an alcoholic drink instead of milk or fruit juice deprives your baby of the nourishment it needs to grow and develop normally.

Women who drink heavily during pregnancy have more miscarriages and more stillbirths (babies born dead) than other women. Even moderate drinking is suspected of causing those problems. It is also suspected of causing learning disabilities and minor physical problems. There is much we still have to learn, but pregnancy is no time for guessing how much is too much.

When Should I Stop?

It's never too soon.

From the moment of conception, your baby's organs start forming. Alcohol can damage them. For example, brain, heart and blood vessels start to develop in the third week of pregnancy. The heart begins to beat by the fourth week, even though the embryo is less than ¼ of an inch long.

Since most women do not know that they are pregnant until a month or more has passed, they may have been drinking all along. So the best time to stop drinking is *before* you become pregnant. If you are pregnant and are still drinking, the time to stop is *now*. If you need help, ask your doctor.

THE ONLY SAFE ADVICE IS: IF YOU DRINK HEAVILY, DON'T GET PREGNANT; IF YOU'RE PREGNANT, DON'T DRINK.

YOUR BABY CAN'T SAY NO. SAY IT FOR YOUR BABY.

* Centers for Disease Control, U.S. Dept. of Health and Human Services/Public Health Service: *Morbidity and Mortality Weekly Report*, January 13, 1984.

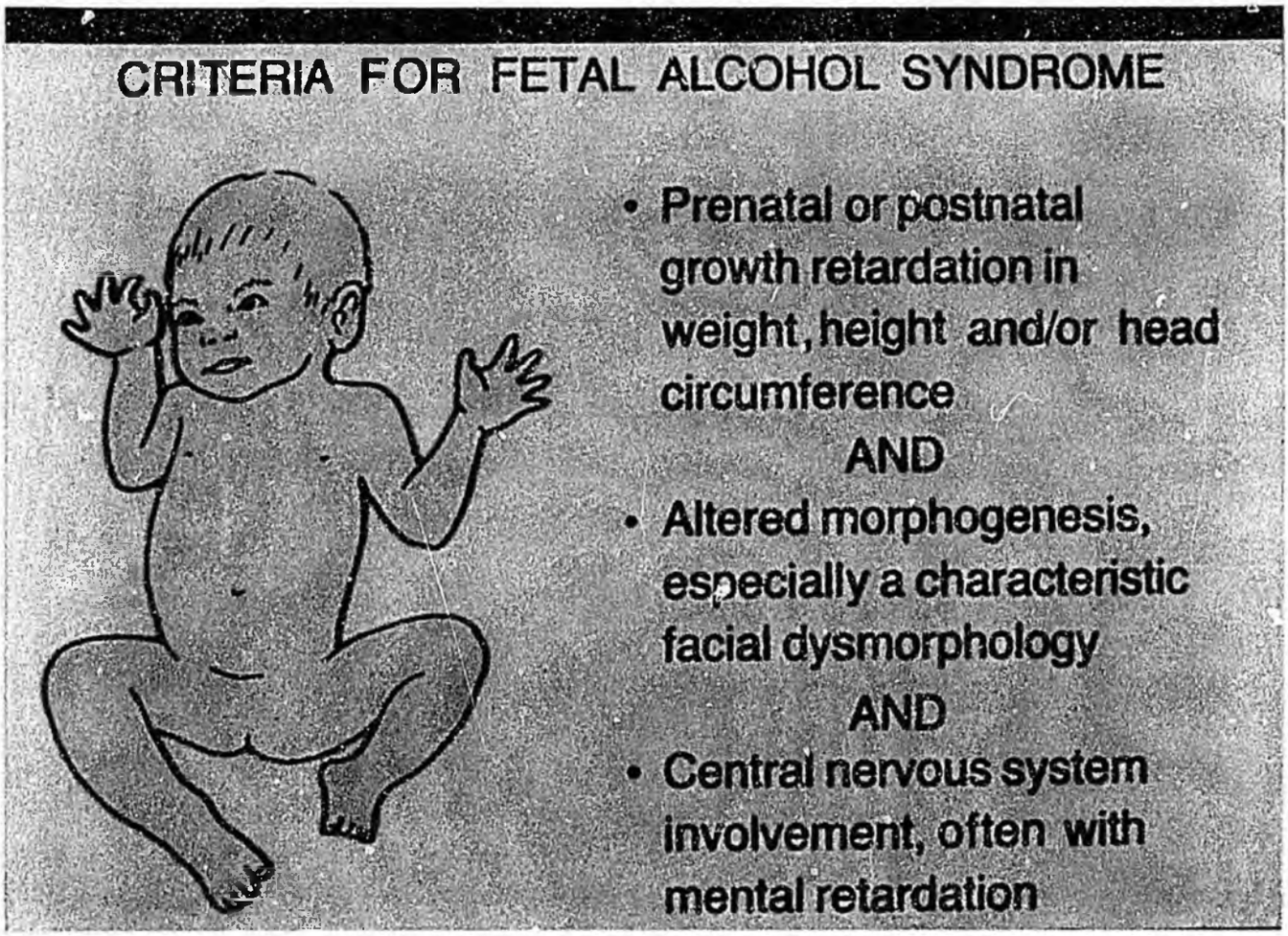
ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

Infant with full FAS This child died shortly after birth.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

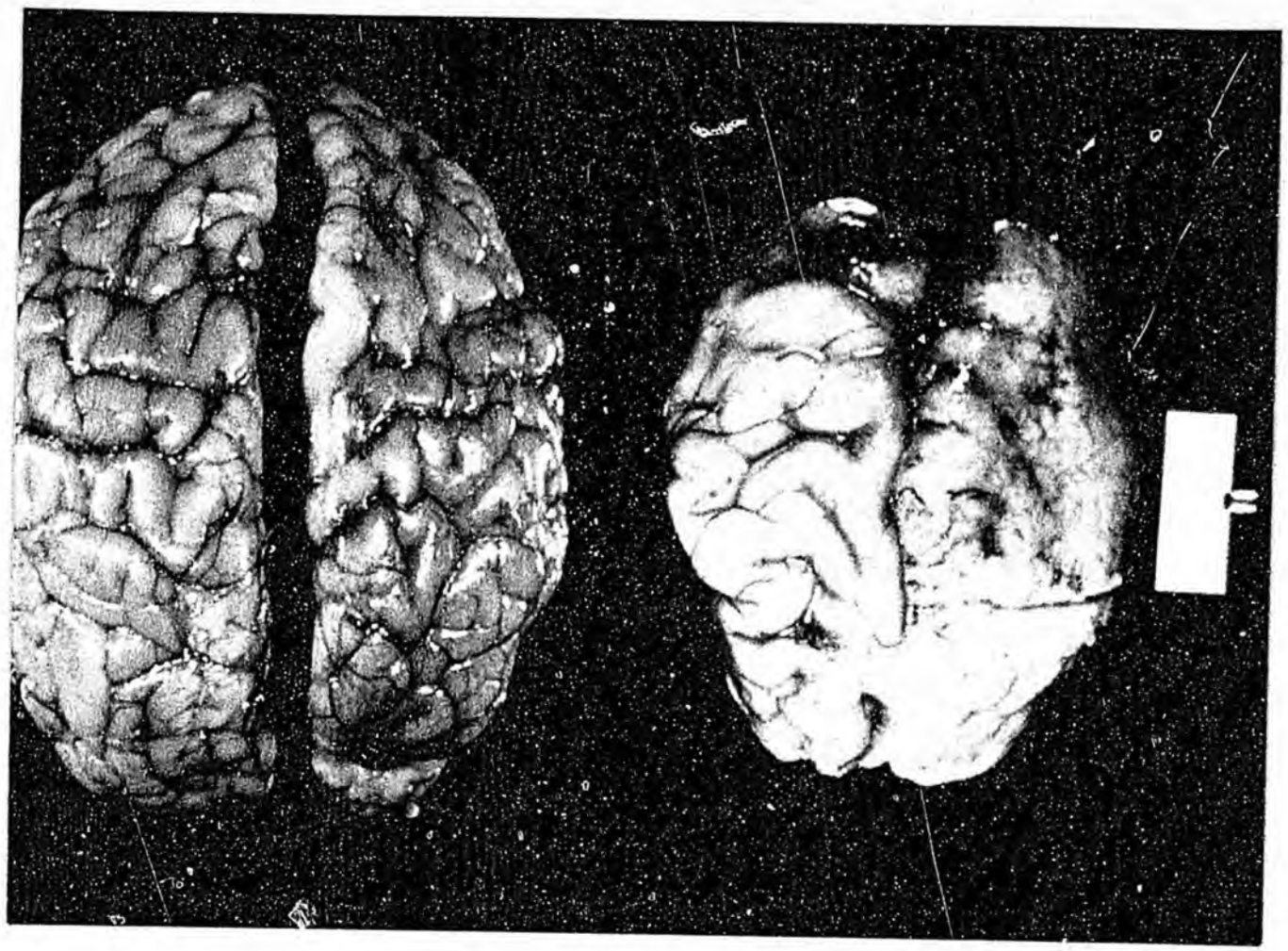


Criteria for FAS

• growth retardation • abnormal facial features • mental retardation

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

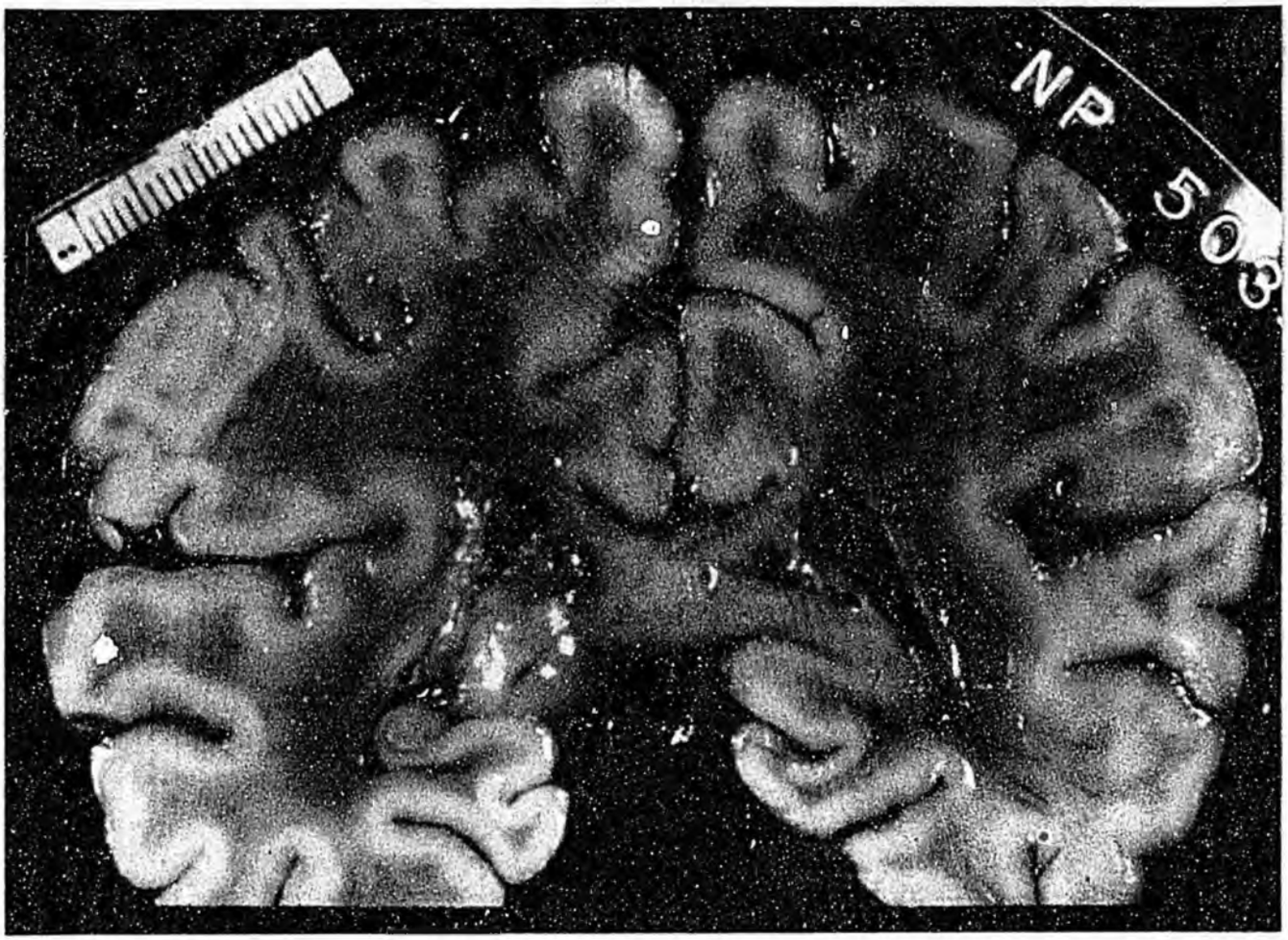


Brains from two infants who died at 5 days.
One brain is normal, the other FAS damaged.

The FAS brain is smaller, and deformed.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)



A cross section of a normal brain.

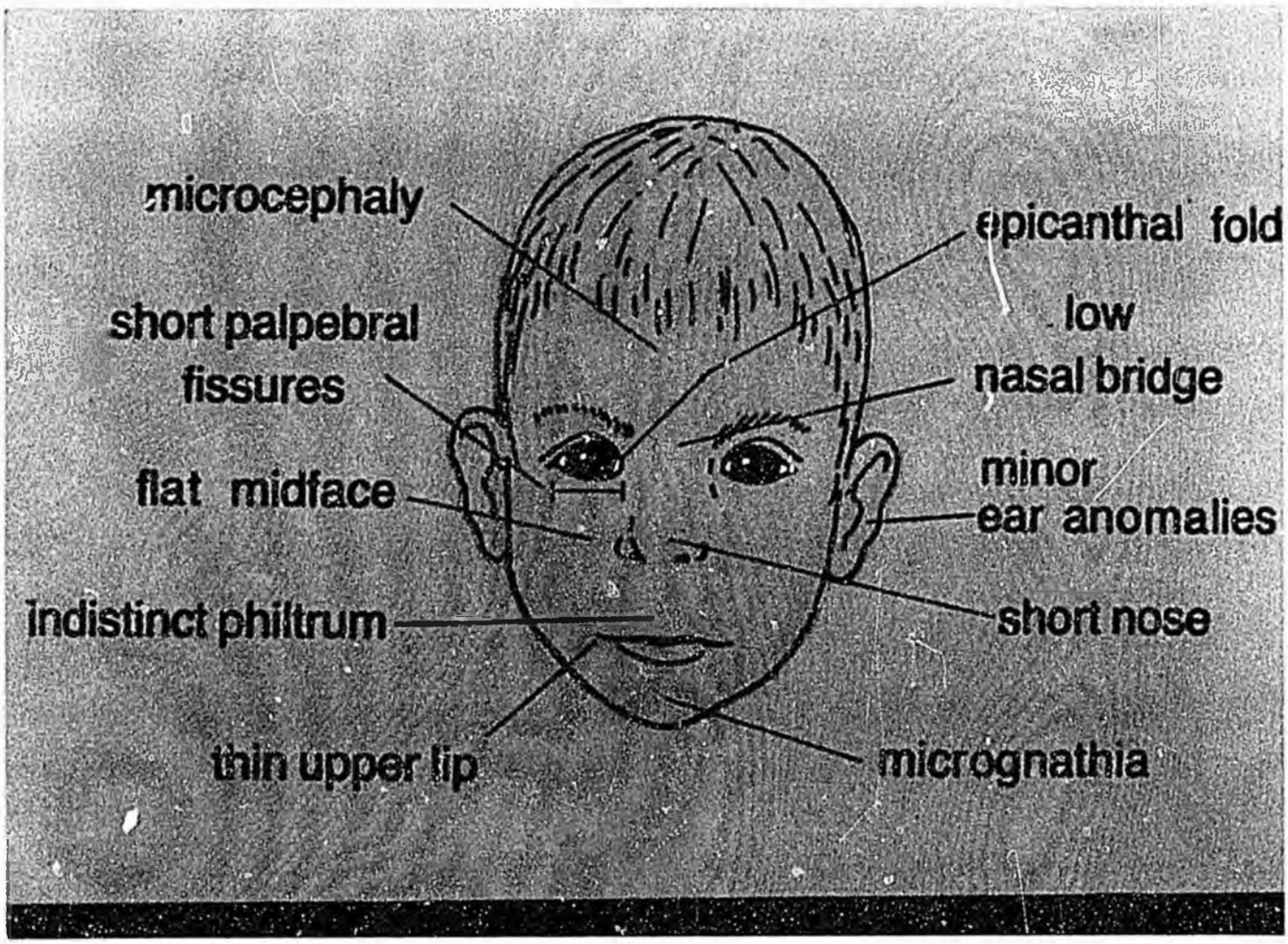
ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

A cross section of the FAS brain.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

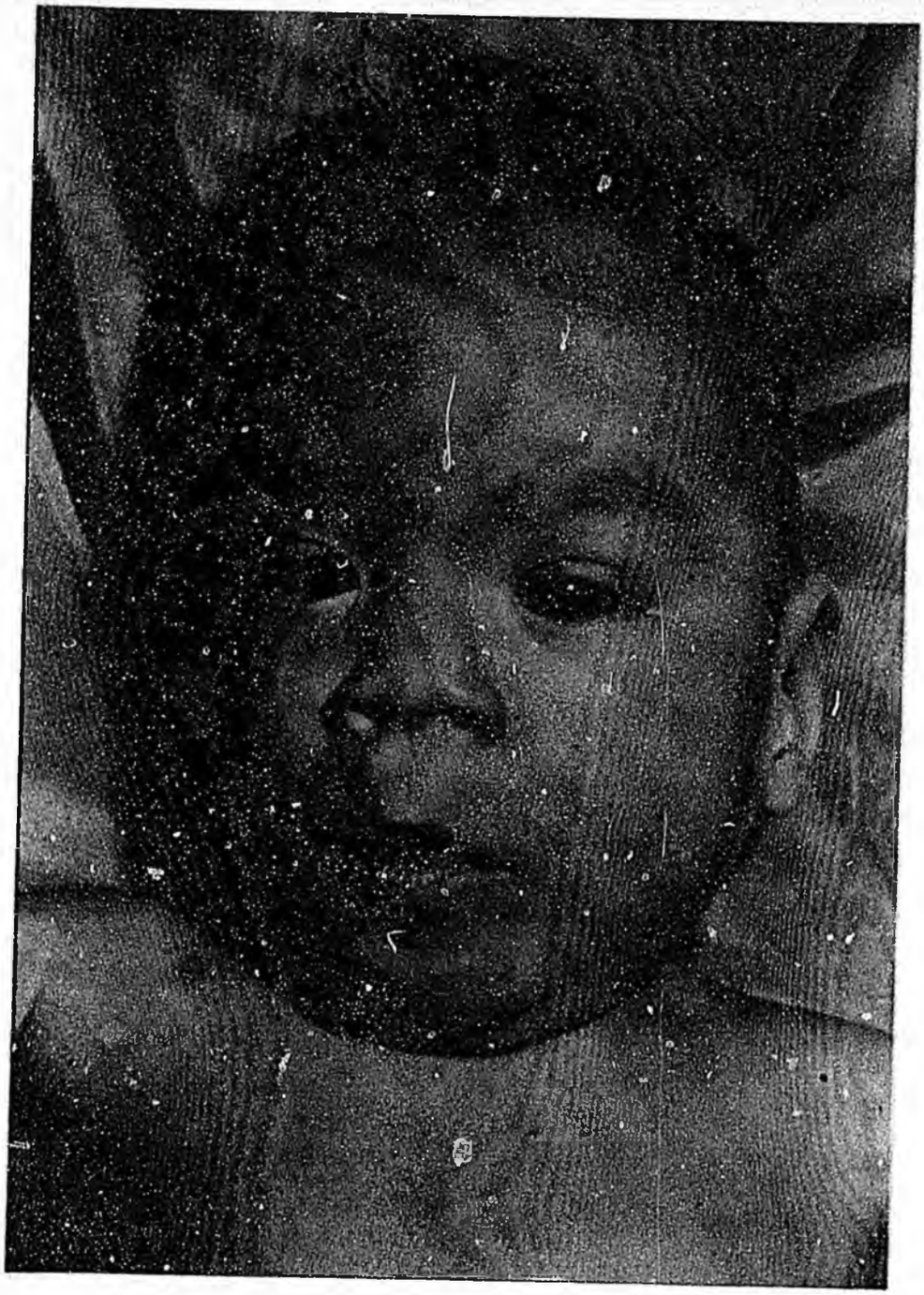


Common facial characteristics of a child with FAS.

Not all children have all abnormalties.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)



Kenny at 8 months.

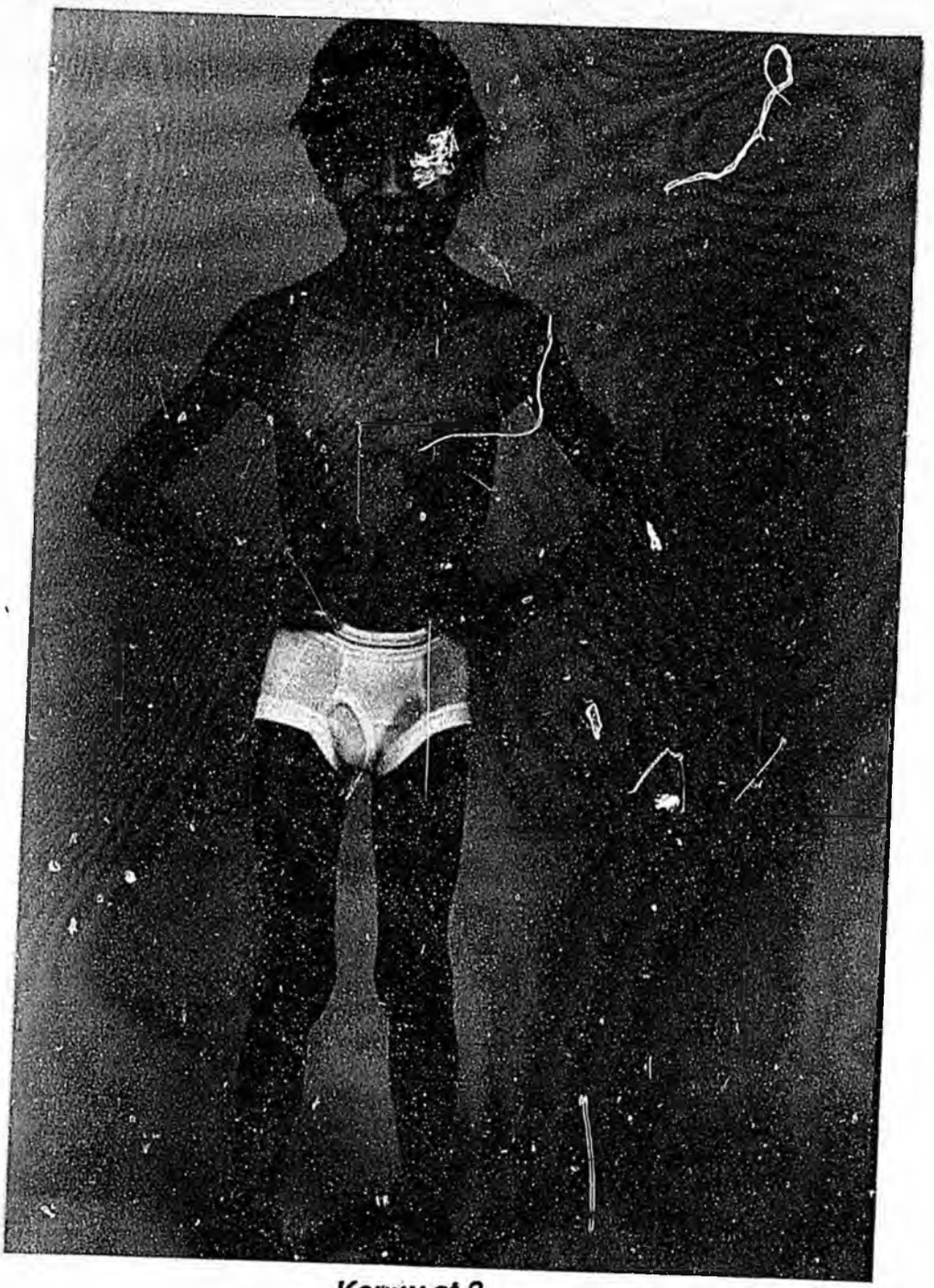
ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

Kenny at 5 years.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

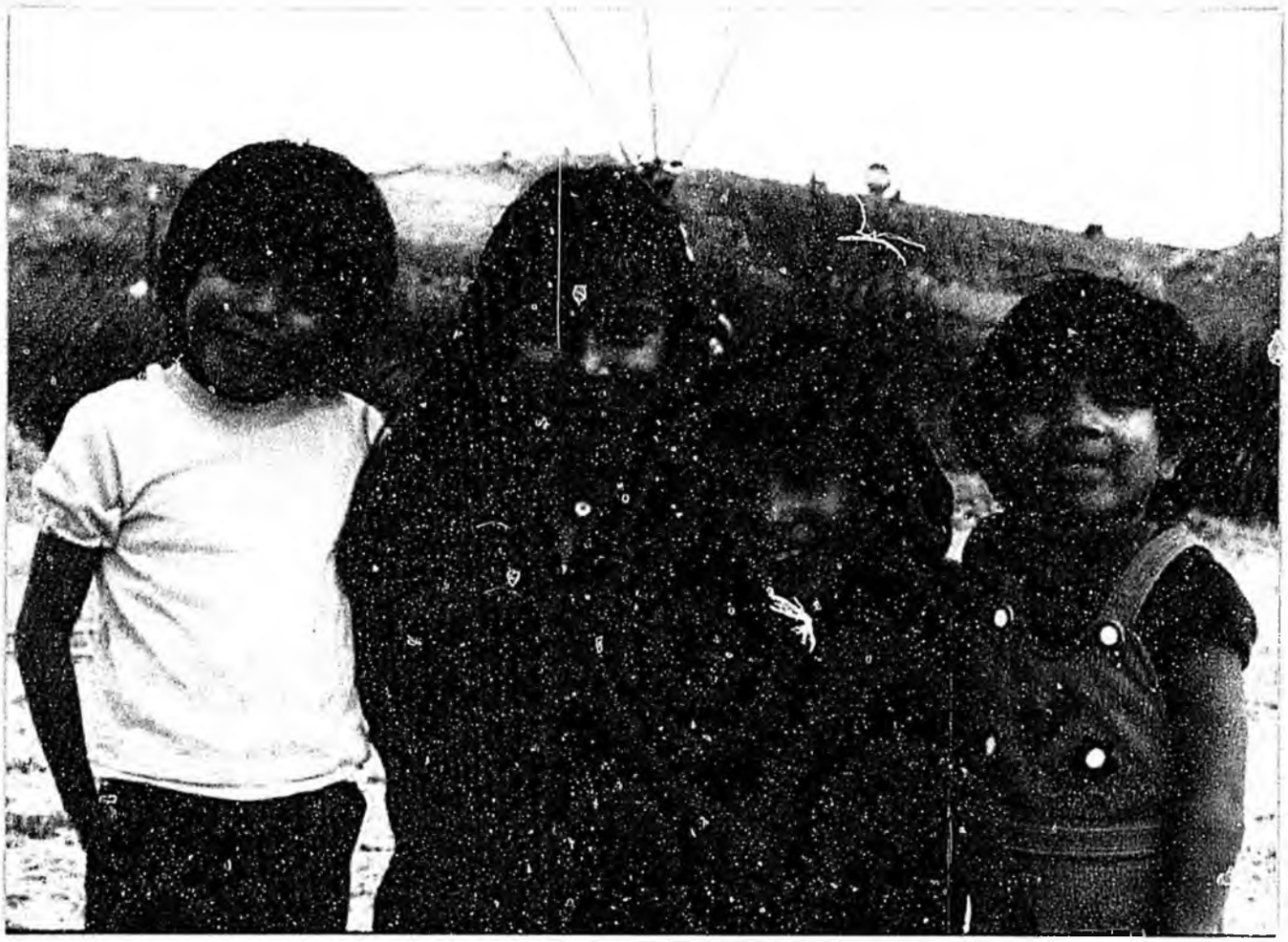


Kenny at 8

Kenny has severe mental retardation, orthopedic problems, orthodontal problems, and vision problems.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

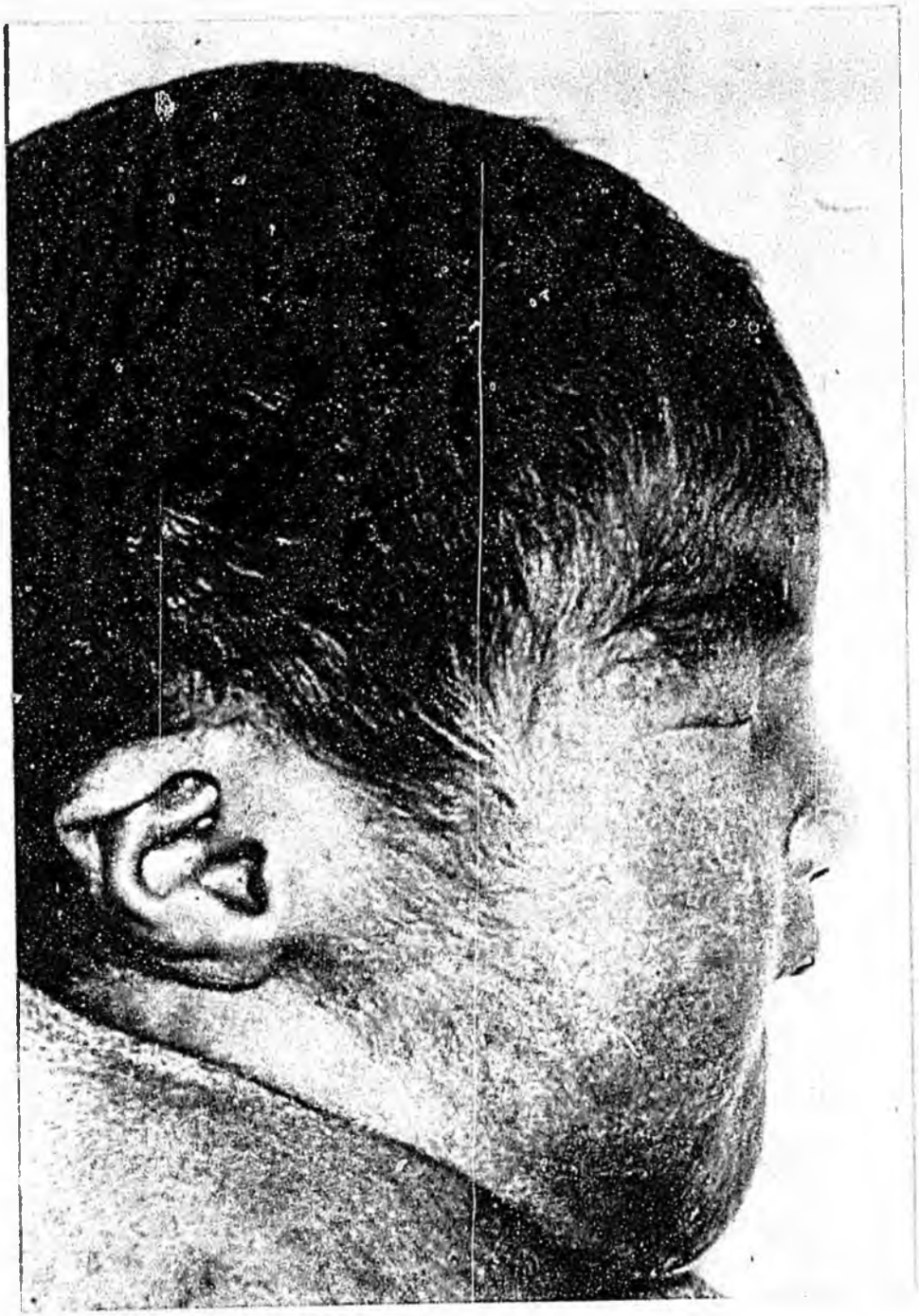


Four sisters. The girl in red is normal. The other three have FAS.

Once a woman has a FAS child, and if she keeps drinking during her other pregnancies, these children will have FAS, and each one more severe.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

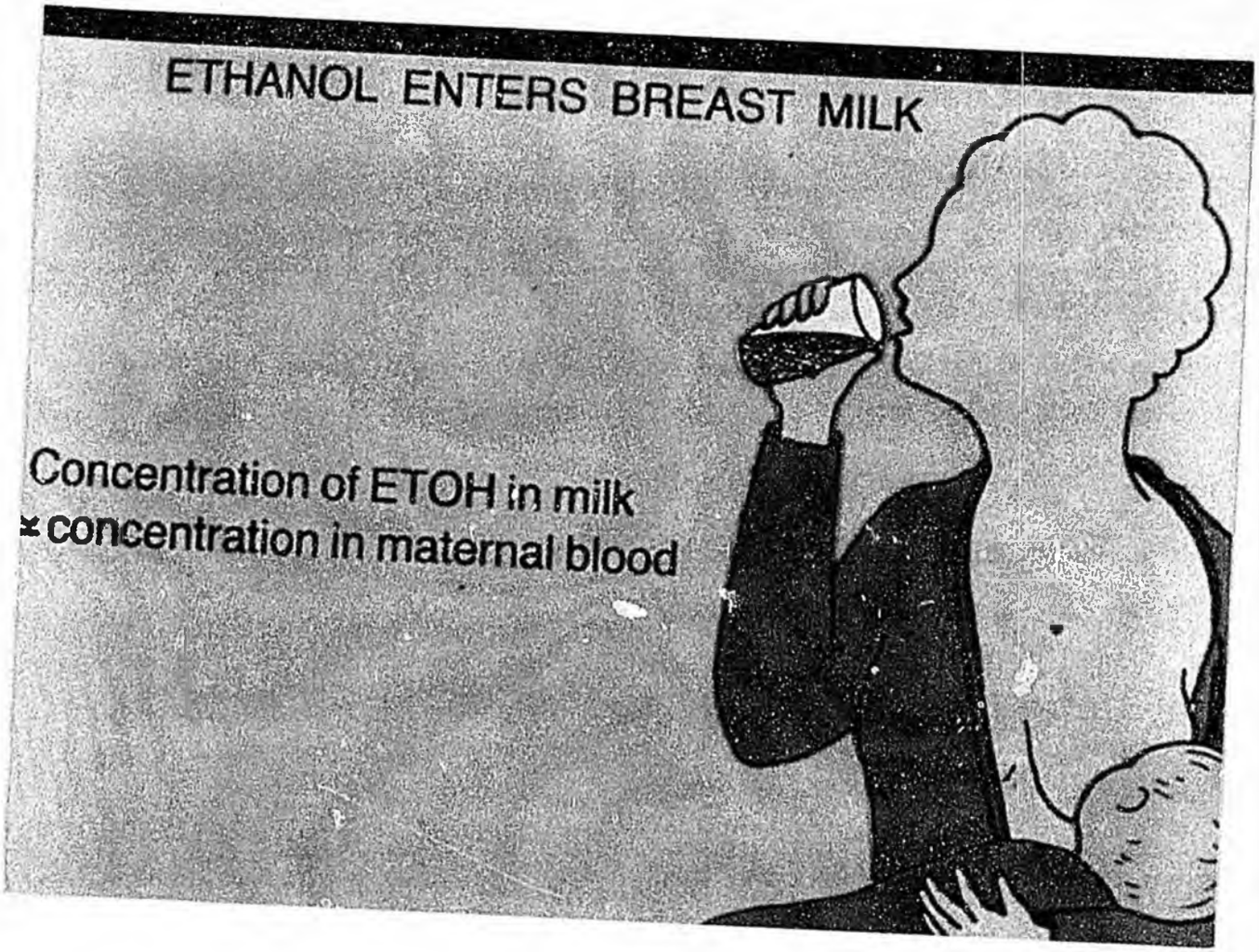


FAS child with ear anormaly and flat-midface.

Hirsutism (abnormal hair growth) is the only characteristic that does go away.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)



A nursing mother who drinks can also cause growth retardation and brain damage in her baby.

The alcohol level in breast milk is the same as the mother's blood alcohol level.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

Many have vision problems.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

Many have serious heart problems.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

FAS children have central nervous system damage, learning disabilities, mental retardation, and behavior problems.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

Julie

At 10 months of age she was not yet up to what should have been her normal birth weight, birth length, and head circumfrances.

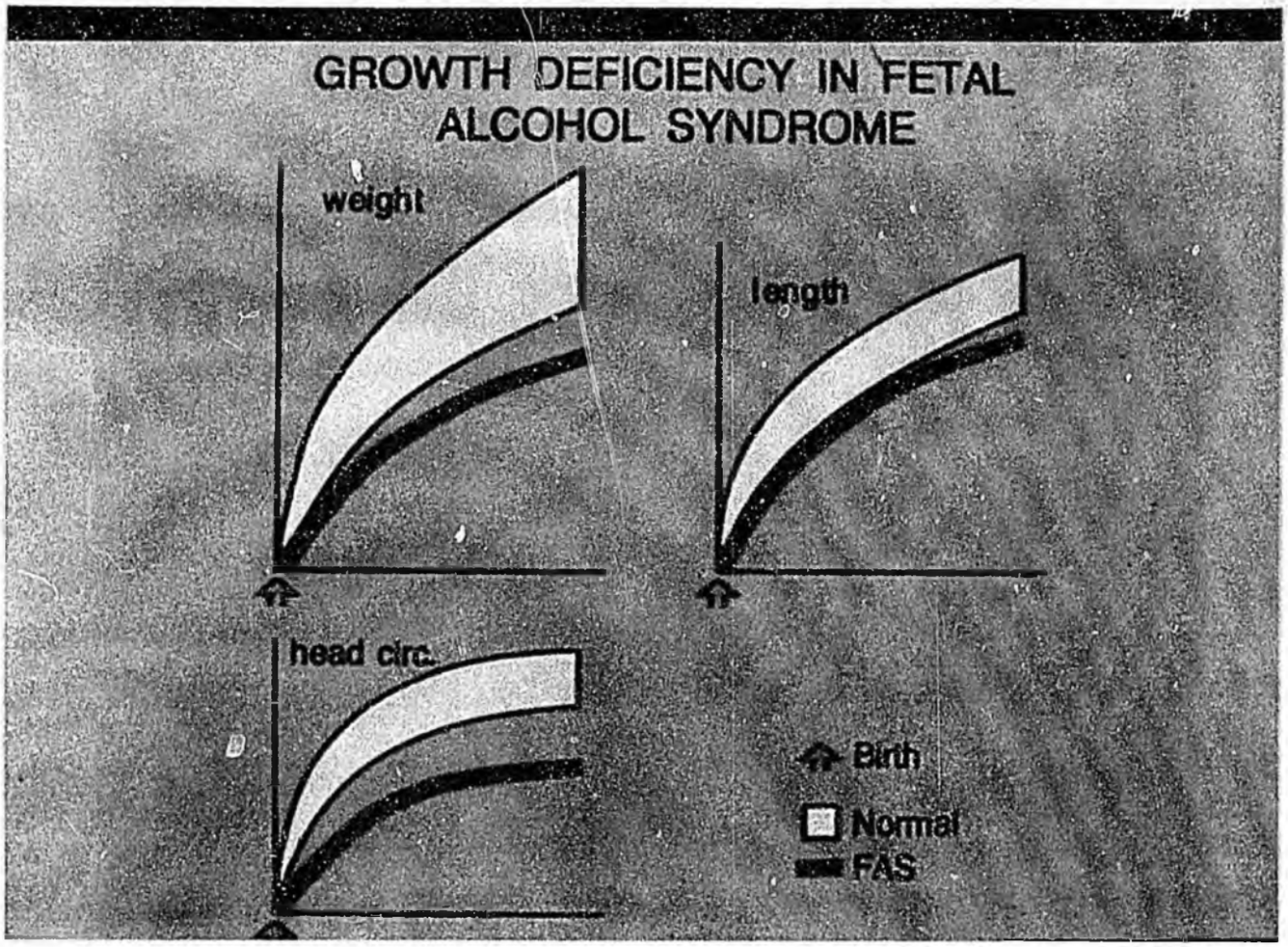
ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)

FAS children are also often the victims of physical abuse and sexual assault.

ALCOHOL-RELATED BIRTH DEFECTS

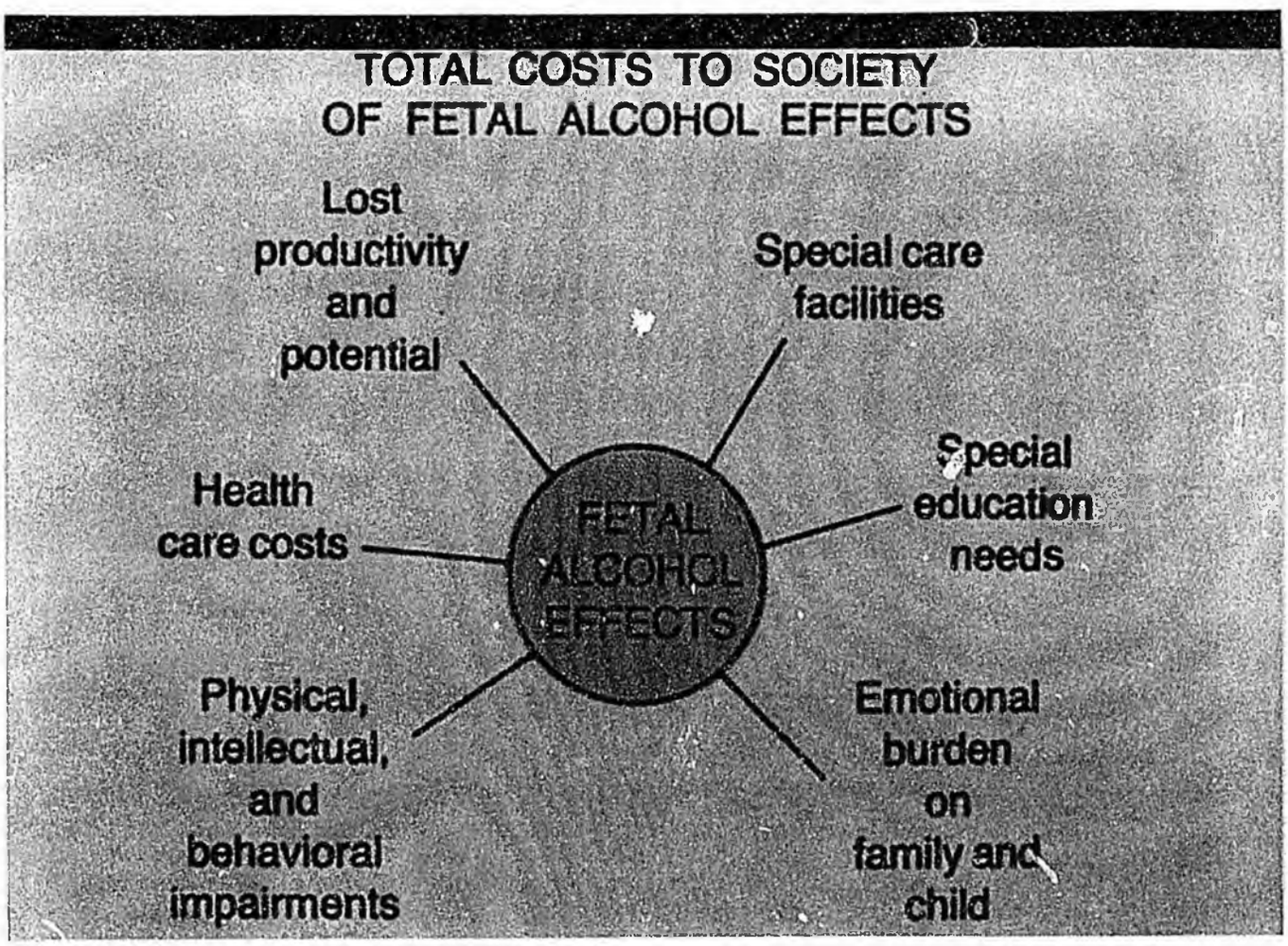
Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)



FAS children never catch up to normal children.

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)



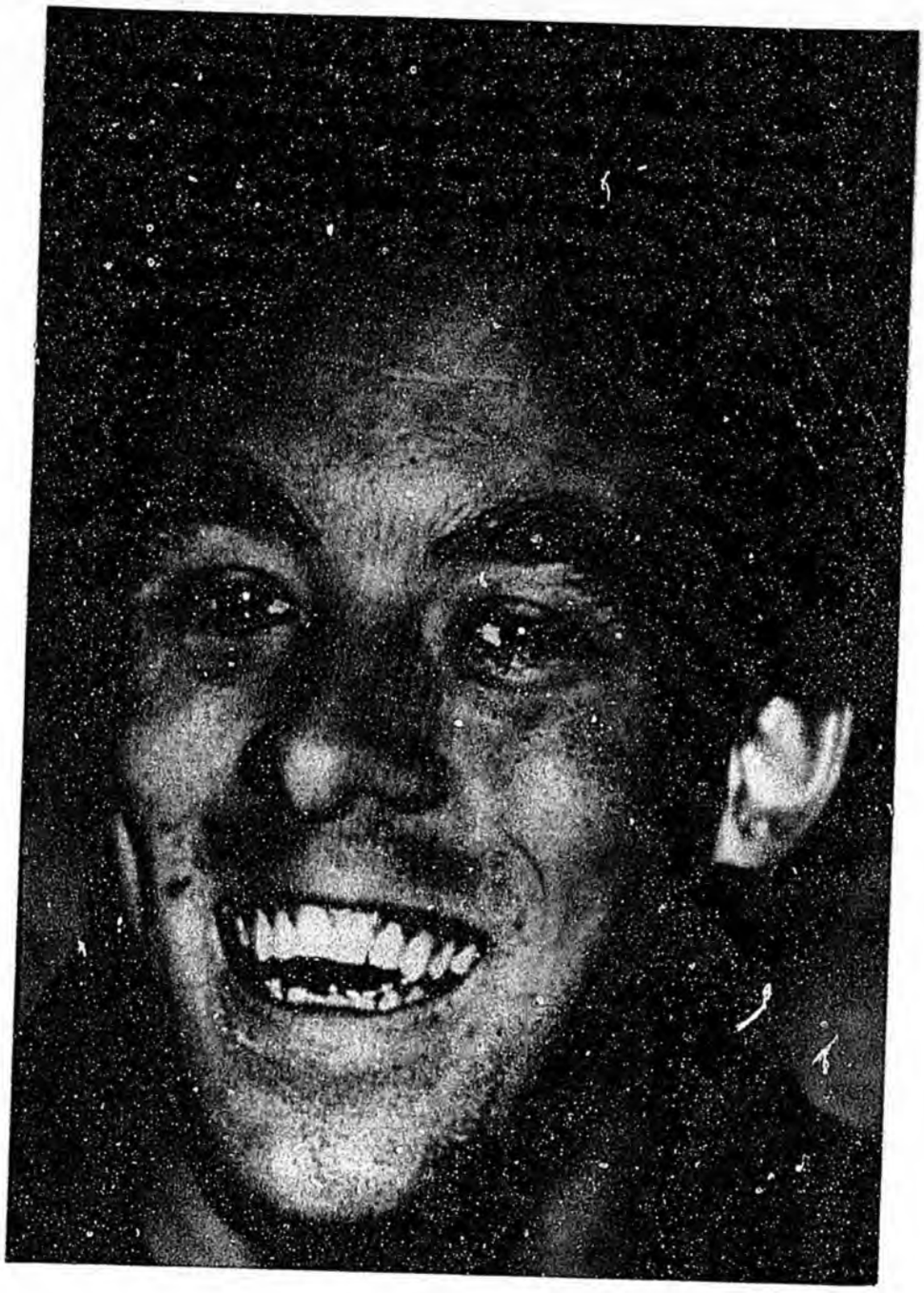
Fetal Alcohol Effects

FAE is more difficult to identify, but the effects of alcohol on these children also takes its toll.

How do you measure quality of life?

ALCOHOL-RELATED BIRTH DEFECTS

Fetal Alcohol Syndrome (FAS)
Fetal Alcohol Effects (FAE)



Diagnosis of FAS is easier at early ages; some of the facial differences appear more normal as the child grows.

Learning problems continue, and as adults FAS children never lead totally independent lives.

SB

175

HOUSE COMMITTEE REPORT

(11)
Date Referred: May 4, 1989 FURTHER REFERRALS:

Date of Committee Action: 5/6/89

The FINANCE Committee considered: CSSB 175(FINANCE)

CS FOR SENATE BILL NO. 175 (Finance)
[WARNING SIGNS ON LIQUOR PREMISES]
"An Act requiring the holder of a license or permit related to selling or serving alcohol to post signs warning patrons that consumption of alcohol during pregnancy can cause birth defects."

RECOMMENDATIONS:
[✓] be replaced with HCS SB 175 (Jud) [X] the same title [ ] a new title
[ ] have attached amendment(s)
[✓] do pass
[ ] do not pass
[ ] no recommendation
[ ] individual recommendations
[ ] additional referral to the _____ Committee

ADOPTS: _____ letter of intent

ATTACHES NEW FISCAL NOTE(s): (Dept) APPROVES PREVIOUS: (Date/Dept)
[X] fiscal impact Rev 4/27/89 [✓] fiscal note(s) _____
[ ] zero fiscal note _____ [ ] zero fiscal note(s) _____
[ ] zero with analysis _____ [ ] zero fn/analysis _____

SIGNING DO PASS:
Hoffman
Larson
Swackhammer
Brown
Koponen
Ulmer
Barnes
Phillips
Rieger
Wallis

SIGNING: (Check approp. column)

	Do Not Pass	No Rec	Amend
Shultz		✓	

Co- Ronald J. Larson
Chairman's Signature
Co- Hoffman

RECEIVED [illegible] 1989

STATE OF ALASKA
1989 LEGISLATIVE SESSION

BILL VERSION: HCS CSSB 175 (HESS) Ind.
PUBLISH DATE: April 18, 1989

FISCAL NOTE

REQUEST:

Revision Date:
Title: Warning signs on liquor premises

Agency Affected: Department of Revenue
BRU: Alcoholic Beverage Control Board

Sponsor: Senator Binkley et al.
Requestor: House HESS Committee

Components:

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	3.3	1.2	1.2	1.2	1.2	1.2
SUPPLIES	.6	.3	.3	.3	.3	.3
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	3.9	1.5	1.5	1.5	1.5	1.5
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND	3.9	1.5	1.5	1.5	1.5	1.5
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	3.9	1.5	1.5	1.5	1.5	1.5

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary)

Prepared by: Patrick L. Sharrock, Director
Division: Alconolic Beverage Control Board
Phone: 277-9638
Date: April 26, 1989

Approved by Commissioner: Hugh Malone /Loyd W. Fox
Agency: Department of Revenue
Date: 4/27/89

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

HCS CSSB 775 (HESS)

Initial Issue

beverage dispensary	689	
restaurant or eating place	319	
club license	87	
brewery	2	
package store	471	
common carrier	158	
recreational site	19	
pub license	1	
winery	0	
caterer's permit	663	
special events permit	110	
community license	3	
club caterer's permit	50	est
theatre site license	2	est
restaurant caterer's permit	14	
	2,588	
assume 2 signs per premises (avg.)	x 2	
	5,176	

Annual Issue

caterer's permits	675
special events permits	120
club caterer's permit	50
restaurant caterer's permit	25
wear and tear	500
approximately 50%	1,370

		Initial	Annual
Printing	$393 x first 1,000 (per PIP)		
	Initial: $393 x 4,176	1,646	
	Annual: $400 x 1,370		548
Postage			
	Initial: $.65 for 2 signs x 2,588	1,682	
	Annual: $.45 for 1 sign x 1,370		617
Envelopes			
	Initial: 2,588 x $.21	543	
	Annual: 1,370 x $.21		288
Letters		26	
		3,897	1,453

Offered: 5/4/89
Referred: Finance

6-0437D

Original sponsors: Binkley, Adams, Zharoff, et al.

IN THE SENATE BY THE JUDICIARY COMMITTEE

HOUSE CS FOR CS FOR SENATE BILL NO. 175 (Judiciary)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act requiring the holder of a license or permit related to selling or serving alcohol to post signs warning patrons that consumption of alcohol during pregnancy can cause birth defects."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 04.16.180(a) is amended to read:

(a) Except as provided in AS 04.11.015, [AND] AS 04.16.200 - 04.16.210, and AS 04.21.065, a person who violates a provision of this title or a regulation adopted by the board is guilty, upon conviction, of a class A misdemeanor. Each violation is a separate offense.

* Sec. 2. AS 04.21 is amended by adding a new section to read:

Sec. 04.21.065. POSTING OF WARNING SIGNS. (a) A holder of one of the following types of licenses or permits shall post on the licensed or designated premises a warning sign or signs as described in (b) of this section:

(1) beverage dispensary license;

(2) restaurant or eating place license;

(3) club license;

(4) brewery license; this paragraph applies only to a brewery that permits a person to sample portions of the brewery's product;

(5) package store license;

(6) common carrier dispensary license;

(7) recreational site license;

(8) community liquor license;

(9) pub license;

(10) winery license; this paragraph applies only to a winery that permits a person to sample portions of the winery's product;

(11) caterer's permit;

(12) special events permit;

(13) conditional contractor's permit;

(14) another license or permit issued by the board authorizing consumption of alcoholic beverages.

(b) A warning sign required by (a) of this section must be at least 11 inches by 14 inches. The sign must read "WARNING: Drinking alcoholic beverages such as beer, wine, wine coolers, and distilled spirits during pregnancy can cause birth defects." The license or permit holder shall display the signs in a manner that will make them conspicuous to a person purchasing or consuming alcoholic beverages on the licensed or designated premises.

(c) The board shall furnish a sign required under this section to a person who requests it with the intention of displaying it.

(d) A peace officer may issue a citation for a violation of this section. The provisions of AS 12.25.180(b) and 12.25.190 - 12.25.230 apply to the issuance of a citation under this subsection.

(e) An employee of the board designated by the board to enforce this section may issue a citation for a violation of this section regardless of whether the violation was committed in the employee's presence. A citation issued under this subsection must be in the same form and shall be processed in the same manner as a citation issued by a peace officer under (d) of this section. An employee of the board may not arrest a person for a violation of this section.

(f) A holder of a license or permit who violates this section is

guilty of a violation as defined in AS 11.81.900(b) and upon conviction is punishable by a fine of not less than $20 nor more than $300. Each day a violation continues after a citation for the violation has been issued constitutes a separate violation.

(g) The supreme court shall establish a schedule of bail amounts for violations of this section. The bail amount may not exceed the maximum fine that may be imposed for the violation under (f) of this section. The bail amount for a violation must appear on the citation.

(h) A person cited for a violation under this section may, within 15 days after the date of the citation, mail or personally deliver to the clerk of the court in which the citation is filed

(1) the amount of bail indicated on the citation for the violation; and

(2) a copy of the citation indicating that the right to an appearance is waived, a plea of no contest is entered, and the bail is forfeited.

(i) When bail has been forfeited under (h) of this section, a judgment of conviction shall be entered. Forfeiture of bail is a complete satisfaction for the violation. The clerk of the court accepting the bail shall provide the violator with a receipt stating that fact.

(j) If the person cited fails to pay the bail amount established under (g) of this section or to appear in court as required, the citation is considered a summons for a misdemeanor.

(k) The board or any affected party may institute an action in the superior court to enjoin repeated violations of this section.

(l) Notwithstanding AS 04.11.370, the board is not required to suspend or revoke a license or permit for a violation of this section; however, the board may consider a violation of this section when

determining under AS 04.11.370(2) whether continuation of activities authorized under a license or permit would be in the best interests of the public.

* Sec. 3. AS 12.25.190(c) is amended to read:

(c) The person cited for the crime shall give a written promise to appear in court by signing at least one copy of the written citation prepared by the peace officer and the officer shall deliver a copy of the citation to the person. The written promise requirement of this subsection does not apply to motor vehicle and traffic citations for which a bail or fine schedule has been established under AS 28.05.151, fish and game citations for which a bail schedule has been established under AS 16.05.165, <u>citations issued under AS 04.21.065,</u> citations issued under AS 18.35.341, citations issued in state park and recreational facilities under AS 41.21.960, or littering citations issued under AS 46.06.080.

Official Business

Alaska State Legislature

Senate

Committee on Finance

Pouch V
State Capitol
Juneau, Alaska 99811

LETTER OF INTENT

FOR

CS FOR SENATE BILL NO. 175 (FINANCE)

With the passage of this legislation, it is the intent of the Legislature that the Alaska Women's Commission include, in their next general mailing to Alaska women, literature explaining the effects of fetal alcohol syndrome, such as that prepared by the March of Dimes Birth Defects Foundation.

Senator Rick Uehling
Co-chair
April 4, 1989

Senate adopted 4/7

Senator Johne Binkley

Senate Finance Committee
P.O. Box V • Juneau, Alaska 99811 • (907) 465-4985

Finance Committee
Co-Chairman

MEMORANDUM May 6, 1989

TO: Representative Lyman Hoffman, Co-Chairman
Representative Ron Larson, Co-Chairman
House Finance Committee

FROM: Senator Johne Binkley

RE: SB 175 - Warning Signs Relating to the Dangers of Drinking Alcoholic Beverages During Pregnancy

---

The lifetime cost of one individual born with Fetal Alcohol Syndrome is at least $1.4 million. Children born with FAS suffer from a multitude of physical, developmental, and mental problems which may include permanent growth retardation, central nervous system damage, mental retardation, and abnormal facial features. They may have heart defects, cleft palate, bone deformities, kidney and vision problems.

FAS is the number one identifiable cause of mental retardation. As adults FAS individuals will never lead totally independent lives. It is the only birth defect that is 100% preventable.

The rate of FAS in Alaska Natives is 4.2 per 1,000 live births. In Alaska, a non-Native woman with seven FAS children is the highest number reported in the state.

HCSSB 175 (Judiciary) would require establishments that sell or serve alcoholic beverages to post a simple sign that warns of the dangers of drinking during pregnancy. Several states have enacted similar legislation, as well as many major cities across the country. The sign would read:

> **WARNING: Drinking alcoholic beverages such as beer, wine, wine coolers, and distilled spirits during pregnancy can cause birth defects.**

Warning signs have been shown to be an effective tool; New York City commissioned a Gallup poll one year after their signs went up. The poll showed a 14% increase in awareness of the dangers of drinking during pregnancy.

This legislation is supported by the **March of Dimes, the Alaska Native Health Board, NEA-Alaska, the Alaska Women's Lobby, Alaska Council on the Prevention of Alcohol and Drug Abuse, the Village Participation Conference, Tanana Chiefs Conference.**

FACTS ON ALCOHOL-RELATED BIRTH DEFECTS

- ☐ In 1981, the Surgeon General of the United States issued a health advisory recommending that women who are pregnant or are considering pregnancy should abstain from alcoholic beverages and should be aware of the alcohol content of foods, beverages and medications. In addition, he urged health care professionals to monitor the drinking habits of pregnant patients (and those considering pregnancy), to warn patients about the risks of alcohol consumption during pregnancy and to encourage pregnant patients not to drink. (Office of the Surgeon General, 1981.)
- ☐ Fetal Alcohol Syndrome (FAS), officially identified in the U.S. in 1973, is a pattern of mental, physical and behavioral defects that develop in infants born to some women who drink heavily during pregnancy. ("Fetal Alcohol Syndrome," Alcohol Topics In Brief, National Institute on Alcohol Abuse and Alcoholism (NIAAA), April 1985, p.1.)
- ☐ Fetal Alcohol Effects (FAE) are those signs in the offspring that have been linked to alcohol use during pregnancy by the mother which do not meet the diagnostic criteria for full-blown Fetal Alcohol Syndrome. (R. Little and C. Ervin, "Alcohol Use and Reproduction," S. Wilsnack and L. Beckman, Eds., Alcohol Problems in Women, New York: The Guilford Press, 1984, p. 158.)
- ☐ Fetal Alcohol Syndrome (FAS) is among the three leading known causes of birth defects with accompanying mental retardation, and the only preventable one among the top three. It can be prevented by not drinking alcohol. (Research Triangle Institute (RTI), Economic Costs to Society of Alcohol and Drug Abuse and Mental Illness: 1980, Henrick J. Harwood, et al., June 1984, p. B-3.)
- ☐ FAS is characterized by a cluster of congenital birth defects that include the following: prenatal and postnatal growth deficiency; a particular pattern of facial malformations, including a small head circumference, flattened midface, sunken nasal bridge and a flattened and elongated philtrum (the groove between the nose and upper lip); central nervous system dysfunction; and varying degrees of major organ system malformations. (K. Warren, "Alcohol-Related Birth Defects: Current Trends in Research," Alcohol Health and Research World, National Institute on Alcohol Abuse and Alcoholism NIAAA, Vol. 10, No. 1, Fall 1985, p. 4.)
- ☐ There are well-designed studies linking an average of 1 to 2 drinks daily to decreased birthweight, growth abnormalities and behavioral problems in the newborn and infant. Increased risk of spontaneous abortion has been found at an even lower dose: 1 to 2 drinks twice weekly. (R. Little and C. Ervin, "Alcohol Use and Reproduction," Alcohol Problems in Women, 1984, p. 162.)
- ☐ The incidence of FAS is approximately 1 to 3 per 1,000 live births. (K. Warren, "Alcohol-Related Birth Defects: Current Trends in Research," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1, Fall 1985, p. 4.)
- ☐ There is no established safe dose of alcohol during pregnancy, nor does there appear to be a safe time to drink. (J. Funkhouser and R. Denniston, "Preventing Alcohol-Related Birth Defects," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1, Fall 1985, p. 54.)
- ☐ Whenever drinking is stopped during pregnancy, the risks of fetal alcohol effects and consequences of alcohol exposure are decreased. The probability of having a child with FAS or FAE increases directly with the amount and frequency of alcohol consumed. (J. Funkhouser and R. Denniston, "Preventing Alcohol-Related Birth Defects," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1, Fall 1985, p. 56.)
- ☐ An analysis of costs associated with FAS produced the following 1980 estimates: $14.9 million for health treatment of babies born with FAS; $670 million in total treatment costs for the 68,000 FAS children under the age of 18; $760 million in treatment costs for 160,000 FAS adults; and $510.5 million in indirect productivity losses. (RTI, Economic Costs to Society, p. B-11 and B-15.)
- ☐ Women who breastfeed should continue to abstain from drinking alcohol until their babies are weaned, because alcohol readily enters breast milk and is transmitted to the nursing infant. In addition, heavy alcohol consumption has been shown to reduce lactation. (R. Niven, "Alcoholism—A Problem in Perspective," Journal of the American Medical Association, 249:2029–2033, 1983.)

- ☐ Approximately 90 percent of the public is aware that drinking during pregnancy may damage the fetus. However, in one study, one-third of the women interviewed believed that an average daily consumption of more than three drinks was safe during pregnancy. (R.E. Little, H.L. Grathwohl, A.P. Streissguth and C. McIntyre, "Public Awareness and Knowledge About the Risks of Drinking During Pregnancy in Multnomah County, Oregon," American Journal of Public Health 71, 312–314, 1981.)
- ☐ One in six women in the peak childbearing years of 18–34 may drink enough, either chronically or episodically, to present a hazard to an unborn infant. ("Behavior Risk-Factor Surveillance—Selected States," Morbidity and Mortality Weekly Report, February 1983, pp. 32–155.)
- ☐ Regular drinking is common among high school girls and a sizeable number engage in heavy drinking. Current studies show that teenagers are remarkably uninformed about the causal relationship between pregnancy and drinking and are at high risk of bearing children with FAS and FAE. (J. Funkhouser and R. Denniston, "Preventing Alcohol-Related Birth Defects," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1, Fall 1985, p. 57.)
- ☐ An FAS prevalence of 9.8 per 1,000 has been observed among one particular high-risk American Indian population, though other American Indian populations were 1.4 and 2.0 per 1,000. (K. Warren, "Alcohol-Related Birth Defects," Alcohol Health and Research World, NIAAA, Vol. 10, No. 1, Fall 1985, p. 4.)
- ☐ In the 1985 National Health Interview Survey conducted by the National Center for Health Statistics, only 57 percent of persons under 45 years of age had ever heard of fetal alcohol syndrome. (O.T. Thornberry, R.W. Wilson and P. Golden, "Health Promotion and Disease Prevention Provisional Data from the National Health Interview Survey: United States, January–June 1985," U.S. Department of Health and Human Services, No. 119, May 14, 1986.)
- ☐ Alcoholism is a chronic, progressive and potentially fatal disease characterized by tolerance and physical dependency or pathologic organ changes, or both. All are the direct or indirect consequences of the alcohol ingested. Alcoholic women are at highest risk of bearing children with FAS. (National Institute on Alcohol Abuse and Alcoholism (NIAAA), Fourth Special Report to the U.S. Congress on Alcohol and Health, ed. John R. DeLuca, DHHS Pub. No. (ADM) 82-1080, 1981, p. 36.)
- ☐ Women's drinking problems are often viewed as less serious than men's and their condition may be more frequently misdiagnosed. Stigmatization and unwillingness of many physicians, mental health professionals, police and the courts to label a woman as "alcoholic" are detrimental to early intervention and treatment. Most treatment programs do not provide child care or adequate alternatives for women entering treatment. Women may not seek or continue treatment because of the difficulty of finding acceptable child care arrangements. (L. Beckman and H. Amaro, "Patterns of Women's Use of Alcohol Treatment Agencies," S. Wilsnack and L. Beckman, Eds., Alcohol Problems in Women, New York: The Guilford Press, 1984, p. 342.)
- ☐ Women are now heavily targeted for marketing of alcoholic beverages. According to Impact, a liquor industry newsletter, women will spend $30 billion on alcoholic beverages in 1994, compared to $20 billion in 1984. ("Betty Briefcase Buys More Bottles," Advertising Age, Thursday, September 12, 1985.)
- ☐ To date, no major manufacturer of alcoholic beverages urges women to abstain from alcohol consumption during pregnancy through product labeling. In fact, most major educational campaigns promulgated by alcohol beverage industry representatives do not recommend abstinence from alcohol during pregnancy. (Center for Science in the Public Interest, 1987.)

NCA is the national nonprofit organization combating alcoholism, other drug addictions and related problems. Founded in 1944, NCA's major programs include prevention and education, public information, public policy advocacy, conferences and publications. NCA's network of 190 state and local nonprofit affiliates conduct similar activities in their areas and provide information and referral services to families and individuals seeking help with an alcohol or other drug problem. NCA sponsors National Alcohol Awareness Month in April and National Fetal Alcohol Syndrome Awareness Week. NCA also conducts the National Alcoholism Forum, the nation's oldest general-interest conference on alcoholism. To receive more information about alcoholism and the name of the NCA affiliate in your area call our toll free number 1-800-NCA-CALL.

NATIONAL COUNCIL ON ALCOHOLISM INC
12 West 21st Street, New York, NY 10010 • (212) 206-6770
1511 K Street, N.W., Washington, D.C. 20005 • (202) 737-8122
Revised 5/87

Alaska State Legislature

Senate Advisory Council

PO. Box V
State Capitol
Juneau, Alaska 99811
Phone: (907) 465-3114

MEMORANDUM

TO: Senator Johne Binkley
Alaska State Senate

FROM: Maureen Weeks MW
Senate Advisory Council

DATE: February 17, 1989

SUBJECT: Economic impact of Fetal Alcohol Syndrome; IR # 89-100015

An estimated 29 babies with Fetal Alcohol Syndrome (FAS) are born in Alaska annually; of these 26 survive the first year. Two to 15 times this many babies are born with a lesser set of symptoms known as Fetal Alcohol Effects (FAE). Babies exposed to alcohol before birth may be too small when they are born. Just ten years ago almost all low birthweight babies died at birth. Today, increasingly expensive medical technology saves the lives of four out of five but cannot correct many defects already caused by alcohol. Fifty-eight percent of both FAS and FAE patients have IQ's below 70 (classified as Developmentally Disabled). Conservatively estimated, the lifetime cost per Alaska FAS birth is $1.4 million. Lifetime cost for Alaska FAS babies born each year is $39.8 million.

These are selected medical and social costs only; they do not include, among other things, costs of welfare, the justice system, mild physical problems, mild learning disabilities or loss of a useful member of society.[1]

A table of costs associated with FAS and FAE follows page 18 of this report.

I. BACKGROUND.

Fetal Alcohol Syndrome (FAS) is caused when the alcohol which a pregnant woman drinks damages the brain and body of the fetus as it develops. Until 1973, alcohol was not suspected as toxic to an unborn baby. Respected medical authorities told pregnant women that the placenta protected their fetuses from harmful substances. Today we know these authorities were wrong. Babies who are exposed to alcohol before they are born can be irreversibly harmed for the rest of their lives.

The damage done by alcohol has profound implications for the victim and society. The harmful effects of alcohol on the fetus last a lifetime. A common problem is mental retardation. The average IQ of FAS patients is 66. Almost every child

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[1] Harwood and Napolitano estimate direct average lifetime costs at $405,000 per person and indirect costs at $191,000, in 1980 dollars. Adjustment for inflation and cost of living differences (3 percent per year and 30 percent) yields direct costs of $528,000 and indirect costs of $249,000, for a total of $1,010,000/person, Alaska 1989. Total costs for 29 Alaska FAS births would be $29,290,000. (A 30 percent increase is conservative; the Bureau of Labor Statistics reports that medical services increased by 83.5 percent in Anchorage between 1980 and 1988.) It should be noted that some costs in the Harwood study are much less than Alaska costs. For example, intensive care hospitalization is estimated nationwide at $2,500 per infant v. $120,000/year per infant in Alaska; institutionalization is estimated at $25,000/year nationwide v. $109,000 in Alaska.

or adult with FAS needs lifelong care, supervision or support from family and society. Those most severely affected may spend their lives in institutions. Some suffer physical anomalies such as heart problems, cleft palate, kidney problems, blindness and deafness.

Few, if any, families can pay the enormous costs of supporting an FAS child or adult. Babies born with FAS may need intensive hospital care at birth at an average cost of $2,400 a day. One in eight children born with FAS have cleft palates, requiring surgeries costing up to $75,000 and long term speech therapy twice or three times a week at $96 an hour. Fifty-eight percent of patients with FAS have IQ's below 70 and as such are classified as developmentally disabled. Cost of special education for a severely retarded child is $20,000 a year. Average annual cost for each FAS patient in an institution is $109,000.

Two national studies of the economic impact of Fetal Alcohol Syndrome have been published since the syndrome was discovered in 1973. Harwood and Napolitano in 1985 found the U.S. spends up to $108.8 million a year on FAS births; Abel and Sokol in 1986 found annual costs of $321 million a year. This report adapts the more conservative Harwood and Napolitano study to Alaska.

II. INCIDENCE OF FAS AND FAE

An estimated 29 Alaska babies are born a year with FAS. Experts believe between two and 15 times that many FAE babies are born annually.

A diagnosis of FAS requires signs in three areas:

(1) Pre and/or post natal growth retardation (weight, length, and/or head circumference below the tenth percentile).

(2) Central nervous system problems (neurological abnormality, developmental delay, or intellectual impairment.

(3) Characteristic facial features (including small eyes, crossed eyes, short nose, or abnormalities of the mouth such as cleft palate).

FAS may be difficult to identify, especially among newborns. The identifying facial features may not be easily recognized and mental retardation may not be identified until years after birth.

U.S. researchers speculate that some racial groups, such as certain American Indian tribes, may be at greater risk for FAS than the population as a whole. A 1982-83 study of Indians on 26 reservations in New Mexico, Colorado, Utah and Arizona showed a wide variation in prevalence of FAS among cultural groups. For example, among Navajo Indians, the incidence was 1.4 FAS cases per 1,000 births; among Pueblo Indians it was 2 per 1,000 births and among Plains Indians it was 9.8 per 1,000 births.

Dr. James Berner of the Native Health Service, and Vicki Hild, FAS Coordinator for the Alaska Native Health Board, report statewide incidence of FAS between

1981 and 1988 at 4.2 per 1,000 live births. At an average of 2,700 deliveries annually, this would be about 12 FAS Native births a year.

The estimate comes from an Alaska Area Native Health Service survey of Alaska Native children born between 1981 and 1988. The study shows that the highest recorded FAS rate among any population in the world is in the Copper River area of Alaska: 250 FAS cases per 1,000 births (or one in every four births). Estimated incidence among Alaska Natives in other areas:

Sitka region:	2.1 FAS cases per 1,000 births
Bethel region:	3.5 FAS cases per 1,000 births
Anchorage:	3.8 FAS cases per 1,000 births
Nome region:	4.0 FAS cases per 1,000 births
Tanana Chiefs:	5.9 FAS cases per 1,000 births

It would be a mistake to ignore FAS among non-Native Alaskans. Data shows, for example, that one non-Native woman in Southcentral Alaska has produced seven children with FAS. No one has studied the incidence of FAS among non-Native Alaskans. Indeed, relatively few studies of the incidence of FAS among the general population have been done in the U.S. The literature commonly estimates overall FAS prevalence at from 1 to 3 cases per 1,000 live births (see Sixth Special Report to the U.S. Congress on Alcohol and Health, January 1987). Estimates in U.S. cities show:

Cleveland (1973-79)	.4 FAS cases per 1,000
Cleveland (1979-82)	3.0 FAS cases per 1,000
Seattle (1978)	1.3 FAS cases per 1,000
Boston (1977)	3.1 FAS cases per 1,000
Boston (1983)	2.1 FAS cases per 1,000

Estimates from Europe include:

Sweden (1979)	1.6 FAS cases per 1,000 births
	1.4 cases per 1,000 births
France (1977-79)	1.3 cases per 1,000 births
	2.9 cases per 1,000 births.

Abel and Sokol added together all FAS births reported worldwide in text or by personal communication and found a worldwide incidence of 1.9 FAS cases per 1,000 live births. Rates were higher in North America (2.2 cases per 1,000 live births) than in Europe and other countries (1.8 cases per 1,000 live births). They believe site, economic class and culture affect the reported FAS rate. Hild and Berner place national incidence at 1.7 per 1,000 live births. This study will use that conservative estimate. At an average of 10,000 deliveries annually, this would be about 17 non-Native babies born with FAS in Alaska a year. Added to the estimated 12 Native births, this brings the total Alaska FAS births per year to 29 babies. Of these, 26 babies survive their first year. See Table 1.

In the 16 years since U.S. doctors recognized that alcohol harms the fetus, researchers have concentrated on the more serious illness, FAS. However, patients with FAE have an average IQ of 73 and researchers now believe that in addition to lowered IQ, FAE causes hyperactivity, learning disorders, speech and hearing problems, perceptual problems and short attention span, among other problems. In some cases, these signs may not become evident until the child has trouble in school. Educators faced with a "difficult" child may not associate school problems with prenatal exposure to alcohol.

Researchers disagree on the incidence of FAE. Ann Streissguth of the University of Washington Medical School, an associate of the U.S. discoverers of FAS, estimates that FAE occurs twice as often as FAS. The National Institute on

Table 1

Incidence of FAS births in Alaska, 1988

Native births:	
Deliveries (a)	2,736
Incidence of FAS births (b)	4.2/1000
Number of FAS births (2736 x .0042 = 11.5)	12
Non-Native births:	
Deliveries (a)	10,163
Incidence of FAS births (b)	1.7/1000
Number of FAS births (10163 x .0017 = 17.3)	17
Total FAS births:	29
First-year survivors:	
Neonatal mortality rate, Alaska: (c)	5.1%
Neonatal survivors:	28
Postneonatal mortality rate: (c)	5.9%
FAS first-year survivors	26

(a) Alaska Vital Statistics 1985, Department of Health and Social Services, Juneau, 1988.

(b) J.E. Berner, "Update: Incidence of Fetal Alcohol Syndrome (FAS) In Alaska Natives", February 3, 1989.

(c) Alaska Vital Statistics 1985, p. 7.

Alcohol Abuse and Alcoholism reports a ten times increase and Sokol estimates much as a 15 times increase. Hild believes the incidence of FAE in Alaska is ten times that of FAS, or higher. In an effort to be conservative, this report will use the lowest estimate (twice FAS). At this rate, 58 Alaska FAE babies are born a year.

Table 2 shows the number of FAE births per year at each estimate.

Table 2

Incidence of FAE, Alaska 1985 (a)

Estimate of times increase over FAS	Number of FAE born/year (FAS = 29/yr)
2	58
10	290
15	435

(a) Three estimates of the frequency of FAE are quoted in the literature:

* 2 times FAS: Ann P. Streissguth, Ph.d, of the University of Washington Medical School. (Manual on Indian Adolescents and Adults with Fetal Alcohol Syndrome, July, 1986, p. 4)

* 10 times FAS: National Clearinghouse for Alcohol Information at Rockville Maryland. (Fact Sheet, December 1985). V. Hild, FAS coordinator for the Alaska Native Health Board, estimates the FAE incidence in Alaska exceeds 10 times that of FAS.

* 15 times FAS: R.J. Sokol. ("Alcohol Abuse During Pregnancy: An Epidemiologic Study", Alcoholism: Clinical and Experimental Research, April 1980, p. 135-145.

B. Medical costs associated with FAS and FAE.

FAS patients commonly require medical care for cleft palate, heart defects, kidney defects, visual and hearing defects, dental problems and skeletal and postural problems. When estimates of the prevalence of these anomalies are available, this report relies on Abel and Sokol, Harwood and Napolitano and Hild for accurate statistics. Unfortunately, the prevalence for the majority of physical problems has not been established and these costs are not be included in this report. Table 6 shows costs of selected physical disorders. Hospital costs are explained below.

Alcohol can lower birthweight even in babies who do not have FAS. Ruth Little reports that when a pregnant woman drinks one ounce of alcohol a day, birthweight can fall by 160 grams. Alcohol also lowers birthweight in the majority of FAS births. Low birthweight babies are at risk to need intensive care. Just ten years ago almost all low birthweight babies died at birth. Today, newborn intensive care saves the lives of four out of five. This intense early care is increasingly expensive and cannot correct the lifelong and expensive defects already caused by prenatal exposure to alcohol. In some cases, the desperate effort to save a too-small baby's life adds to the irreversible burden of harm the child will carry with it for the rest of its life.

Abel and Sokol report that 79.8 percent of FAS babies are low birthweight (see Table 3). Of 29 Alaska babies born annually with FAS, 23 babies would be low birthweight. Alaska vital statistics records show that 4.6 percent of babies are born low birthweight despite their prenatal care. Thus, one Alaska baby would be low birthweight despite the best prenatal care, leaving 22 Alaska babies whose low birthweight is due to FAS. Abel and Sokol report that 74.3 percent of FAS low birthweight babies are moderately low birthweight, weighing between 1500 and 2500 grams. At this rate, 16 Alaska FAS babies would be

moderately low birthweight. The rest (six babies) are very low birthweight, weighing less than 1500 grams.

The National Institute of Medicine reports that 32.8 percent of moderately low birthweight babies need intensive care (see Table 4). Of the 16 moderately low birthweight Alaska babies, five would need intensive care. All of the very low birthweight babies (six babies) would need intensive care. The total number of FAS low birthweight babies needing intensive care is 11 per year. This estimate is corroborated by Dr. Jack Jacob, Providence Hospital neonatologist, who reports between ten and 15 FAS infants are treated in the intensive care unit each year.

Providence Hospital records show that in 1987, the average length of stay in intensive care for an FAS baby was 27 days and in 1988, it was 65 days.[2] Average FAS hospital costs in 1987-88 were $99,740 per FAS child; average neonatal physician fees for FAS infants were $11,065. These costs include all hospital costs except transport, other physicians and anesthesiology. Total average cost of intensive care for one FAS baby is $110,805 per year. For 11 low birthweight babies, it is $1,218,855 per year.

The Institute of Medicine estimates that 19 percent of all moderately low birthweight babies and 38.3 percent of very low birthweight babies must be rehospitalized during their first year. Streissguth of the University of Washington reports that it is "usual" for FAS babies to be rehospitalized for pneumonia and problems such as hip dysplasia; applying statistics for all low birthweight babies to FAS births may result in conservative estimates.

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[2] To compare, average length of stay for all low birthweight babies in the intensive care unit at Providence was 19.7 days in 1987 and 23.7 days in 1988.

Using the Institute of Medicine averages for all low birthweight babies, one FAS moderately low birthweight baby would be rehospitalized for 12.5 days and two very low birthweight babies would be rehospitalized for 16.2 days. Hospitalization for children not in intensive care was about $900 a day at Providence Hospital in Anchorage in 1988. Rehospitalization for one baby for 12.5 days is $11,250 and for two babies at 16.2 days it is $29,160. Total cost of rehospitalization for low birthweight FAS babies: $40,410. This does not include physicians, surgery, special procedures or transportation. See Table 5.

Table 3

Low birthweight of FAS births,
Alaska 1985

Alaska Low Birthweight Births (under 2500 grams) due to FAS.

FAS births which are Low Birthweight:	
Total FAS births:	29
% FAS births which are under 2500 grams (a)	79.8%
LBW babies in 29 FAS births: (29 x .798 = 22.9)	23
Low Birthweight births not due to FAS:	
% Alaska LBW births under 2500 grams not due to FAS (b)	4.6%
4.6% x 23 = 1 LBW birth not due to FAS	
LBW births due to FAS: (23 x .046 = 1.1)	22

Weight distribution of Alaska FAS Low Birthweight births:

1500-2500 grams (MLBW):	
% FAS births between 1500-2500 grams (a)	74.3%
FAS MLBW babies: (22 x .743 = 16.4)	16
Under 1500 grams (VLBW):	
All other LBW babies are VLBW (under 1500 grams)	6

(a) Abel and Sokol, "Incidence of Fetal Alcohol Syndrome and Economic Impact of FAS-Related Anomalies", Elsvier Scientific Publishers, Ireland, August, 1986, p. 58.

(b) If FAS were eliminated from Alaska, 4.6 percent of all births would still be low birthweight. Although they would still need treatment, the costs of their treatment should not be attributed to FAS. This number is the solution to the following equation: 4.8% x 12,900 births = 79.8% x 24.6 FAS births + p x 12,869 non-FAS births, where 4.8% is low birthweight rate in Alaska; 12,900 is number of Alaska births in 1985; 79.8% is U.S. LBW rate for FAS births; 24.6 is FAS births in Alaska in 1985. Formula devised by J.W. Senner, Oregon State Health Division, "Revised Annual National Cost Estimates" (Portland), p. 2.

Table 4

Costs of intensive care hospitalization for FAS LBW babies
Alaska 1985

Moderately LBW (1500-2500 grams) Intensive Care hospitalization:	
% MLBW babies requiring intensive care (a)	32.8%
MLBW FAS babies requiring intensive care (16 x .328 = 5.4)	5
Very LBW (under 1500 grams) Intensive Care hospitalization:	
% VLBW babies requiring intensive care (a)	100%
VLBW FAS babies requiring intensive care	6
Total	11 babies
Hospital cost for 11 babies at $99,740 (b)	$1,097,140
Physician cost for 11 babies at $11,065 (b)	$ 121,715

(a) The Institute of Medicine reports that 32.8% of LBW infants and 100% of VLBW infants require newborn intensive care. Preventing Low Birthweight, Institute of Medicine, (Washington, D.C.), 1985. This may be an underestimate for FAS babies who show a longer average length of stay in intensive care, an indication that they may be sicker than other low birthweight babies. Providence Hospital reports the following average lengths of stay in the newborn intensive care unit in 1987 and 1988.

	1987	1988
Low Birthweight	19.7 days	23.7 days
FAS Low Birthweight	27 days	65 days

(b) Costs do not include transportation, other physician or anesthesiology fees. Neonatologist Dr. Jack Jacob estimates between 10 and 15 FAS infants a year enter the unit (Lisa Wolf, pers. comm.).

Table 5

Cost of first-year rehospitalization for FAS LBW babies
Alaska 1985

LBW rehospitalization:	
FAS MLBW babies in intensive care	5
Neonatal mortality rate (a)	5.1%
FAS MLBW babies who survive intensive care (5 x .051 = .25)	5
Percent LBW babies rehospitalized (b)	19%
Number of LBW babies rehospitalized (5 x .19 = .95)	1
Cost of rehospitalization: 1 x $11,250 (c)	$11,250
VLBW rehospitalization:	
FAS VLBW babies in intensive care	6
Neonatal mortality rate (a)	5.9%
FAS VLBW babies who survive intensive care (6 x .059 = .35)	6 babies
Percent VLBW babies rehospitalized (b)	38.3%
Number of VLBW babies rehospitalized (6 x .383 = 2.3)	2
Cost of rehospitalization: 2 x $14,580 (c)	$29,160
Total cost of first-year rehospitalization:	$40,410

(a) Alaska 1985 Vital Statistics, Department of Health and Social Services, (Juneau), p. 7.

(b) The National Institute of Medicine reports that 19% of 2500-1500 gram babies are rehospitalized during the first year, as are 32.8% of babies under 1500 grams. Preventing Low Birthweight, National Institute of Medicine, (Washington, D.C.), 1985. This may be an under-estimate for FAS births. Streissguth reports that it is "usual" for FAS babies to be rehospitalized during the first few months of life for pneumonia, failure to thrive, hip dysplasia and other problems. A Manual on Indian Adolescents and Adults with Fetal Alcohol Syndrome, University of Washington Medical School, July 1, 1986.

(c) Providence Hospital charges for pediatric admission, 1988: $900/day (MLBW average length of stay, 12.5 days; VLBW stay, 16.2 days).

C. Costs associated with mental retardation.

Streissguth in a 1986 study of 61 FAS/FAE diagnosed patients between the ages of 12 and 40 shows that more than half (58 percent) of both FAS and FAE patients were developmentally disabled (IQ's below 70). Hild finds the 58 percent estimate likely in Alaska. This report will rely on that estimate. At this rate, 15 FAS first-year survivors and 34 FAE patients have IQ's below 70. (Note that computing the incidence of FAE at 10 times that of FAS, the percentage used by Alaska experts, there would be 336 developmentally disabled FAE patients born every year.) Social service costs for the average moderately to mildly retarded child are $25,000 a year (not including education). For adults, these costs are as high as $45,000 a year (including vocational rehabilitation). About five FAS children currently are part of the Alaska Youth Initiative program for severely troubled youth at an average cost of $90,000 a year each.

If 58 percent of FAS and FAE patients are developmentally disabled, an estimated 42 percent have minimal brain dysfunction. In this report, costs for this portion of patients are estimated at $4,000 each, the additional cost of special education for mildly disabled persons (above regular education operating costs). State officials caution that FAS/FAE patients with IQ's between 70 and 100 may actually be more expensive than those with lower IQ's because of added counselling, legal and corrections costs. This is not reflected in this report.

Streissguth's study of 61 FAS/FAE patients from the Southwest U.S., Seattle and Vancouver, B.C. showed the following patient characteristics:

(1) IQ's ranged from a score of 20 to 105. Average IQ of patients with FAS was 66 and of patients with FAE, 73. No patient with FAS showed

an IQ above 90. Streissguth concludes it is impossible to predict from a diagnosis alone how handicapped an individual patient with FAS/FAE will be as an adolescent or adult.

(2) 58 percent of both FAS and FAE patients had IQ's below 70, (generally classified as developmentally disabled).

(3) The average reading, spelling and arithmetic level of these patients (ages 12 to 40) was 4th grade, 3rd grade and 2nd grade, respectively.

(4) Average level of general adaptive functioning was 7 years 5 months. (Median age of those tested was 16 years 5 months.)

(5) There was no indication of general improvement in IQ, achievement or adaptive living scores as patients got older.

(6) None of the patients were able to live independently.

Vicki Hild of the Alaska Native Health Board has tabulated living situations for 118 Alaska Natives with FAS. She found that 20 percent had been adopted and 10 percent had died. The remaining children shuttled back and forth between their biological parents and state custody. It is state policy to keep children with their biological parents if possible; children move in and out of state custody as a parent's condition improves or worsens. Among biological parents of the 118 children in the Hild study, only three mothers appeared "reasonably" stable.

Hild cites as an example of "ping-ponging" custody, the case of one Alaska FAS child who had lived in seven foster homes by the time she was three.[3]

D. Costs not included in this estimate.

Medical researchers have not yet determined a reliable rate of incidence for the majority of physical defects common to FAS victims and these costs have not been included in this estimate. These physical anomalies include visual problems, kidney and genital tract problems, and dental and skeletal defects (more frequently found in adolescents and adults), including club foot and scoliosis and neurotube defects such as spina bifida. Also not included are on-going lifelong medical costs associated with the ill health of patients with these problems. (Despite their illnesses, however, FAS patients are expected to live a normal life span.) Transportation, anesthesiology and some physician costs for first-year hospitalization and costs of FAE babies with physical damage are also not included.

Many social costs are also not included in this estimate. FAS children and adults are at high risk for physical and sexual abuse. They may exhibit signs of depression; some may be suicidal; a few may become violent. As they grow into adulthood, some may exhibit increasingly inappropriate sexual behavior.

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[3] Streissguth believes stability is important to the well-being of FAS patients. "We usually find great improvement in emotional development and social functioning when children with both full and partial FAS have stable and supportive living arrangements. Improved behavior which often occurs, even in the absence of changes in IQ, should not be ignored simply because it is more difficult to measure and quantify." "Psychological and Behavioral Effects in Children Prenatally Exposed to Alcohol", Alcohol Health and Research World, Fall 1988, p. 10.

Many of the costs of welfare, child abuse, sexual abuse, psychiatric care, incarceration, stress on the care-giver and loss of a useful member of society are not included in this report. Hild has stated that "without early intervention, all FAS and most FAE patients will be on welfare." In addition, this report does not consider what may be the enormous, but still unrecognized, costs of learning disabilities suffered by children afflicted with FAE.

TABLE I

LIFETIME COST ESTIMATES OF SPECIFIC BIRTH DEFECTS IN FAS BIRTHS -- ALASKA

	Birth Defect	Annual Cost per Patient	Number of Times or Years	Lifetime Cost per Patient	Prevalence	Number Per Yr (% x 26)	Lifetime Cost: All Born 1988
	ANNUAL FAS BIRTHS (29 BIRTHS; 26 SURVIVORS)						
1	Neonatal Unit/Providence	99,740	1	99,740		11	1,097,140
2	Neonatal Physician	11,065	1	11,065		11	121,715
3	First Year Rehospitalization	13,470	1	13,470		3	40,410
4	Initial Audio Screening	100	1	100	52%	15	1,500
5	Audio Check-up	100	4	400	100%	26	10,400
6	Otitis Media Surgery	1,224	1	1,224	56%	15	18,360
7	Hearing Aid	1,260	14	17,640	33%	9	158,760
8	Hearing Aid Mold	50	65	3,250	33%	9	29,250
9	Heart Surgery	75,000	1	75,000	5%	1	75,000
10	Cleft Palate Surgery	65,000	1	65,000	12%	3	195,000
11	Infant Learning Program (HSS)	2,513	3	7,539	100%	26	196,014
12	H/C Child: phys defect (HSS)	8,700	18	156,600		7	1,096,200
	H/C Child: devel delay (HSS)	8,700	3	26,100	58%	15	391,500
13	Minimal Special Eductn (DOE)	4,000	15	60,000	42%	11	660,000
14	Child Mental Retardation (DOE)	20,000	15	300,000	58%	15	4,500,000
15	DD Child (HSS)	25,000	18	450,000	58%	15	6,750,000
16	Alaska Youth Initiative (HSS)	90,000	12	1,080,000		1/2	540,000
17	DD Adult Initial Training(HSS)	45,000	3	135,000	58%	15	2,025,000
18	DD Adult Supervised Work (HSS)	22,500	44	990,000	58%	15	14,850,000
19	Institution	109,000	65	7,085,000	3%	1	7,085,000
	Lifetime Costs for FAS Births: 1988						39,841,249
	Lifetime Costs per FAS Birth			1,373,836			
20	ANNUAL FAE BIRTHS AT TWICE FAS RATE (58)						
21	Infant Learning Program (HSS)	2,513	3	7,539	58%	34	256,326
22	DD Child (HSS)	25,000	18	450,000	58%	34	15,300,000
23	Child Mental Retardation (DOE)	20,000	15	300,000	58%	34	10,200,000
24	DD Adult Initial Training(HSS)	45,000	3	135,000	58%	34	4,590,000
25	DD Adult Supervised Work (HSS)	22,500	44	990,000	58%	34	33,660,000
	Lifetime Costs for FAE Births: 1988						64,006,326
	Total FAS/FAE Births						103,847,575

NOTES TO FAS COST TABLE

Numbers refer to line numbers on the table.

1. Neonatal Unit. Charges per FAS patient in the Providence Hospital Neonatal Intensive Care Unit were $68,910 in 1987 and $130,570 in 1988, for an average of $99,740. Average length of stay of FAS infants in the Neonatal Intensive Care Unit more than doubled between 1987 and 1988. It was 27 days in 1987 and 65 days in 1988 (v. 19.7 and 23.7 days for all low birthweight babies in the unit). Statistics provided by Lisa Wolf of Providence Hospital.

2. Neonatal Physician. Physician costs per FAS child were $6,130 in 1987 and $16,000 in 1988, for an average of $11,065. Estimates by Sharon Lee of Alaska Neonatal-Perinatal Associates.

3. First-year rehospitalization. Cost estimate is based on 1988 Providence Hospital pediatric charges of $900/day. The number of infants and average length of stay (12.5 days for moderately low birthweight infants and 16.2 days for very low birthweight babies) are from the National Institute of Medicine and are for all low birthweight infants. Applied to FAS births, these may be underestimates. Streissguth reports it is "usual" for FAS babies to be rehospitalized in the first few months of life.

4. Initial Audio Screening. The state audiologist, Communicative Disorders Program, Anchorage, reports all FAS children need a workup. This report estimates that 11 infants receive a workup in intensive care; the 15 remaining surviving infants are counted in this entry.

5. Audio Check-up. FAS children need three to four follow up checks. The $100 charge is from the Alaska Treatment Center in Anchorage; the check-up estimate is from the state audiologist.

6. Otitis Media Surgery. Estimate is from the Geneva Woods Ear Nose and Throat Associates. Source of 56% prevalence is Harwood and Napolitano. These costs do not include less severe ear problems common to 93 percent of FAS patients (Alaska Treatment Center). Twenty-nine percent of FAS patients have permanent hearing loss.

7. Hearing Aid. A hearing aid for a baby costs $1,260; it is replaced once every five years for life at this cost. Cost estimate from Alaska Treatment Center.

8. Hearing Aid Mold. A $50 ear mold must be replaced annually. Estimate from Alaska Treatment Center.

9. Heart Surgery. Up to 70 percent of FAS patients have heart problems (Streissguth reports the portion at 30-40 percent; Hild reports 70 percent). Harwood and Napolitano report 10 percent require heart surgery, but reduce the estimate to 5 percent to reflect cases actually having surgery. Cost estimates from Vicki Hild, Alaska Native Health Board FAS coordinator.

10. Cleft Palate. Costs include an average of four surgeries, dental and orthodontics work. They do not include long term speech therapy at $96/session twice or three times a week. Estimates from Vicki Hild. The 12% estimate is average of Abel and Sokol (11.5%) and Harwood and Napolitano (12.5%).

11. Infant Learning Program. Mary Diven of the state division of Maternal and Child Health reports these figures are "deceptively low", under estimating the true cost of rural service. Infant Learning Program costs as much as $6,000/year in some rural areas.

12. Handicapped Children's Program. Cost estimates include averages for children with heart problems, cleft palate and developmental delay. Children with physical problems can be on the program for 21 years; children with developmental delays may be on the program for as few as three years. Cost estimates by Kathy Robinson, Maternal and Child Health, Alaska Department of Education. This report estimates that one child per year has heart problems (a low estimate in view of the 30 to 70 percent with heart problems); three have cleft palates; and three more have other physical problems such as spina bifida, progressive scoliosis, or severe visual and hearing loss.

13. Minimal Special Education. Costs cover only $8,000/year for additional special education for learning disabled children, above normal operating and capital education costs (Tom Buckner, Department of Education). Christine Hagmeier of the Department of Health and Social Services cautions that patients with IQ's above 70 and below 100 "may well be more expensive than those with lower IQ's" because they an become involved in counselling, corrections and the law. These costs are not reflected in this report. The 42 percent prevalence estimate is from Streissguth.

14. Child Mental Retardation. Cost of special education for severely retarded children is $20,000 - $23,000/year, in addition to normal operating and capital education costs. Estimates from Tom Buckner, Department of Education.

15. Developmentally Disabled Child (HSS). Cost estimate by Christine Hagmeier of the Department of Health and Social Services. Costs can include foster care, in-home care, shared care, respite care, in-home training, advocacy and family support. Hagmeier reports that severely disabled children can cost between $35,000 and $85,000 with average cost of $55,000.

16. Alaska Youth Initiative. Cost estimate from John Van Den Berg, Department of Health and Social Services. This is a program for 52 severely troubled youths. The average age is 15.8 years; the average number of failed housing placements is 16. Currently five FAS youths are in the program. This report estimates children remain on the program an average of 12 years (based on Van Den Berg's report that "absolute minimum lifetime costs per child are $1 million".) It further assumes that one FAS child would enter this program every two years. Streissguth reports that aggressive behavior may be a problem for about 40% of the boys. Those from a less structured and protected environment may be "quick to anger when crossed and quick to strike out impulsively".

17. Developmentally Disabled Adult Initial Training. Costs include $25,000 residential care (example: foster care and independent living) plus initial vocational rehabilitation costs of $20,000, for a total of $45,000. Initial vocational rehabilitation costs average between two and five years. Estimate by Christine Hagmeier.

18. Developmentally Disabled Adult Supervised Work. After initial rehabilitation costs (see #17 above), costs can "fade" to between $10,000 and $25,000 for lifetime residential care plus $5,000 lifetime vocational rehabilitation care (Hagmeier). The average of this $15,000 to $30,000 range is $22,500.