

HB

234

ALASKA STATE LEGISLATURE

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REPRESENTATIVE CRAIG JOHNSON
HOUSE DISTRICT 28

Sponsor Statement

House Bill 234

"An Act relating to the education loan repayment program and establishing the education loan repayment fund."

The State of Alaska is facing severe shortages in certain professional fields. House Bill 234 aims to tackle those workforce shortages by creating a loan repayment program that would draw qualified jobseekers into those fields.

The number of qualified individuals in the state is not keeping pace with workforce demands in a few critical areas, including allied health, engineering, and teaching. A steadily growing economy and population, coupled with the mega-projects the state has on the horizon, means certain professions already in high demand are only going to become more critical. HB 234 takes a pro-active approach to workforce shortages in order to ensure the state's continued prosperity.

HB 234 creates an education loan repayment program to help attract and retain Alaskan workers in professions identified as having a severe workforce shortage. The bill establishes the program within the Alaska Commission on Postsecondary Education (ACPE), who would determine eligibility criteria and disburse loan repayment grants to qualifying individuals.

An accompanying piece of legislation, HB 235, establishes a \$100 million endowment to fund the program.

The loan repayment program would repay up to \$7500 in outstanding student loan debt for qualifying individuals per year, not to exceed 5 years or 50 percent of the total outstanding debt. Eligibility criteria established under HB 234 include:

- The person must be a state resident on the date the application is filed
- The person must have been employed or otherwise engaged full time for at least a year in an occupation or profession identified as having a severe workforce shortage before being awarded the first grant
- The person must meet any additional eligibility requirements imposed under regulations adopted by the ACPE

Student Loans Overview

No matter what path you take to enrich your life, Loan to Learn has the personal education loan to help you get there. We have simple and affordable **Personal Student Loan Programs** that will enable students and their families to achieve their higher education goals.

Four-Year College

Covers all education-related expenses at four-year colleges and universities.

Two-Year College

For students seeking an Associate's Degree.

Graduate School

Covers education-related expenses for Graduate School programs.

MBA Education

Business school students' source for funds.

Law School

Covers education-related expenses for law students.

Medical School

Customized loans for medical students.

Nursing School

Designed especially for the education needs of nursing students.

Study Abroad

Additional funds for studying overseas.

Distance Learning

Earn your degree from your home computer.

Continuing Education & Trade Schools

Funds for returning to school or personal enrichment.



**UNIVERSITY OF ALASKA STATEWIDE SYSTEM
ASSOCIATE VICE PRESIDENT FOR WORKFORCE PROGRAMS**

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April 27, 2007

Representative Craig Johnson
State Capitol, Room 126
Juneau, AK 99801-1182

To Whom It May Concern:

As the leader in higher education, the University of Alaska is supportive of incentives that will encourage our citizens to pursue educational and training opportunities leading to improved quality of life. HB 234 is a mechanism to ensure students, focused on high need occupations, have access to critical resources needed to support their educational goals.

We appreciate Representative Johnson's efforts to provide a statewide response to support the needs of students obtaining training and educational opportunities while ensuring economic sustainability of industries undergoing workforce challenges.

Respectfully,

Fred Villa
Associate Vice President
Workforce Programs

Jeanne Ostnes

From: Margaret Gilman [mbgilman@gci.net]
Sent: Tuesday, April 24, 2007 6:45 PM
To: Rep. Craig Johnson
Subject: HB234

Mr. Johnson,

I wanted to thank you for bringing forward HB234. This is definitely forward thinking legislation that is much needed in this state. You are absolutely correct that there is a shortage of workers in certain fields and we need to do everything possible to keep these people in Alaska's labor force. If we don't, it won't matter what kind of pipeline deal is negotiated because we won't have the infrastructure necessary to sustain it. That infrastructure is not just oil related jobs. It includes jobs in healthcare, education, law enforcement and a host of other fields.

I can speak from personal example about the importance of the student loan forgiveness. My husband and I both graduated from high school in Kenai and after leaving the state for college we returned to Kenai. I got a job as a teacher and he worked in a local law firm. We could have chosen anywhere we wanted to live but we wanted to live here and the 50% forgiveness on our student loans was a great incentive. After the five years had passed and our loan was forgiven, we had already started a family and wanted to stay here to raise our children. I can point to many of my peers from the class of 1982 who made similar decisions. Now that years have passed and the state has disbanded the forgiveness program there truly is an exodus of citizens who graduate from our local high schools, go to college elsewhere and then never return. Thank you for your commitment in this effort.

If I can be of any assistance, please feel free to contact me.

Margaret Gilman
216 Susieana Lane
Kenai, AK 99611
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Student Debt

When students first consider enrolling and must make decisions about borrowing, they often do not know what career they will choose or how much they will need to borrow in total, both of which have implications for their ability to repay their debt.

An acceptable level of debt burden – mortgage lenders frequently recommend that student loan payments should not exceed 8 percent of the pre-tax income.

Unmanageable Student Loan Debt – Alaska

- 13.6 percent of public institution 4-year student would have debt exceeding manageable levels if they took teaching jobs.
- 23.1 percent of private 4-year students with debt exceeding manageable levels if they took teaching jobs.
- The National average is 23.2% for public institutions and 38.1% for private institutions for teachers.
- For social workers the debt manageable level is even bleaker, the U.S. average is 37.3% and 54.8% respectively. Alaska figures were unavailable.

In the one year since the publication of *Debt Burden*, interest rates have risen significantly and the fixed rate consolidation benefit has been ended, but the job market has remained constant.

Federal loan interest rates are variable and both income and employment status can change because of personal circumstances or shifts in economic conditions. July 1, 2006 the Federal Stafford loan rate reached a fixed rate of 6.8% up from 3.34% in 2004. Over the past several years, as interest rates dipped, student with multiple loans have been able to consolidate all of their loans and lock in a fixed interest rate. By moving all loans to a fixed rate, Congress has stopped students from locking in lower rates in the future.

College costs continue to rise, as do overall borrowing levels. The bottom line: graduating students will be coping with larger debt loads. According to the College Board, in the past 5 years the average cost of in-state tuition and fees at public colleges has jumped 35%. In the past 25 years, the average cost of tuition and fees has risen faster than personal income, consumer prices, and even health insurance.

During the same period the amount of federal aid (money that does not have to be repaid) has declined, forcing more students to borrow. Nearly two thirds of college graduates leave school with debt, up from less than half in 1993, according to the non-profit Project on Student Debt. Among those loans the average debt jumped from \$9,250 in 1993 to \$19,200, a 58% increase after adjustment for inflation.

Overall, one-quarter of 2004 graduates borrowed more than \$25,000, a figure that excludes any additional loans taken out by parents. Sixty-six percent of four-year college students (public and private) borrowed in 2004. Meanwhile their paychecks are not growing as rapidly as their basic living expenses.

This debt does not include credit card debt. In 2002 the average college senior had six credit cards, with a total balance of more than \$3,200. This is according to a study done by Nellie Mae Corporation, a student loan company. Tamara Draut, author of *Strapped: Why America's 20-and-30 Somethings Can't Get Ahead* is quoted as saying "We've gone from helping young people pay for college to helping them borrow."

The average debt of \$19,200 does not include family loans. The high school graduating class of 2008-09 is expected to be the largest in history, even as the number of seats at traditional four-year colleges has remained about the same. Meanwhile, the income gap between a worker with only a high school diploma and those with a college degree continues to widen. The rising demand means schools can keep their prices elevated. Some families earn too much money for their children to qualify for financial aid so they finance schooling with a mix of savings, federal parent loans, emergency savings accounts, and some borrow from their 401 (k) plans.

The median family income for the age 45 – 54 is used in the Trend in College Pricing 2006 because they are most representative of families with dependents in college. It is not representative of independent students. The median family income used for 2005-06, in 2005 dollars, is \$72,881. This median family income is the middle-high family income identified in Trends in Student Aid. Slow growth in family incomes during the period of rapid escalation in college prices has increased reliance on grants and loans to finance higher education.

Another indicator of family income disparity is the official annual income and poverty levels. In the 1960's when food accounted for about a third of the average family's budget, the federal government came up with the basic income threshold for poverty: triple the cost of a "thrifty food basket." Forty years later, housing, health care, child care and transportation consume a much bigger proportion of most household budgets than cost of food. Despite widespread calls for a more accurate measure of poverty, the government has stuck to the old formula. Congress does not want to see the number of Americans officially in poverty double on their watch. About 70% of Americans believe families today need about twice the federal poverty level to survive, polls show. Many federal, state and local programs have begun to double the federal poverty level to qualify for the needy assistance with rent, utilities, health insurance, child care and food. A family of four would be in poverty with an annual income of \$15,670. Doubled that would be \$31,340, almost equal to the low-middle income of \$35,000 for those families applying for financial aid for college fees.

Data from the U.S. Department of Education showed that more than 20 percent of student borrowers enrolled in 1995-1996 dropped out by 2001. That means 350,000 students were in debt with no college degree. The study also found that students who did not

complete their degree were 10 times as likely to default on their loans and twice as likely to be unemployed as those who completed their degrees.

Those who analyze student debt are concerned debt levels will reach a critical point that could deter students from pursuing an education.

Sources:

National Center for Education Statistics report *Debt Burden: A Comparison of 1992-1993 and 1999-2000 Bachelor's Degree Recipients a Year after Graduating* dated March 2005.

Paying Back, Not Giving Back – The State PIRGs' Higher Education Project dated April 2006.

Tuition and Fees by State

Table 6: Average Published Tuition and Fee Charges by State, 2005-06 and 2006-07 (Enrollment-Weighted)

	Public Two-Year			Public Four-Year			Private Four-Year		
	2006-07	2005-06	% Change	2006-07	2005-06	% Change	2006-07	2005-06	% Change
NATIONAL	\$2,272	\$2,182	4%	\$5,836	\$5,492	6%	\$22,218	\$20,980	6%
Alabama	\$2,738	\$2,742	<-1%	\$4,915	\$4,699	5%	\$13,437	\$12,582	7%
Alaska	\$3,360	\$3,060	10%	\$4,195	\$3,808	10%	\$16,463	\$15,539	6%
Arizona	\$1,647	\$1,534	7%	\$4,676	\$4,428	6%	\$20,854	\$19,519	7%
Arkansas	\$2,112	\$1,982	7%	\$5,298	\$4,992	6%	\$13,659	\$13,137	4%
California	\$725	\$810	-10%	\$4,560	\$4,505	1%	\$28,074	\$26,421	6%
Colorado	\$2,363	\$2,304	3%	\$4,646	\$4,443	5%	\$27,143	\$25,477	7%
Connecticut	\$2,672	\$2,536	5%	\$7,140	\$6,758	6%	\$28,525	\$26,971	6%
Delaware	\$2,310	\$2,166	7%	\$7,410	\$7,014	6%	\$12,089	\$11,261	7%
District of Columbia	.	.	.	\$3,210	\$2,520	27%	\$27,601	\$26,896	3%
Florida	\$2,038	\$1,922	6%	\$3,336	\$3,198	4%	\$21,189	\$19,922	6%
Georgia	\$2,290	\$2,179	5%	\$3,913	\$3,677	6%	\$20,124	\$19,010	6%
Hawaii	\$1,734	\$1,529	13%	\$4,257	\$3,486	22%	\$9,839	\$9,306	6%
Idaho	\$1,972	\$1,877	5%	\$4,159	\$3,921	6%	\$5,405	\$5,120	6%
Illinois	\$2,299	\$2,123	8%	\$8,133	\$7,231	12%	\$22,109	\$20,977	5%
Indiana	\$2,893	\$2,726	6%	\$6,555	\$6,155	6%	\$22,940	\$21,665	6%
Iowa	\$3,189	\$3,054	4%	\$5,900	\$5,619	5%	\$20,834	\$19,734	6%
Kansas	\$1,875	\$1,843	2%	\$5,149	\$4,639	11%	\$16,156	\$15,305	6%
Kentucky	\$3,270	\$2,940	11%	\$5,758	\$5,139	12%	\$16,996	\$15,734	8%
Louisiana	\$1,842	\$1,830	1%	\$3,796	\$3,654	4%	\$21,748	\$21,109	3%
Maine	\$3,060	\$2,814	9%	\$6,583	\$6,082	8%	\$25,914	\$24,714	5%
Maryland	\$3,120	\$3,046	2%	\$7,241	\$7,134	1%	\$26,480	\$25,047	6%
Massachusetts	\$3,586	\$3,543	1%	\$7,585	\$7,262	4%	\$29,335	\$27,795	6%
Michigan	\$2,251	\$2,121	6%	\$7,661	\$7,131	7%	\$18,067	\$15,220	6%
Minnesota	\$4,300	\$4,026	7%	\$7,495	\$6,965	8%	\$23,816	\$22,219	7%
Mississippi	\$1,685	\$1,665	1%	\$4,455	\$4,184	6%	\$12,320	\$11,828	4%
Missouri	\$2,338	\$2,286	2%	\$6,531	\$6,197	5%	\$19,155	\$18,131	6%
Montana	\$2,633	\$2,501	5%	\$5,255	\$4,884	8%	\$17,090	\$15,915	7%
Nebraska	\$2,023	\$1,891	7%	\$5,224	\$4,927	6%	\$17,148	\$15,839	8%
Nevada	\$1,695	\$1,643	3%	\$3,651	\$3,341	9%	\$20,873	\$19,650	6%
New Hampshire	\$5,207	\$5,195	<1%	\$9,114	\$8,569	6%	\$26,881	\$25,520	5%
New Jersey	\$3,187	\$2,954	8%	\$9,298	\$8,563	9%	\$25,155	\$23,857	5%
New Mexico	\$1,195	\$1,126	6%	\$3,985	\$3,729	7%	\$23,671	\$21,836	8%
New York	\$3,460	\$3,376	2%	\$5,046	\$5,004	1%	\$24,964	\$23,606	6%
North Carolina	\$1,257	\$1,245	1%	\$4,063	\$3,683	10%	\$20,882	\$19,638	6%
North Dakota	\$3,276	\$3,072	7%	\$5,509	\$5,071	9%	\$11,166	\$10,599	5%
Ohio	\$3,420	\$3,235	6%	\$9,357	\$8,795	6%	\$22,412	\$21,126	6%
Oklahoma	\$2,335	\$2,238	4%	\$4,246	\$3,814	11%	\$16,293	\$15,096	8%
Oregon	\$3,167	\$2,980	6%	\$5,576	\$5,293	5%	\$24,948	\$23,611	6%
Pennsylvania	\$4,299	\$4,137	4%	\$9,041	\$8,637	5%	\$25,591	\$23,991	7%
Puerto Rico	.	.	.	\$1,396	\$1,396	0%	\$4,803	\$4,648	3%
Rhode Island	\$2,686	\$2,470	9%	\$6,756	\$6,371	6%	\$26,400	\$25,091	5%
South Carolina	\$3,082	\$2,934	5%	\$7,916	\$7,380	7%	\$17,529	\$16,413	7%
South Dakota	\$3,434	\$3,209	7%	\$4,940	\$4,628	7%	\$17,345	\$16,427	6%
Tennessee	\$2,499	\$2,390	5%	\$4,974	\$4,765	4%	\$18,497	\$17,522	6%
Texas	\$1,604	\$1,507	6%	\$5,940	\$5,479	8%	\$19,225	\$17,897	7%
Utah	\$2,358	\$2,158	9%	\$3,891	\$3,589	8%	\$4,596	\$4,325	6%
Vermont	\$5,230	\$4,990	5%	\$9,800	\$9,298	5%	\$25,593	\$24,393	5%
Virginia	\$2,367	\$2,188	8%	\$6,558	\$6,024	9%	\$20,536	\$19,377	6%
Washington	\$2,743	\$2,598	6%	\$5,617	\$5,252	7%	\$23,571	\$22,026	7%
West Virginia	\$2,024	\$1,940	4%	\$4,152	\$3,881	7%	\$15,472	\$14,757	5%
Wisconsin	\$3,224	\$2,974	8%	\$6,044	\$5,638	7%	\$21,330	\$20,161	6%
Wyoming	\$1,826	\$1,766	3%	\$3,515	\$3,429	3%	.	.	.

*Data are insufficient to report.

THE PROJECT ON STUDENT DEBT

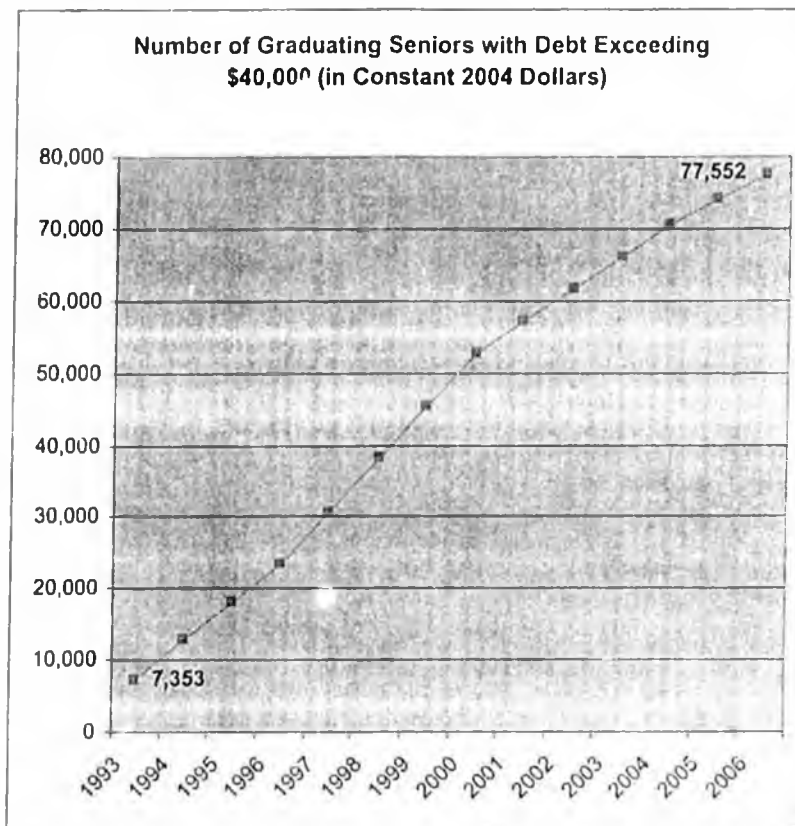
HIGH HOPES, BIG DEBTS

Summary: The number of college graduates with high levels of student debt has skyrocketed since the early 1990s, even after accounting for inflation. In 1993, 1.3% of graduating seniors with student loans owed at least \$40,000 (in 2004 dollars). In 2004, 7.7% owed \$40,000 or more. That represents a 10-fold jump from approximately 7,000 to 77,550 new graduates with high debt. At double the national average, \$40,000 is more than most people can manage to repay in 10 years

The growth of student loans tends to be described in totals and averages, which tell an important story. By the time they graduate, nearly two-thirds of students at four-year colleges and universities now have student loan debt. In 1993, fewer than half of graduating seniors had loans. Among those with loans, average debt since 1993 has more than doubled from \$9,250 to \$19,200 (a 58% increase after accounting for inflation).¹

This is not, however, the whole story. Behind the averages is a changing mix of larger and smaller debts. *Are more people carrying unmanageably high student loan debt?* To answer this question, we analyzed

federal data to find the proportion of student loan borrowers with debt of at least \$40,000 (in constant 2004 dollars). A useful cutoff, \$40,000 is more than double the *average* debt of graduating seniors with loans in 2004. It is also more than most full-time workers age 25-34 with a bachelor's degree can manageably repay in 10 years – the standard repayment period -- at the 6.8% interest rate taking effect on July 1, 2006.²



¹ Except where otherwise noted, all figures in this issue brief are calculations by the Project on Student Debt from the National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS), Data Analysis System (DAS). Adjustments for inflation are based on the Consumer Price Index.

² This assumes a maximum reasonable payment of about 13% of income (20% of income exceeding 150% of the poverty level for a single person). This is the benchmark developed by Sandy Baum and Saul Schwartz, *How Much Debt is Too Much: Defining Benchmarks for Manageable Student Debt*, The College

While most students today do not graduate with \$40,000 or more in loans, the proportion with such high debt has been growing steadily at both public and private colleges.

- In 1993, 1.3% of all graduating seniors with loans had borrowed at least \$40,000 (in 2004 dollars). By 2004, the proportion had risen to 7.7%.
- At private, non-profit colleges and universities, the proportion of high borrowers grew from 2.6% in 1993 to 11% in 2004.
- Public universities have gone from having almost no high borrowers in 1993 (0.3%) to having 5.4% in 2004.³

Given the number of graduating seniors, an estimated 7,000 of 1993's college graduates had student loan debt equal to or exceeding today's equivalent of \$40,000. *This year there are more than 10 times as many: an estimated 77,552.*⁴

Another way to look at high debts for undergraduates is to break the data into percentiles and see how they change over time. Our analysis shows *that high-level borrowing has grown much faster than low-level borrowing.* Of seniors graduating with debt in 2004:⁵

- *The top 10% had debt of more than \$35,563, an increase of \$12,041 compared to the top 10% of 1993 graduating borrowers.*
- *The top 25% had debt of more than \$25,000, an increase of \$9,316 compared to the top 25% of 1993 graduating borrowers.*
- *The median (half had more debt, half had less) was \$17,120, an increase of \$6,714 compared to the median for 1993 graduating borrowers.*
- *The bottom 25% had debt of less than \$10,000, an increase of \$4,772 compared to the bottom 25% of 1993 graduating borrowers.*
- *The bottom 10% had debt of less than \$5,250, an increase of \$2,626 compared to the bottom 10% of 1993 graduating borrowers.*

The numbers above show that among graduating seniors with loans, those with the lowest debt levels owed just \$2,626 more in 2004 than in 1993, after accounting for inflation. However, amount owed rose more than \$12,000 for those with the highest debt levels.

The conclusion: Compared to a decade ago, more people are borrowing large amounts to pay for college than they ever have before, even after accounting for inflation. Students with the most debt today have much heavier burdens than the biggest borrowers of 10 years ago.

Board, 2006. Income distribution data are drawn from the U.S. Census Bureau, Current Population Survey, 2005 Annual Social and Economic Supplement.

³ For-profit colleges show even larger percentages of high-debt borrowers than other types of institutions, but the sample sizes in NPSAS are small and therefore the differences are not statistically significant.

⁴ Data on the number of graduating seniors for academic years 1993 and 2006 are from the Digest of Education Statistics, U.S. Department of Education, National Center for Educational Statistics.

http://nces.ed.gov/programs/digest/d04/tables/dt04_247.asp

⁵ All numbers are inflation-adjusted.

Total Student Budgets

Table 2: Sample Average Undergraduate Budgets, 2006-07 (Enrollment-Weighted)

Sector	Tuition and Fees	Books and Supplies	Room and Board	Transportation	Other Expenses	Total**
Two-Year Public						
Resident	\$2,272	\$850
Commuter	\$2,272	\$850	\$6,299	\$1,197	\$1,676	\$12,294
Four-Year Public						
Resident	\$5,836	\$942	\$6,960	\$880	\$1,739	\$16,357
Commuter	\$5,836	\$942	\$6,917	\$1,224	\$2,048	\$16,967
Out-of-State	\$15,783	\$942	\$6,960	\$880	\$1,739	\$26,304
Four-Year Private						
Resident	\$22,218	\$935	\$8,149	\$722	\$1,277	\$33,301
Commuter	\$22,218	\$935	\$7,211	\$1,091	\$1,630	\$33,085

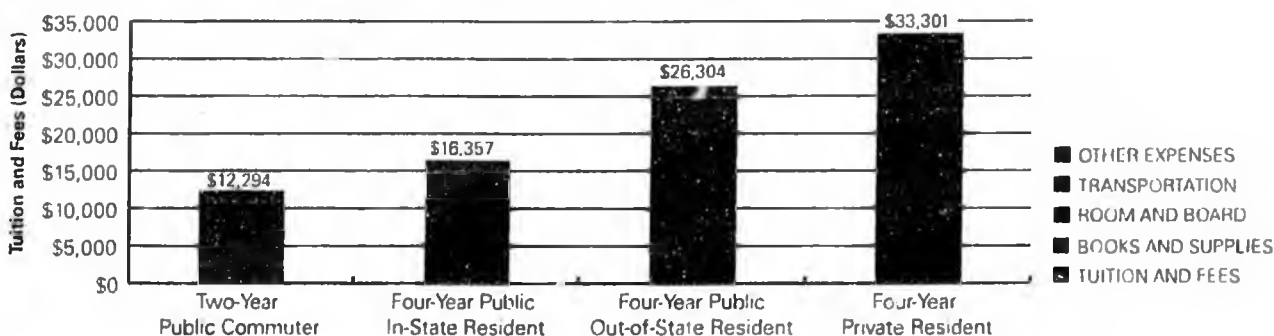
* Sample too small to provide meaningful information.

** Average total expenses include room and board costs for commuter students, which are average estimated living expenses for students living off campus, but not with parents.

Source: Annual Survey of Colleges, The College Board, New York, NY.

Enrollment-weighted tuition and fees are derived by weighting the price charged by each institution in 2006-07 by the number of full-time students enrolled in 2005-06. Room and board charges are weighted by the number of students residing on campus. Out-of-state tuition and fees are weighted by the number of out-of-state students enrolled in each institution.

Figure 2: Sample Average Undergraduate Budgets, 2006-07 (Enrollment-Weighted)



While tuition and fees constitute 67 percent of the total budget for full-time students enrolled in four-year private colleges and universities, they constitute only 36 percent of the budget for in-state residential students at public four-year institutions and 18 percent of the budget for two-year public college students commuting from off-campus housing.

- The differences in the costs of attending different types of institutions are not as great as tuition and fee levels might suggest. Average tuition and fees at public two-year colleges are only 39 percent of average public four-year tuition and fees. But adding the cost of housing and food, the cost of a year at a two-year public college is 67 percent of the cost of a year at a four-year public college. If other education-related expenses are also considered, the average total budget at a two-year public college is 75 percent of the average total budget at a four-year public college.
- Average out-of-state tuition and fees at public four-year colleges are 71 percent of average private four-year tuition and fees. But adding room and board, the cost of a year for an out-of-state student at a public four-year college is 77 percent of the average tuition, fees, room, and board at a private four-year college. The average total out-of-state budget at four-year public colleges is 79 percent of the average private four-year college budget.

Also important:

Most student aid funds, including Pell Grants, Stafford Loans, and campus-based aid, can be used to cover all education-related expenses, including books, supplies, transportation, and personal expenses, in addition to tuition, fees, room, and board. However, federal tax credits and deductions are limited to the amount students or families pay for tuition and fees.

Limitations of the Data Collection

Precise data are available on federal student aid, but this is not the case for all of the funding sources on which we report. Data on institutional grant aid awarded to students are particularly lacking. We rely primarily on data from the *Annual Survey of Colleges*, but have used all of the information available to us to arrive at the best possible estimates. However, these figures should be recognized as approximations. Data on grants from private sources and employers are based on the *National Postsecondary Student Aid Study (NPSAS)* and are imputed for years in which the survey was not conducted. This year, with the assistance of the National Scholarship Providers Association, we surveyed private scholarship donors in order to update the NPSAS data. The volume of borrowing through private loan programs is based on a survey of major lenders and is also a best approximation.

Basic program statistics for all years in our database back to 1963-64 are available on the College Board Web site. As always, we welcome reader comments and suggestions on ways to broaden the coverage and increase the usefulness of the *Trends in Student Aid* data series. Visit the College Board Web site at www.collegeboard.com/trends for an electronic version of this document and the companion report, *Trends in College Pricing 2006*.

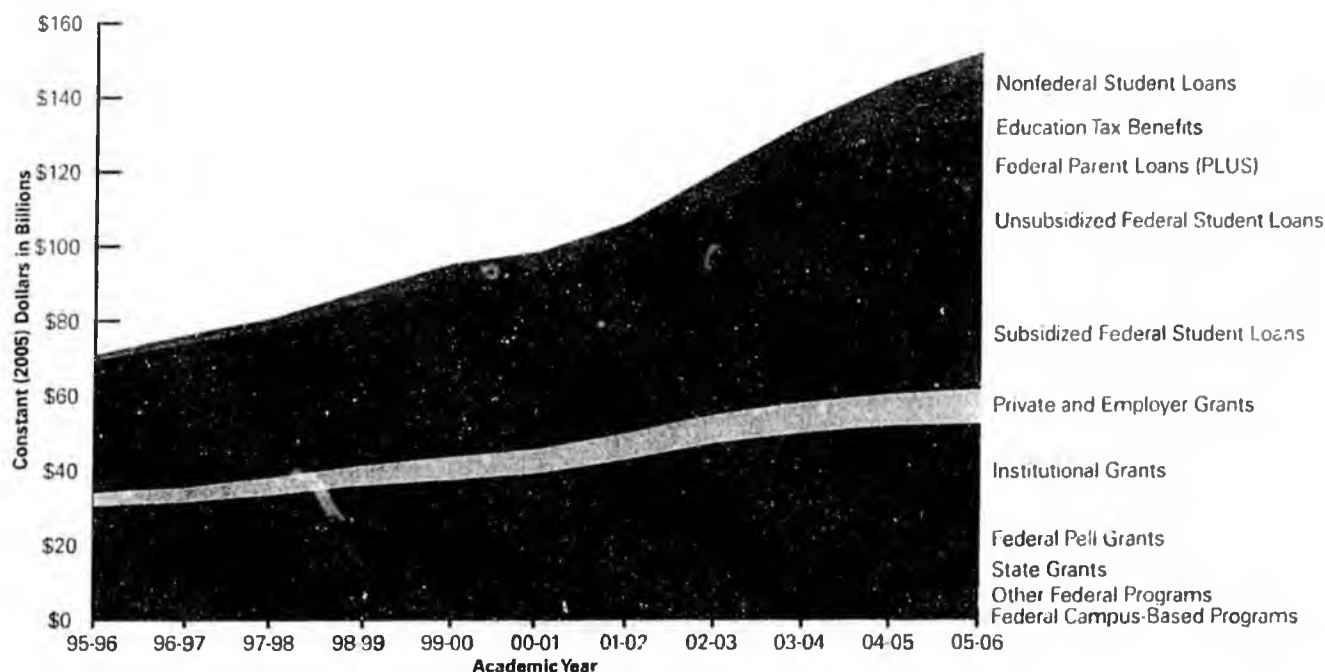
Acknowledgments

Sandy Baum, senior policy analyst at the College Board, and consultant Kathleen Payea collected the data and authored this report with immeasurable assistance from research consultant Patricia Steele. This publication would not have been possible without the contributions of consultant David Brodigan and the cooperation and support of many people at the College Board, including: Kathleen Little and Anne Sturtevant of the Enrollment division; Tom Rudin, Sally Mitchell, and Micah Haskell-Hoehl of the Washington Office; Erin Thomas, Caitlin McClure, Anne Sussman, Joe Brown, and the staff of the Creative Services division; and Sandra Riley of the Public Affairs division.

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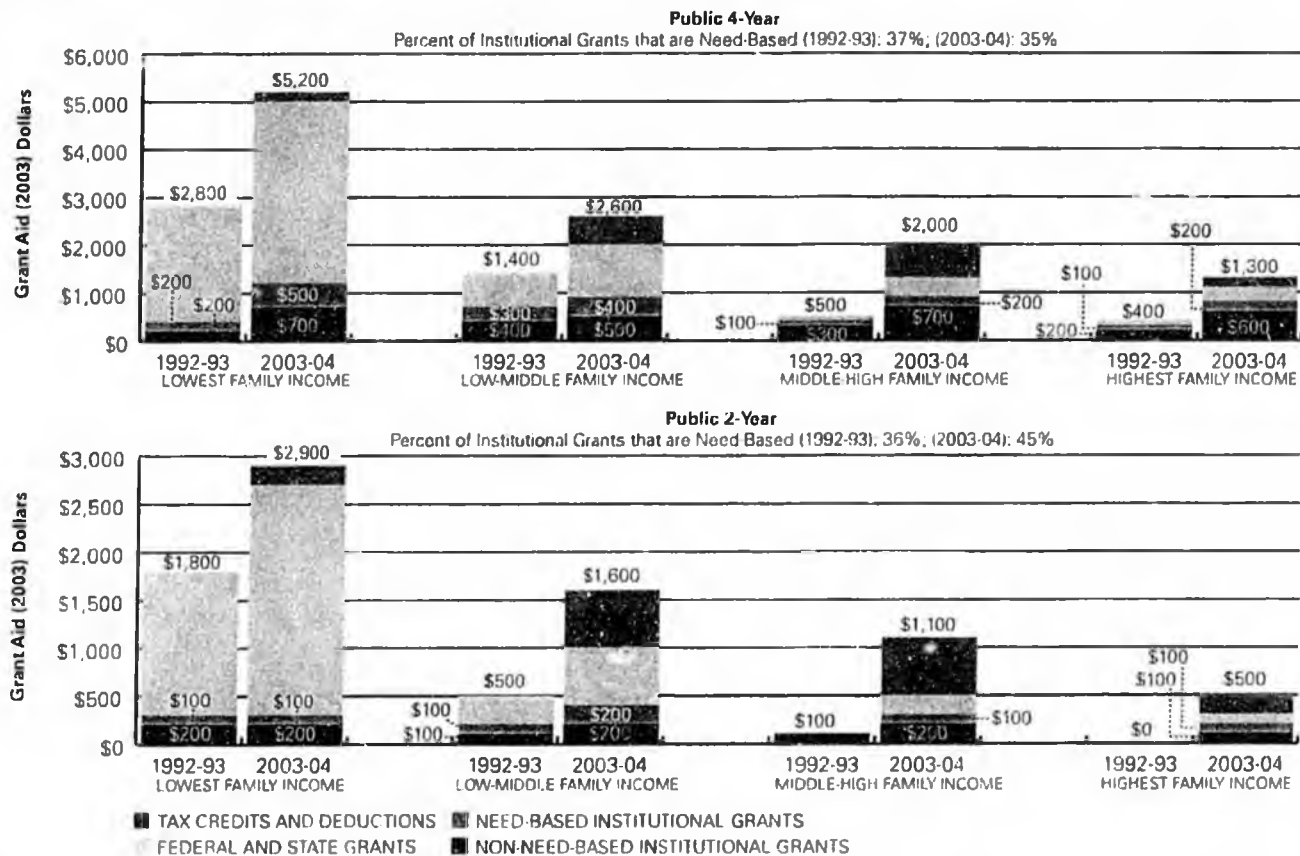
Over the decade from 1995-96 to 2005-06, subsidized federal student loans declined from 29 to 19 percent of the funds students used to finance college education, while alternative private loans grew from an insignificant level to 11 percent of total funds. The total amount of funding represented in Figure 1 more than doubled in inflation-adjusted dollars over the decade.

Figure 1: Ten-Year Trend in Funds Used to Finance Postsecondary Education Expenses, 1995-96 to 2005-06



Institutional Grants: Public Institutions

Figure 12b: Average Non-Need-Based and Need-Based Institutional Grants and Average Federal Plus State Grants Per Full-Time Dependent Student at Public Institutions by Family Income Level in Constant (2003) Dollars, 1992-93 and 2003-04



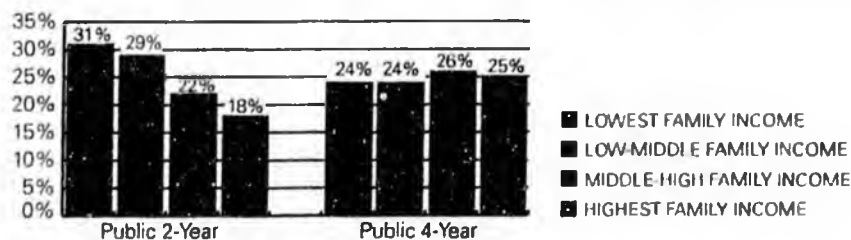
Note: Based on full-time full-year dependent students attending only one institution in the specified academic year. Income ranges in 2003-04 are: less than \$35,000; \$35,000 to \$62,999; \$63,000 to \$94,999; and \$95,000 and higher. Income ranges in 1992-93 are comparable in 2003 dollars. Detailed data for Figure 12b are available at collegeboard.com/trends. Note that the scales in these graphics differ.

Source: NPSAS: 1993 and 2004, Undergraduates; calculations by authors.

The bottom two blue sections of the bars show average dollars per student in institutional grant aid (non-need-based and need based). The upper sections of the bars show average dollars per student in federal and state grants, and tax credits and deductions (in 2003-04). The numbers at the top of the bars show the total average grant dollars per student.

- Less than half of the institutional grant aid awarded to students at public two-year and four-year institutions is distributed on the basis of need.
- The percentage of institutional aid that is need-based declined from 37 to 35 percent at public four-year colleges between 1992-93 and 2003-04. At two-year public colleges, institutional aid is relatively small, but the percentage that is based on need increased over this time period, from 35 to 45 percent.
- Federal and state governments provide by far the largest share of grant aid to low-income students at public two-year and four-year institutions.

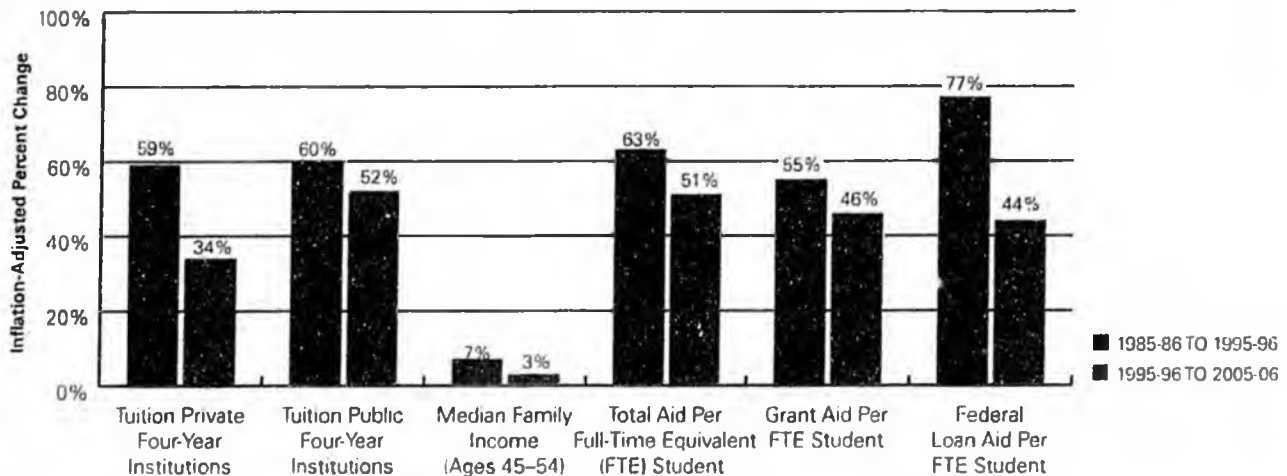
Income Distribution of Families Within Public Two-Year and Four-Year Institutions, 2003-04



Note: Percents may not sum to 100 percent due to rounding.

Growth in Tuition and Fees, Income, and Aid

Figure 13: Inflation-Adjusted Changes in Tuition and Fees, Family Income, and Student Aid, 1985-86 to 1995-96 and 1995-96 to 2005-06



Note: Loan aid includes federal loans only, not private nonfederal loans.

Between 1995-96 and 2005-06, grant aid per student increased by 46 percent in constant 2005 dollars, but the extra dollars covered an average of only 26 percent of the \$5,289 increase in private college tuition and fees, and an average of 74 percent of the \$1,881 increase in average public four-year college tuition and fees.

- Both grant aid per student and loan aid per student grew less rapidly between 1995-96 and 2005-06 than over the previous decade. Growth in total aid per student also slowed, despite the implementation of the federal education tax credits and deductions.
- Slow growth in family incomes during a period of rapid escalation in college prices has increased reliance on grants and loans to finance higher education.

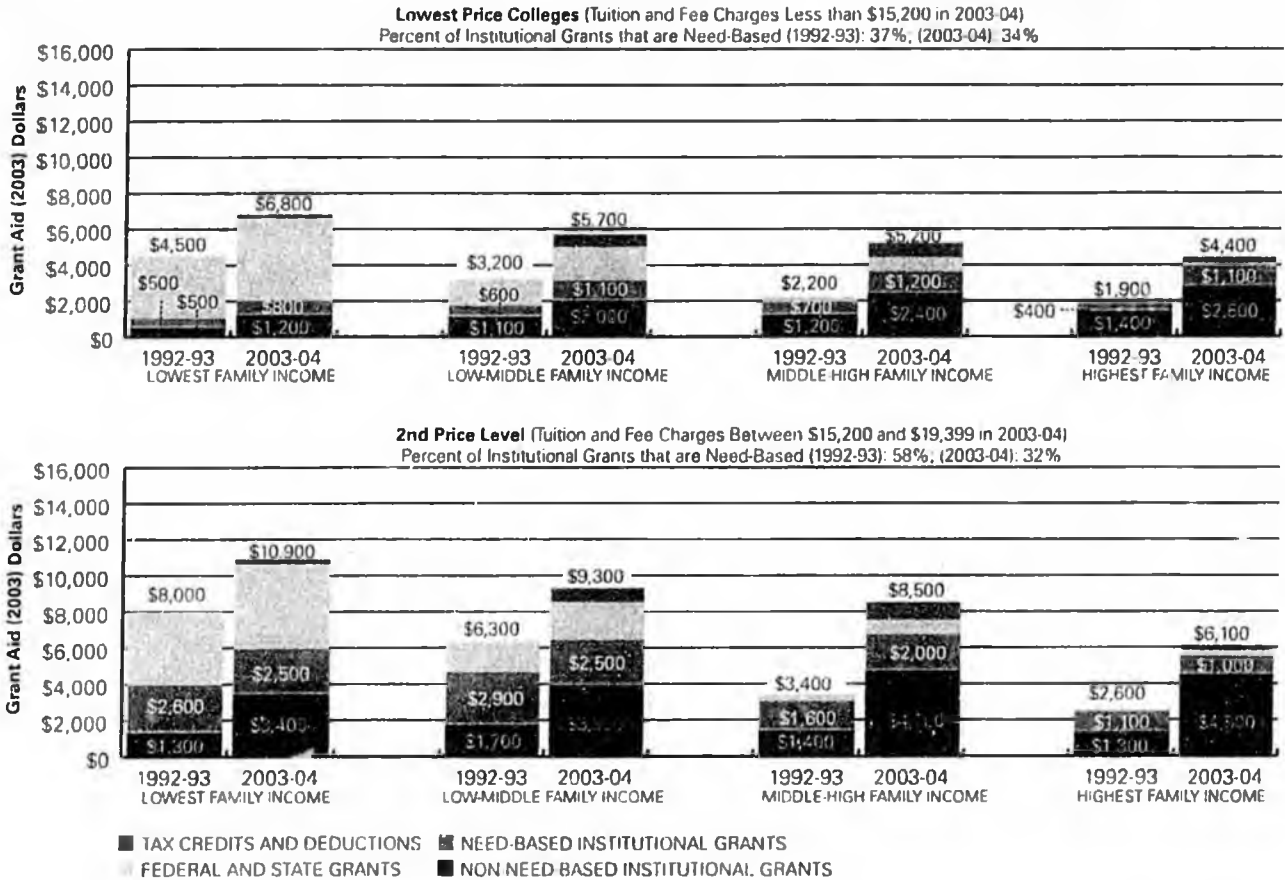
	Private Four-Year Tuition and Fees	Public Four-Year Tuition and Fees	Median Family Income (Ages 45-54)	Total Aid Per FTE Student	Grant Aid Per FTE Student	Federal Loan Aid Per FTE Student
(in constant 2005 dollars)						
1985-86	\$9,853	\$2,259	\$65,996	\$4,108	\$1,958	\$2,016
1995-96	\$15,691	\$3,611	\$70,552	\$6,700	\$3,034	\$3,572
2005-06	\$20,980	\$5,492	\$72,881	\$10,113	\$4,433	\$5,144

Also important

In addition to the small increases in median family income shown in Figure 13, increases in inequality in the distribution of income over these two decades affected college affordability. The share of total income accruing to the 40 percent of families with the lowest incomes declined from 15.8 percent in 1985 to 14.5 percent in 1995, and 13.7 percent in 2003. The share of total income accruing to the 5 percent of families with the highest incomes increased from 16.1 percent in 1985, to 20 percent in 1995, and 20.5 percent in 2005. (*Statistical Abstract of the United States*, 2006, Table 280)

Institutional Grants: Private Institutions

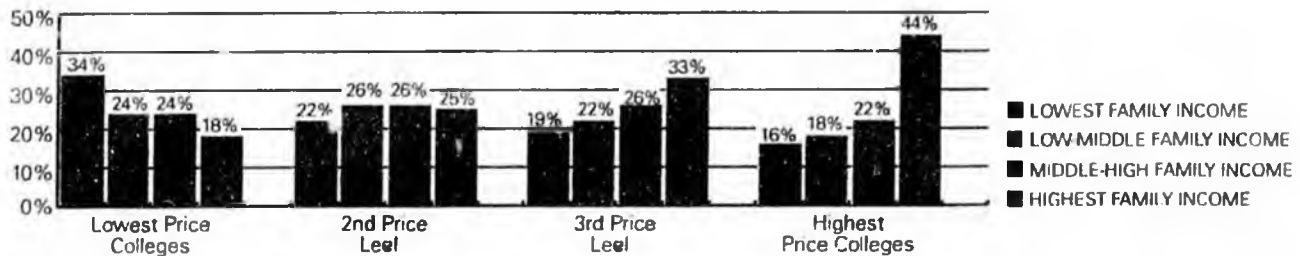
Figure 12a: Average Non-Need-Based and Need-Based Institutional Grants and Average Federal Plus State Grants Per Full-Time Dependent Student at Private Four-Year Colleges and Universities by Family Income Level and Tuition and Fee Charges in Constant (2003) Dollars, 1992-93 and 2003-04



Low-price private colleges and universities rely more on non-need-based aid, distributed without regard to financial circumstances, than do higher-priced private institutions.

- Institutional aid is defined here as non-need-based if it is distributed without regard to financial circumstances. A significant portion of these non-need-based aid dollars go to students with documented financial need. Need-based aid is sometimes defined as any aid that goes toward filling the gap between ability to pay and cost of attendance.

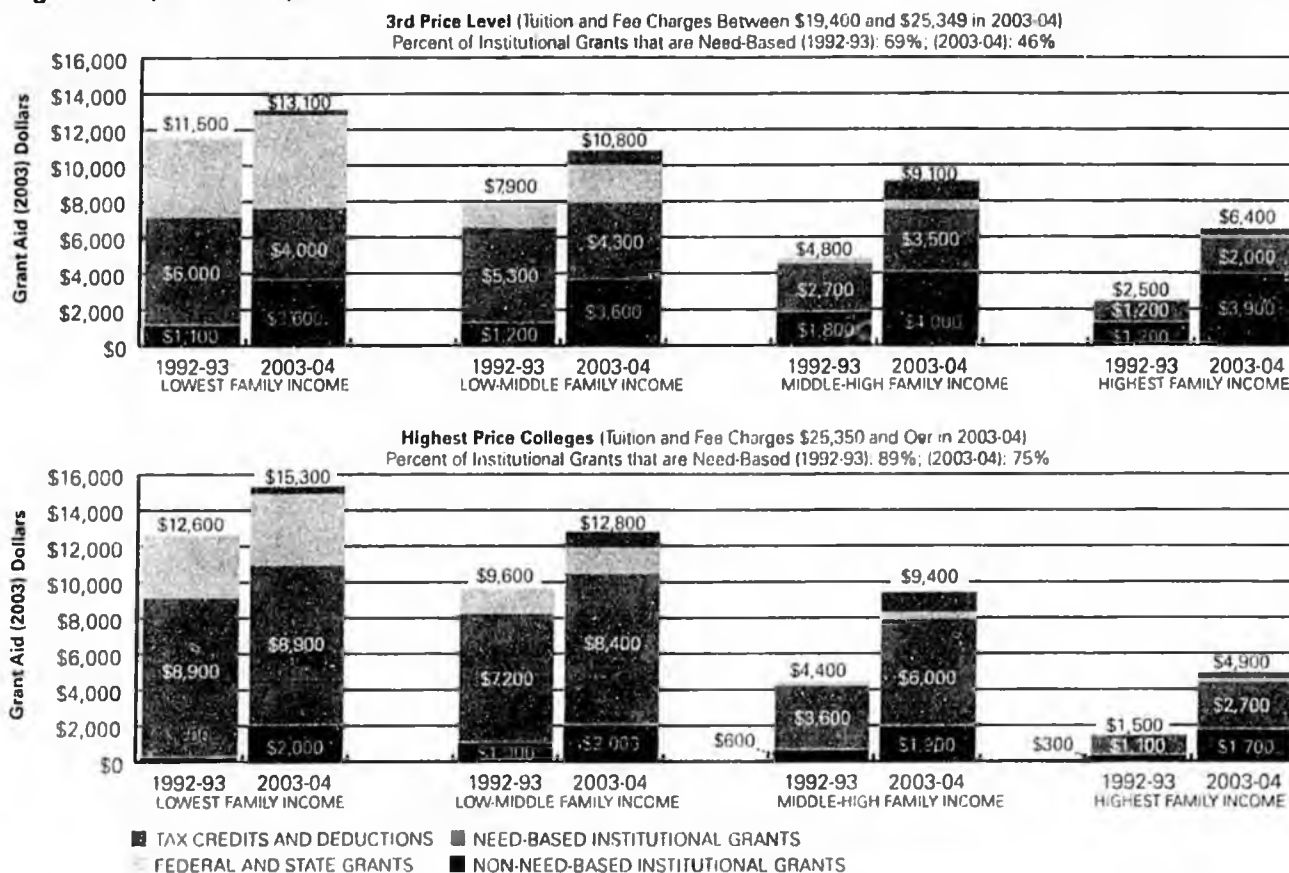
Income Distribution of Families Within Private Colleges Grouped by Tuition and Fee Charges, 2003-04



Note: Percents may not sum to 100 percent due to rounding.

Institutional Grants: Private Institutions

Figure 12a (continued)



Note: Based on full-time full-year dependent students attending only one institution in the specified academic year. Income ranges in 2003-04 are: less than \$35,000; \$35,000 to \$62,999; \$63,000 to \$94,999; and \$95,000 and higher. Income ranges in 1992-93 are comparable in 2003 dollars. Detailed data for Figure 12a are available at collegeboard.com/trends.

Source: NPSAS: 1993 and 2004, Undergraduates; calculations by authors.

The bottom two blue sections of the bars show average dollars per student in institutional grant aid (non-need-based and need-based). The upper sections of the bars show average dollars per student in federal and state grants, and tax credits and deductions (in 2003-04). The numbers at the top of the bars show the total average grant dollars per student.

- At all private colleges except the lowest price institutions, low-income students receive more institutional grant aid than higher-income students, but the gap has declined over time.
- The difference between the grant aid received by low-income and high-income students is largest at the highest price institutions, where low-income students are least likely to enroll, and smallest at the lowest price institutions, which have relatively high enrollments of low-income students.
- The percentage of institutional aid that is need-based declined from 37 percent to 34 percent at the lowest price private colleges between 1992-93 and 2003-04. Need-based aid declined from 58 percent to 32 percent in lower-middle-price (2nd price level) colleges, from 69 percent to 46 percent at higher-middle-price (3rd price level) colleges, and from 89 percent to 75 percent at the highest price private colleges. However, at the highest price colleges, the proportion of institutional aid that is need-based increased from 70 percent in 1999-2000 (not shown) to 75 percent in 2003-04.

Behind the Numbers: Factors that Can Influence Debt Levels

There are many reasons why average debt levels may differ from state to state and from school to school. Of course, state and institutional financial aid policies have a great deal to do with the variation. However, each state is also unique in its population size, demographics, resources and priorities, as is each school. The factors that influence debt levels may include:

- The availability of state grant aid to students with financial need.
- How loans are treated in financial aid packages.
- The income profile of the student population.
- Tuition and fee levels.
- Discounts or "institutional aid" offered by colleges, and the degree to which that aid is targeted to students with financial need.
- The location of colleges (which affects students' ability to live with parents or relatives while attending school).
- The availability of low-cost community colleges, and the policies related to transferring to four-year schools.
- The state and local cost of living (e.g., food, rent, transportation).
- Wage levels for students working part-time and summer jobs.
- How and when financial aid options are communicated to students.
- How long it takes for students to get all the classes they need and complete a degree (extra semesters means added costs, more debt, and less income).


Class of 2005: Average Student Debt by State*						
State	Overall		Public 4-Year		Private 4-Year	
	Overall Average Debt 2005	Rank Among States 2005 (Overall)	Average Debt Public 2005	Rank Among States 2005 (Public)	Average Debt Private 2005	Rank Among States 2005 (Private)
AK	16011	44	15184	42	31494	2
AL	17599	25	17337	18	18683	33
AR	17004	31	17058	19	16844	44
AZ	17678	24	16564	23	32504	1
CA	15203	46	12542	49	21596	14
CO	16346	39	15840	34	20201	26
CT	19440	12	15787	37	21769	12
DC	20846	n/a	16270	n/a	21211	n/a
DE	14728	48	15200	41	13728	48
FL	18303	20	16402	26	21282	16
GA	16131	41	15292	40	18235	36
HI	14290	49	12841	48	16915	43
IA	22727	2	23198	1	22184	11
ID	19299	14	18779	11	24310	4
IL	17089	29	15850	33	18431	35
IN	19518	10	18614	13	21679	13
KS	16753	32	16448	25	18010	39

Average Student Debt by State (continued)						
State	Overall		Public 4-Year		Private 4-Year	
	Overall Average Debt 2005	Rank Among States 2005 (Overall)	Average Debt Public 2005	Rank Among States 2005 (Public)	Average Debt Private 2005	Rank Among States 2005 (Private)
KY	15861	45	16224	28	14661	47
LA	19024	17	18751	12	20025	27
MA	18169	21	14326	46	19953	28
MD	14822	47	14154	47	16533	46
ME	20239	7	19185	7	22284	9
MI	18942	18	18526	14	21020	19
MN	20560	6	18393	16	23208	7
MO	16505	37	15643	38	18181	37
MS	16065	42	15431	39	17853	41
MT	17314	26	16539	24	23937	5
NC	16661	35	16010	32	18069	38
ND	22682	3	22839	2	20380	24
NE	17792	22	16850	20	19546	31
NH	22793	1	21469	3	24672	3
NJ	16393	38	14658	45	21280	17
NM	16137	40	15815	35	18921	32
NV	16687	34	16662	22	18000	40
NY	18795	19	15015	43	21138	18
OH	19259	15	18854	10	19938	29
OK	17063	30	15813	36	23397	6
OR	19420	13	19050	8	20295	25
PA	20775	5	20113	4	21493	15
RI	20798	4	16200	29	22216	10
SC	17719	23	18228	17	16644	45
SD	19724	8	19723	5	19729	30
TN	19165	16	19568	6	18641	34
TX	17176	28	16400	27	20529	22
UT	11709	50	11067	50	13309	49
VA	16558	36	16124	31	17817	42
VT	19482	11	18875	9	20564	21
WA	19565	9	18399	15	22365	8
WI	17224	27	16154	30	20987	20
WV	16041	43	14924	44	20475	23
WY	16741	33	16741	21	n/a	n/a

* These statewide debt averages, calculated by the Project on Student Debt (www.projectionstudentdebt.org), include only campuses that reported debt amounts for 2005 graduates to Thomson Peterson's Undergraduate Financial Aid and Undergraduate Databases, © 2006 Thomson Peterson's, a part of Thomson Learning Inc.

About the data

The student debt data used in this analysis are as reported by institutions in response to a questionnaire from the Thomson Peterson's Undergraduate Financial Aid and Undergraduate Databases. Through this proprietary database, the proportion of

A black and white photograph showing three young men in an outdoor setting. They are gathered around a mobile device, possibly a smartphone or a small tablet, which one of them is holding. They appear to be looking at the screen with interest. The background is dark and out of focus, suggesting a wooded area or a park. The overall mood is collaborative and focused.

Trends in Higher Education Series

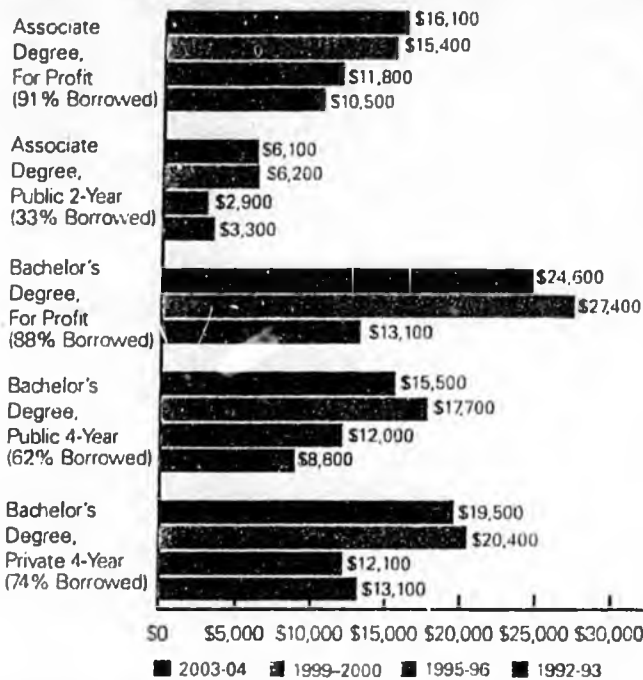
2006

Trends in Student Aid

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Student Debt Levels

Figure 4a: Median Debt Levels of Undergraduate Degree Recipients Who Borrowed, by Degree and Institution Type in Constant (2003) Dollars, 1992-93 to 2003-04

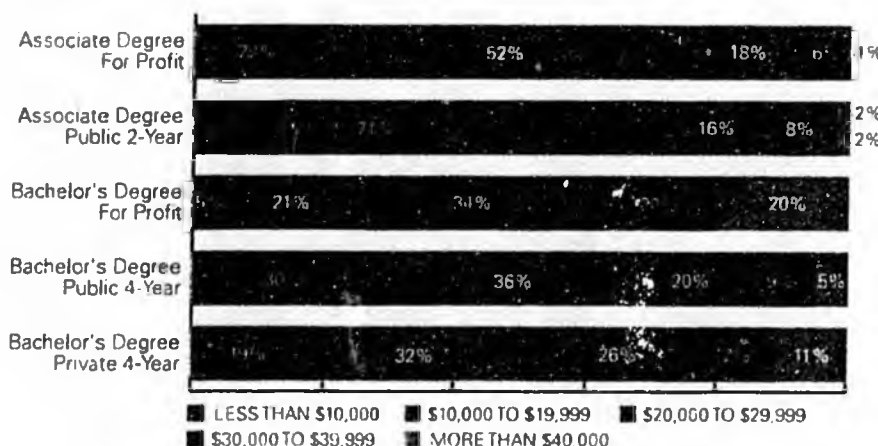


The median total debt levels of degree recipients increased sharply at all types of institutions between 1995-96 and 1999-2000. Between 1999-2000 and 2003-04, median debt levels declined in inflation-adjusted dollars for all graduates except those earning associate degrees from for-profit institutions.

- 2003-04 bachelor's degree recipients who borrowed to finance their education accumulated median debt levels of \$24,600 in for-profit institutions, \$19,500 in private nonprofit colleges, and \$15,500 in public institutions. Overall the median debt level of bachelor's degree recipients was \$19,300.

Note: Student loans from both federal and nonfederal sources are included. PLUS loans and credit card debt are not included. For 1992-93 and 1995-96, the NPSAS variable on which these figures are based includes loans from friends and family. Sample size is too small to report on for bachelor's degrees in for-profit institutions in 1995-96. The percent who borrowed is based on 2003-04 data.
Source: NPSAS: 1993, 1996, 2000, and 2004, Undergraduates; calculations by authors.

Figure 4b: Distribution of Total Debt Levels of Degree Recipients, 2003-04



There is wide variation in the debt levels of borrowers who earn degrees, even within institution types.

- Debt levels as high as \$30,000 are rare among associate degree recipients, but 40 percent of students who borrowed and received bachelor's degrees from for-profit institutions in 2003-04 graduated with more than \$30,000 in debt. Twenty-three percent of graduates of private nonprofit colleges and 14 percent of graduates of public four-year colleges who borrowed had debt of at least \$30,000.

Note: Student loans from both federal and nonfederal sources are included. PLUS loans and credit card debt are not included.
Source: NPSAS: 2004, Undergraduates; calculations by authors.

Also important:

- About a quarter of student borrowers leave school without completing their programs. These students, who do not enjoy the same financial benefit from education as those who do graduate, are not included in this analysis. (Lawrence Gladieux and Laura Perna, *Borrowers Who Drop Out*, National Center for Public Policy and Higher Education, 2006)
- The debt reported here does not include credit card debt. About a quarter of undergraduates report using credit cards to help finance their education. (Nellie Mae, *Undergraduate Students and Credit Cards in 2004, 2005*) Among dependent undergraduate students with credit cards in their own names, 41 percent carry a balance with a median amount owed of about \$1,000. (National Center for Education Statistics, *Profile of Undergraduates in U.S. Postsecondary Education Institutions*, NCES 2006-184, Table 4.3)

**Alaska's 100 Largest Private
Employers in 2005**

Rank/Firm Name	Employment
1 Providence Health System	3,685
2 Carrs/Safeway	3,086
3 Fred Meyer	2,795
4 Wal-Mart/Sam's Club	2,694
5 Trident Seafoods	1,650
6 Alaska Airlines	1,515
7 ASRC Energy Services	1,506
8 Yukon-Kuskokwim Health Corporation	1,372
9 NANA Management Services	1,358
10 Banner Health (includes Fairbanks Memorial Hospital)	1,346
11 BP	1,341
12 GCI Communications	1,298
13 Alaska Native Tribal Health Consortium ²	1,200
14 VECO	1,157
15 Southcentral Foundation ³	1,098
16 FedEx	1,084
17 Wells Fargo	1,018
18 Alaska Communications Systems (ACS)	949
19 ConocoPhillips	936
20 Spenard Builders Supply	923
21 Alaska USA Federal Credit Union	858
22 Alyeska Pipeline Service Company	842
23 Alaska Regional Hospital	827
24 UniSea	819
25 SouthEast Alaska Regional Health Consortium (SEARHC)	804
26 McDonald's Restaurants of Alaska	790
27 First National Bank Alaska	736
28 Costco	713
29 Icicle Seafoods	688
30 Doyon/Universal Ogden, Joint Venture	670
31 Westward Seafoods	665
32 Alaska Commercial Company	656
33 Home Depot	641
34 The Alaska Club	634 ¹
35 Job Ready	634 ¹
36 Hope Community Resources	634 ¹
37 ASRC Energy Services Pipeline, Power & Communications	617
38 Northwest Airlines	568
39 Ocean Beauty Seafoods	567
40 Peter Pan Seafoods	562
41 Mat-Su Regional Medical Center	561
42 Lowe's	560
43 Tanana Chiefs Conference	559
44 Maniilaq Association	557
45 ARAMARK	549
46 Anchorage Daily News	531
47 Immediate Care	528

48	Horizon Lines of Alaska	520
49	Alaska Hotel Properties (Princess Hotels)	515
50	Alyeska Resort (includes O'Malley's on the Green)	503
51	Peak Oilfield Services Company	471
52	Norton Sound Health Corporation	458 ¹
53	PenAir	458 ¹
54	Sears	457
55	Chugach Development Corporation	451
56	Schlumberger Technologies	442 ¹
57	Laidlaw Transit Services	442 ¹
58	UPS	437
59	Alaska Consumer Direct Personal Care ⁴	436
60	Fairbanks Gold Mining Company (Fort Knox)	423
61	Pizza Hut	413
62	Litlita Motors	408
63	Westmark Hotels	401 ¹
64	Denali Foods (Taco Bell)	401 ¹
65	Era Aviation	396
66	Assets	391
67	Carlisle Enterprises	382
68	Teck Cominco Alaska (Red Dog mine)	381 ¹
69	QAP (formerly Quality Asphalt Paving)	381 ¹
70	Tesoro Northstore Company	367
71	Chugach Electric Association	366
72	Royal Highway Tours (Princess Tours)	359
73	Nabors Alaska Drilling	357
74	Ketchikan General Hospital	350
75	North Pacific Seafoods	347 ¹
76	Bristol Bay Area Health Corporation	347 ¹
77	Salvation Army-Alaska	345
78	Hotel Captain Cook	340
79	SMG of Alaska (Sullivan Arena, others)	339
80	Access Alaska	338
81	Udelhoven Oilfield System Services	335
82	Hilton Anchorage	334
83	NorQuest Seafoods	329
84	Nordstrom	322
85	Matanuska Telephone Association	318
86	ICPenney	316
87	Frontier Community Services	314
88	Rural Alaska Community Action Program	313
89	Union Oil of California (Unocal) (now Chevron)	311
90	Alaska Sales and Service	309
91	Gottschalks	307
92	The Arc of Anchorage	306
93	Swissport	299
94	Holiday Stationstores	293
95	Anchorage Cold Storage (Odom Corp.)	286
96	Doyon Drilling	282
97	Harpoon Construction Group	281 ¹
98	Northrim Bank	281 ¹
99	Crowley Marine	271 ¹

Read complete *Alaska Economic Trends* article

1/ When two or more employers had the same number of employees, they were ranked by unrounded employment.

2/ excludes its 597 federal employees

3/ excludes its 111 federal employees

4/ formerly Nightingale Nursing Services

Alaska's Hot Jobs 2004 to 2014

Occupations	Employment		Change		Total Openings	Wage Quartile
	2004	2014	Numeric	Percent		
Bachelor's degree or above						
General and Operations Managers	7,757	9,254	1,497	19.3%	2,960	\$\$\$\$
Postsecondary Teachers	2,890	3,566	676	23.4%	1,330	\$\$\$\$
Accountants and Auditors	1,702	2,028	326	19.2%	650	\$\$\$\$
Construction Managers	1,681	2,066	385	22.9%	690	\$\$\$\$
Financial Managers	1,542	1,886	344	22.3%	570	\$\$\$\$
Administrative Services Managers	1,523	1,755	232	15.2%	530	\$\$\$\$
Chief Executives	1,386	1,716	330	23.8%	590	\$\$\$\$
Property, Real Estate, and Community Association Managers	1,169	1,342	173	14.8%	390	\$\$\$\$
Child, Family, and School Social Workers	1,092	1,349	257	23.5%	440	\$\$\$
Civil Engineers	968	1,232	264	27.3%	420	\$\$\$\$
Instructional Coordinators	860	1,001	141	16.4%	270	\$\$\$
Sales Managers	823	1,029	206	25.0%	360	\$\$\$\$
Physicians and Surgeons	796	925	129	16.2%	240	\$\$\$\$
Computer Systems Analysts	793	928	135	17.0%	230	\$\$\$\$
Social and Community Service Managers	756	964	208	27.5%	350	\$\$\$
Educational, Vocational, and School Counselors	665	787	122	18.4%	270	\$\$\$
Environmental Scientists and Specialists, Including Health	645	760	115	17.8%	230	\$\$\$\$
Medical and Health Services Managers	623	742	119	19.1%	240	\$\$\$\$
Special Education Teachers, Preschool, Kindergarten, and Elementary School	602	711	109	18.1%	250	\$\$\$
Engineering Managers	548	669	121	22.1%	230	\$\$\$\$
Computer and Information Systems Managers	540	662	122	22.6%	220	\$\$\$\$
Surveyors	425	558	133	31.3%	280	\$\$\$\$
Network and Computer Systems Administrators	412	550	138	33.5%	180	\$\$\$\$
Substance Abuse and Behavioral Disorder Counselors	392	484	92	23.5%	180	\$\$\$
Marketing Managers	390	478	88	22.6%	160	\$\$\$\$
Loan Officers	389	467	78	20.1%	140	\$\$\$\$
Mechanical Engineers	388	523	135	34.8%	240	\$\$\$\$
Pharmacists	363	457	94	25.9%	160	\$\$\$\$
Physical Therapists	309	385	76	24.6%	110	\$\$\$\$
Securities, Commodities, and Financial Services Sales Agents	290	460	170	58.6%	200	\$\$\$\$
Mental Health Counselors	256	338	82	32.0%	140	\$\$\$

Alaska's Hot Jobs 2004 to 2014

Occupations	Employment		Change		Total Openings	Wage Quartile
	2004	2014	Numeric	Percent		
Associate degree or vocational training						
Registered Nurses	4,902	6,432	1,530	31.2%	2,560	\$\$\$\$
Automotive Service Technicians and Mechanics	1,620	2,101	481	29.7%	910	\$\$\$
Real Estate Sales Agents	1,281	1,481	200	15.6%	450	\$\$\$
Computer Support Specialists	955	1,112	157	16.4%	270	\$\$\$
Mobile Heavy Equipment Mechanics, Except Engines	842	1,019	177	21.0%	360	\$\$\$\$
Commercial Pilots	593	760	167	28.2%	330	\$\$\$\$
Civil Engineering Technicians	342	425	83	24.3%	160	\$\$\$\$
Radiologic Technologists and Technicians	328	412	84	25.6%	150	\$\$\$\$
Emergency Medical Technicians and Paramedics	230	317	87	37.8%	110	\$\$\$
Work experience in a related occupation						
First-Line Supervisors/Managers of Construction Trades and Extraction Workers	2,013	2,467	454	22.6%	800	\$\$\$\$
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	1,089	1,285	196	18.0%	470	\$\$\$\$
First-Line Supervisors/Managers of Personal Service Workers	467	579	112	24.0%	230	\$\$\$
Cost Estimators	398	514	116	29.2%	210	\$\$\$\$
Long-term on-the-job training						
Plumbers, Pipefitters, and Steamfitters	1,492	1,716	224	15.0%	570	\$\$\$\$
Welders, Cutters, Solderers, and Brazers	628	734	106	16.9%	280	\$\$\$
Water and Liquid Waste Treatment Plant and System Operators	589	695	106	18.0%	310	\$\$\$
Automotive Body and Related Repairers	292	370	78	26.7%	140	\$\$\$
Moderate-term on-the-job training						
Maintenance and Repair Workers, General	3,826	4,566	740	19.3%	1,480	\$\$\$
Construction Laborers	3,605	4,232	627	17.4%	1,110	\$\$\$
Operating Engineers and Other Construction Equipment Operators	2,741	3,561	820	29.9%	1,530	\$\$\$
Payroll and Timekeeping Clerks	638	761	123	19.3%	290	\$\$\$
Roustabouts, Oil and Gas	451	535	84	18.6%	210	\$\$\$
Short-term on-the-job training						
Production, Planning, and Expediting Clerks	680	813	133	19.6%	300	\$\$\$

Earnings: \$\$\$ = \$18.20 - \$25.82 hourly (\$37,850 - \$53,700 annually), \$\$\$\$ = More than \$25.82 hourly (\$53,700 annually)
 Occupations with yellow background and bolded are included in the Focus Jobs list.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

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















Health Care - In-Demand Occupations

Career Voyages exists to help you find out which occupations are in-demand. To learn more about how these occupations were selected, click here. (Source: U.S. Bureau of Labor Statistics) ¹








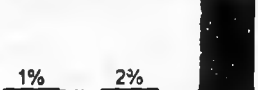















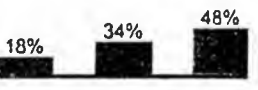







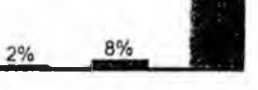







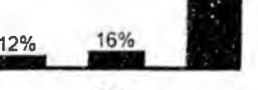







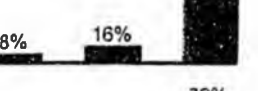







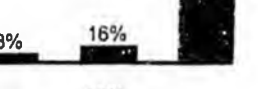




When you first come to this page, the following Health Care-related occupations are sorted by Projected Need for Employees. Notice that, generally speaking, the more education you have, the higher your wage.

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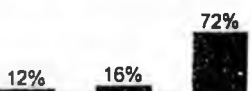







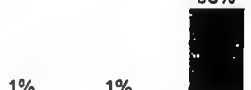



















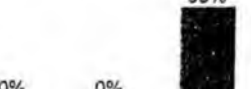



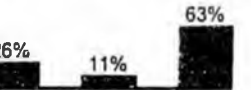











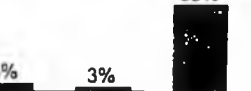



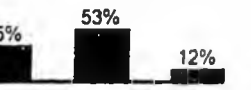
Health Care Related Occupations and Their Projected 10 Year Growth

Sort by Occupation Title (Sorted initially by Projected Need)	Sort by Projected Need for Employees (2004 - 2014)	Sort by Projected Growth	Sort by (Median) 2004 Hourly Wage Range ²			Sort by (College degree) Education & Training ³		
			Bottom 10%	Median	Top 10%	High School or less	Some College	College degree or higher
Registered Nurses Description State Report  	1203		\$18	\$26	\$37	2%	40%	58%
Nursing Aides, Orderlies, and Attendants Description State Report  	516		\$7	\$10	\$14	60%	33%	7%
Home Health Aides Description State Report  	431		\$7	\$9	\$13	60%	33%	7%
Personal and Home Care Aides Description State Report  	400		\$6	\$8	\$11	60%	30%	10%
Licensed Practical and Licensed Vocational Nurses Description State Report  	282		\$12	\$17	\$23	23%	71%	6%
Medical Assistants Description State Report  	273		\$9	\$12	\$17	35%	53%	12%
Physicians and Surgeons Description State Report (Video Not Available)	212		\$21	\$67	>70	1%	2%	97%
Dental Assistants Description State Report  	189		\$9	\$14	\$20	33%	57%	10%
Medical Secretaries Description State Report  	135		\$9	\$13	\$19	36%	46%	18%
Pharmacy Technicians Description State Report  	107		\$8	\$12	\$17	32%	53%	15%

Medical and Health Services

Managers	 	105	 21-35%	\$20	\$33	\$57	 13% 27% 60%
Description State Report	View View						
Pharmacists	 	101	 21-35%	\$30	\$42	\$54	 1% 2% 97%
Description State Report	View View						
Dental Hygienists	 	82	 36+%	\$18	\$29	\$41	 4% 66% 30%
Description State Report	View View						
Medical and Clinical Laboratory Technicians	 	76	 21-35%	\$10	\$15	\$23	 18% 34% 48%
Description State Report	View View						
Radiologic Technologists and Technicians	 	76	 21-35%	\$15	\$22	\$30	 9% 68% 23%
Description State Report	View View						
Medical and Clinical Laboratory Technologists	 	74	 21-35%	\$16	\$22	\$31	 18% 34% 48%
Description State Report	View View						
Emergency Medical Technicians and Paramedics	 	74	 21-35%	\$8	\$12	\$21	 18% 65% 17%
Description State Report	View View						
Physical Therapists	 	72	 36+%	\$21	\$30	\$43	 2% 8% 90%
Description State Report	View View						
Medical Records and Health Information Technicians	 	69	 21-35%	\$9	\$13	\$20	 43% 45% 12%
Description State Report	View View						
Rehabilitation Counselors	 	61	 21-35%	\$9	\$13	\$23	 12% 16% 72%
Description State Report	View View						
Respiratory Therapists	 	57	 21-35%	\$16	\$21	\$28	 4% 68% 28%
Description State Report	View View						
Mental Health and Substance Abuse Social Workers	 	51	 21-35%	\$11	\$17	\$26	 8% 16% 76%
Description State Report	View View						
Mental Health Counselors	 	48	 21-35%	\$10	\$16	\$27	 12% 16% 72%
Description State Report	View View						
Medical and Public Health Social Workers	 	48	 21-35%	\$12	\$20	\$29	 8% 16% 76%
Description State Report	View View						
Medical Transcriptionists	 	44	 21-35%	\$10	\$14	\$20	 35% 53% 12%
Description State Report	View View						

85%

Occupational Therapists	 	43		\$18	\$27	\$40	
Description State Report	View View						
Massage Therapists	 	42		\$7	\$16	\$33	
Description State Report	View View						
Physician Assistants	 	40		\$18	\$33	\$46	
Description State Report	View View						
Substance Abuse and Behavioral Disorder Counselors	 	39		\$10	\$16	\$25	
Description State Report	View View						
Dentists, General	 	39		\$30	\$59	>70	
Description State Report	View View						
Medical Scientists, Except Epidemiologists	 	37		\$16	\$29	\$54	
Description State Report	View View						
Physical Therapist Assistants	 	36		\$12	\$18	\$25	
Description State Report	View View						
Surgical Technologists	 	36		\$12	\$17	\$23	
Description State Report	View View						
Cardiovascular Technologists and Technicians	 	23		\$11	\$19	\$29	
Description State Report	View View						
Diagnostic Medical Sonographers	 	23		\$19	\$26	\$35	
Description State Report	View View						
Chiropractors	 	22		\$16	\$33	>70	
Description State Report	View View						
Dietitians and Nutritionists	 	22		\$14	\$21	\$31	
Description State Report	View View						
Physical Therapist Aides	 	22		\$7	\$10	\$16	
Description State Report	View View						
Pharmacy Aides	 	18		\$7	\$9	\$14	
Description State Report	View View						
Optometrists	 	16		\$21	\$42	>70	
Description State Report	View View						
Medical Equipment Preparers	 	16		\$8	\$12	\$17	
Description State Report	View View						

Dental Laboratory Technicians

[Description](#)

[State Report](#)



15



\$9 \$15 \$25



Occupational Health and Safety Specialists

[Description](#)

[State Report](#)



14



\$15 \$25 \$39



Occupational Therapist Assistants

[Description](#)

[State Report](#)



10



\$12 \$19 \$26



Psychiatric Technicians

[Description](#)

[State Report](#)

(Video Not Available)

10



\$9 \$13 \$21



(Source: Bureau of Labor Statistics 2004 wages and 2004-2014 projection series.)

For a complete list of health care occupations and to find more information on education requirements and salary ranges, please visit the U.S. Bureau of Labor Statistics Web page at <http://www.bls.gov/emp/home.htm>.

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State Report

Registered Nurses In Alaska

Occupation Report in: 

Description: Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Include advance practice nurses such as: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by RNs who have specialized formal, post-basic education and who function in highly autonomous and specialized roles.

Wages Comparison	2005		
	10%	Median	90%
United States	\$18.59	\$26.28	\$38.20
Alaska	\$22.19	\$28.54	\$38.46

Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey; Alaska Wage Information

Employment Trends	Employment		Change	Average annual job openings
	2004	2014		
United States	2,393,600	3,096,100	702,500	120,340
Alaska	4,900	6,430	1,530	260

Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections; Alaska Occupational Forecast

Click one of the buttons below to learn about the educational opportunities in Health Care.

Education & Training in Health Care

[Apprenticeship](#)
[Community Colleges](#)
[4-year Colleges](#)
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State Report

Physicians and Surgeons, All Other in Alaska

Occupation Report in:



Description: All physicians and surgeons not listed separately.

Wages Comparison	2005		
	10%	Median	90%
United States	\$21.56	\$68.98	\$70.01+
Alaska	\$59.81	\$70.01+	\$70.01+

Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey; Alaska Wage Information

Employment Trends	Employment		Change	Average annual job openings
	2004	2014		
United States	566,500	702,400	135,900	21,160
Alaska	800	930	130	20

Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections; Alaska Occupational Forecast

Note: Employment trends for Physicians and Surgeons, All Other are included in trends for Physicians and surgeons.

Click one of the buttons below to learn about the educational opportunities in Health Care.

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State Report

Pharmacists In Alaska

Occupation Report in: 

Description: Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.

Wages Comparison	2005		
	10%	Median	90%
United States	\$30.94	\$43.18	\$54.48
Alaska	\$35.45	\$47.70	\$57.08

Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey; Alaska Wage Information

Employment Trends	Employment		Change	Average annual job openings
	2004	2014		
United States	230,000	286,600	56,600	10,110
Alaska	360	460	100	20

Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections; Alaska Occupational Forecast

Click one of the buttons below to learn about the educational opportunities in Health Care.

Education & Training in Health Care

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[Community Colleges](#)
[4-year Colleges](#)
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State Report

Physical Therapists In Alaska

Occupation Report in: 

Description: Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.

Wages Comparison	2005		
	10%	Median	90%
United States	\$21.51	\$30.33	\$43.66
Alaska	\$23.81	\$31.94	\$50.94

Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey; Alaska Wage Information

Employment Trends	Employment		Change	Average annual job openings
	2004	2014		
United States	154,500	211,300	56,800	7,200
Alaska	310	390	80	10

Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections; Alaska Occupational Forecast

Click one of the buttons below to learn about the educational opportunities in Health Care.

Education & Training in Health Care

[Apprenticeship](#)
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[4-year Colleges](#)
[Other Options](#)



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Energy - In-Demand Occupations

Career Voyages exists to help you find out which occupations are in-demand. To learn more about how these occupations were selected, click here. (Source: U.S. Bureau of Labor Statistics) ¹.

When you first come to this page, the following Energy-related occupations are sorted by Projected Need for Employees. Notice that, generally speaking, the more education you have, the higher your wage.

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Energy Related Occupations and Their Projected 10 Year Growth

Sort by Occupation Title (Sorted initially by Projected Need)	Sort by Projected Need for Employees (2004 - 2014)	Sort by Projected Growth	Sort by (Median) 2004 Hourly Wage Range ²			Sort by (College degree) Education & Training ³		
			Bottom 10%	Median	Top 10%	High School or less	Some College	College degree or higher
Laborers and Freight, Stock, and Material Movers, Hand Description State Report	1,042,000	10-20%	\$7	\$10	\$16	71%	23%	6%
Truck Drivers, Heavy and Tractor-Trailer Description State Report	507,000	10-20%	\$10	\$16	\$24	72%	23%	5%
First-Line Supervisors/Managers of Construction Trades and Extraction Workers Description State Report	209,000	10-20%	\$15	\$25	\$40	65%	25%	10%
Electricians Description State Report	207,000	10-20%	\$12	\$20	\$34	51%	43%	6%
Plumbers, Pipefitters, and Steamfitters Description State Report	193,000	10-20%	\$12	\$20	\$34	67%	28%	5%
Computer Support Specialists Description State Report	183,000	21-35%	\$12	\$20	\$33	17%	42%	41%
Helpers-Production Workers Description State Report	174,000	0-9%	\$7	\$10	\$15	80%	15%	5%
First-Line Supervisors/Managers of Production and Operating Workers Description State Report	173,000	0-9%	\$13	\$22	\$35	59%	28%	13%
Industrial Truck and Tractor Operators Description State Report	170,000	0-9%	\$9	\$13	\$20	81%	16%	3%

Welders, Cutters, Solderers, and Brazers Description State Report	View View	125,000	0-9%	\$10 \$15 \$22	
Helpers-Installation, Maintenance, and Repair Workers Description State Report	(Video Not Available)	82,000	10-20%	\$7 \$10 \$17	
Civil Engineers Description State Report	View View	77,000	10-20%	\$21 \$31 \$47	
Electrical and Electronic Engineering Technicians Description State Report	View View	56,000	10-20%	\$14 \$23 \$33	
First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand Description State Report	(Video Not Available)	55,000	0-9%	\$11 \$19 \$29	
Electrical Engineers Description State Report	View View	49,000	10-20%	\$23 \$35 \$53	
Helpers-Pipelayers, Plumbers, Pipefitters, and Steamfitters Description State Report	(Video Not Available)	44,000	10-20%	\$8 \$11 \$17	
Industrial Machinery Mechanics Description State Report	View View	44,000	0-9%	\$12 \$19 \$28	
Helpers-Electricians Description State Report	(Video Not Available)	43,000	0-9%	\$8 \$11 \$17	
Electrical Power-Line Installers and Repairers Description State Report	View View	36,000	0-5%	\$14 \$24 \$33	
Civil Engineering Technicians Description State Report	View View	33,000	10-20%	\$12 \$19 \$28	
Excavating and Loading Machine and Dragline Operators Description State Report	View View	30,000	0-9%	\$10 \$15 \$26	
Surveyors Description State Report	View View	28,000	10-20%	\$12 \$21 \$35	
Environmental Scientists and Specialists, Including Health Description State Report	View View	26,000	10-20%	\$15 \$25 \$42	
Environmental Engineers					87%

Description	State Report	real View View	Count	Bar Chart	\$20	\$33	\$48	Bar Chart
			23,000	21-35%				7% 6%
Hazardous Materials Removal Workers		real View View	22,000	21-35%	\$10	\$16	\$27	69% 26% 5%
Maintenance Workers, Machinery		real View View	22,000	0-9%	\$10	\$16	\$25	67% 24% 9%
Pipelayers		(Video Not Available)	21,000	10-20%	\$9	\$14	\$25	67% 28% 5%
Mechanical Engineering Technicians		real View View	16,000	10-20%	\$14	\$21	\$32	28% 54% 18%
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders		(Video Not Available)	15,000	0-9%	\$10	\$15	\$24	75% 23% 2%
Occupational Health and Safety Specialists		real View View	14,000	10-20%	\$15	\$25	\$39	7% 15% 78%
Insulation Workers, Floor, Ceiling, and Wall		real View View	14,000	0-9%	\$9	\$15	\$29	76% 21% 3%
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders		(Video Not Available)	13,000	0-9%	\$10	\$16	\$25	46% 37% 17%
Engine and Other Machine Assemblers		(Video Not Available)	13,000	0-9%	\$9	\$17	\$26	74% 25% 1%
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders		(Video Not Available)	12,000	0-9%	\$8	\$13	\$21	69% 27% 4%
Chemical Engineers		real View View	12,000	10-20%	\$24	\$37	\$54	2% 6% 92%
Environmental Science and Protection Technicians, Including Health		real View View	12,000	10-20%	\$11	\$17	\$27	20% 33% 47%
Electrical and Electronics Drafters		real View View	11,000	0-9%	\$14	\$21	\$35	16% 62% 22%

Description	State Report								
Control and Valve Installers and Repairers, Except Mechanical Door		(Video Not Available)	11,000		\$12	\$21	\$31		
Description	State Report								
Stationary Engineers and Boiler Operators			11,000		\$13	\$21	\$32		
Description	State Report								
Roustabouts, Oil and Gas		(Video Not Available)	10,000		\$8	\$12	\$19		
Description	State Report								
Environmental Engineering Technicians			9,000		\$12	\$19	\$31		
Description	State Report								
Boilermakers		(Video Not Available)	8,000		\$14	\$23	\$33		
Description	State Report								
Nuclear Engineers			6,000		\$30	\$42	\$57		
Description	State Report								
Hydrologists			4,000		\$19	\$29	\$45		
Description	State Report								

(Source: Bureau of Labor Statistics 2004 wages and 2004-2014 projection series)

For a complete list of energy occupations and to find more information on education requirements and salary ranges, please visit the U.S. Bureau of Labor Statistics Web page at <http://www.bls.gov/emp/home.htm>

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State Report

Civil Engineers In Alaska

Occupation Report in: 

Description: Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Include architectural, structural, traffic, ocean, and geo-technical engineers. Exclude "Hydrologists".

Wages Comparison	2005		
	10%	Median	90%
United States	\$21.35	\$31.82	\$48.10
Alaska	\$24.53	\$35.82	\$48.35

Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey; Alaska Wage Information

Employment Trends	Employment		Change	Average annual job openings
	2004	2014		
United States	237,300	276,500	39,200	7,700
Alaska	970	1,230	260	40

Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections; Alaska Occupational Forecast

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State Report

Civil Engineering Technicians in Alaska

Occupation Report in: 

Description: Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.

Wages Comparison	2005		
	10%	Median	90%
United States	\$11.78	\$18.85	\$28.54
Alaska	\$19.67	\$25.74	\$34.23

Source: Bureau of Labor Statistics, Occupational Employment Statistics Survey; Alaska Wage Information

Employment Trends	Employment		Change	Average annual job openings
	2004	2014		
United States	93,500	106,700	13,200	3,280
Alaska	340	430	90	20

Source: Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections; Alaska Occupational Forecast

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**Securing an Adequate Number of
Physicians
for Alaska's Needs**

**Report of the
Alaska Physician Supply Task Force**

**Prepared for
Mark Hamilton, President, University of Alaska and
Karleen Jackson, Ph.D., Commissioner, Alaska Department of Health & Social
Services**

August 2006

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Executive Summary

The Alaska Physician Supply Task Force was commissioned in January 2006 by the President of the University of Alaska and the Commissioner of the Department of Health and Social Services to address two questions:

1. What is the current and future need for physicians in Alaska?
2. What strategies have been used and could be used in meeting the need for physicians in Alaska? Strategies of interest are:
 - programs to attract and prepare students for health careers;
 - medical school opportunities;
 - graduate medical education; and
 - recruitment and retention of physicians.

The Task Force has met regularly and drawn on a wide variety of sources of information, including public participation. The consensus of the Task Force is that this report represents the best answer possible to these questions, within the constraints of time and budget, and the inherent uncertainties of available data and predictions. The major conclusions and reasoning of the group are summarized here, and detailed in the body of the report.

Alaska has a shortage of physicians.¹ Although not at crisis levels, the shortage is affecting access to care throughout the state, and increasing cost to hospitals and health care organizations. Up to 16% of rural physician positions in Alaska were vacant in 2004. Patients with Medicare are having difficulty finding a primary care physician. Several important specialties are in serious shortage in Alaska.

The shortage is very likely to worsen over the next 20 years as the state's population increases and ages. Physician supply nationwide is entering a period of shortage, according to the best current predictions. Physicians in Alaska are aging and one-third may be retiring in the next 10-15 years. The new generation of physicians wants a more balanced life, meaning fewer hours on duty and more predictable schedules. These trends mean that more physicians will be required to serve the same population. Technology and scientific advances have increased the amount of medical care available, adding to the need for physicians, as the patients expect more care than previously.

As the national supply of physicians shrinks, recruitment will become more competitive. Alaska's traditional system of recruiting physicians from federal assignment in the military and Indian Health Service is much less effective with changes in these systems. Although Alaska has two very successful programs to produce its own physicians, the Alaska WWAMI medical school program and the Alaska Family Medicine Residency,

¹ Unless otherwise specified, "physician" in this report means medical doctor as well as doctor of osteopathy.

Alaska is far behind the other states in production capacity. These two programs, even if expanded, cannot meet the need.

The current trend in physician growth in Alaska is inadequate to keep up with basic population growth and to correct the current deficit. Unless changes are made in the systems used to increase physician numbers, the deficit will worsen, with significant consequences for access and quality of care for Alaskans, as well as increased cost for health care delivery systems.

The time frames to increase physician supply are long; it takes from seven to 13 years from entry into medical school to entry into practice. The time it takes to develop new or expanded programs adds to this delay. It is important to act quickly to begin the programs that will yield more physicians in the next two decades. Delay will only add to the cost and worsen the deficit to recoup.

Responses to this problem involve preparing and attracting Alaskan youth so they can enter medical careers, improving recruitment of physicians to practice in Alaska, and retaining the physicians who currently practice here. The Task Force recommends specific strategies and action steps to achieve four goals related to assuring an adequate supply of physicians to meet Alaska's need.

Goals:

1. Increase the in-state production of physicians by increasing the number and viability of medical school and residency positions in Alaska and for Alaskans.
2. Increase the recruitment of physicians to Alaska by assessing needs and coordinating recruitment efforts.
3. Expand and support programs that prepare Alaskans for medical careers.
4. Increase retention of physicians by improving the practice environment in Alaska.

The following sections summarize the findings of the Alaska Physician Supply Task Force supporting these goals. The body of the report contains the full discussion of the goals, strategy recommendations, and the rationale behind the recommendations.

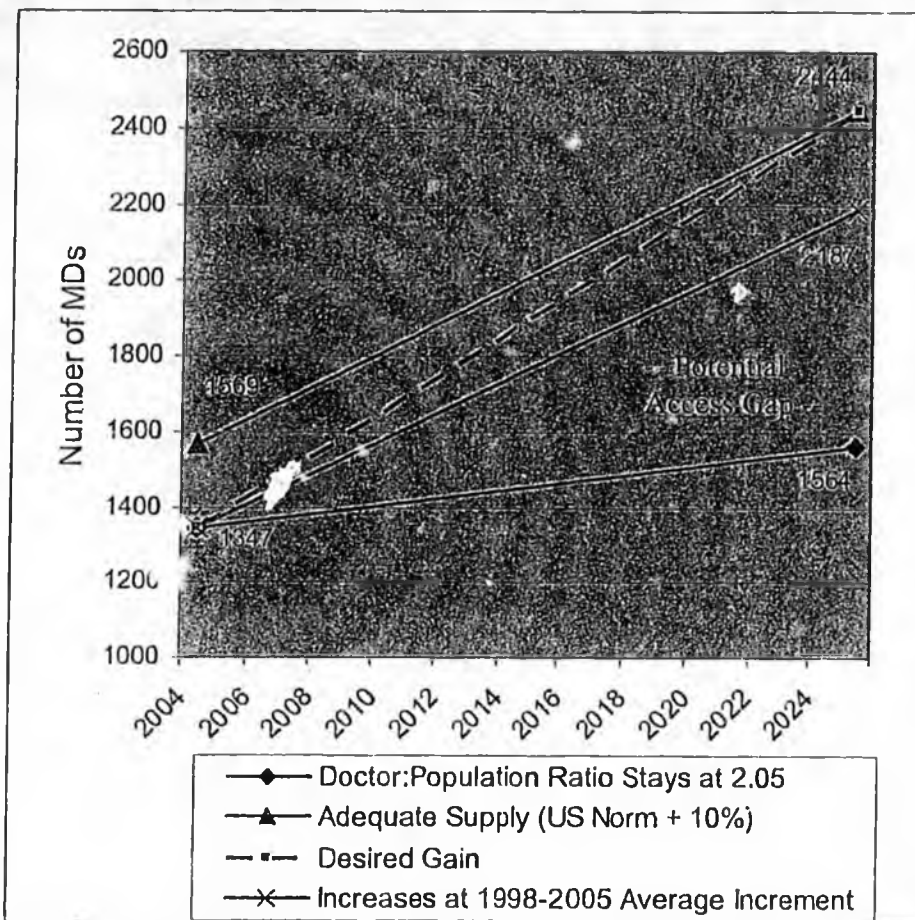
Assessment of need. The Task Force estimates that Alaska has a shortage of 375 physicians, based on the conclusion that Alaska should have 110% of the current national average physician-to-population ratio. In order to correct the deficit and reach an adequate supply of physicians by 2025, Alaska needs to add a net of 59 physicians per year, starting immediately. Alaska currently gains 78 physicians per year but loses 40 physicians yearly for various reasons. In order to improve its doctor to population ratio, and assure having an adequate supply in 20 years, the current net gain of 38 physicians per year will need to increase to 59 per year, more than a 50% increase. If the loss each year is greater than the recent average of 40 per year, Alaska will need more than 90 physicians to enter practice in Alaska each year.

These conclusions are supported by the following findings.

- Finding 1. The ratio of physicians to population in Alaska is below the national average at 2.05 MDs per 1000 population vs. 2.38 MDs per 1000 population in the US.
- Finding 2. Alaska should have 10% more physicians per population than the national average because Alaska's rural nature, great distances and severe weather result in structural inefficiencies of the health care system. Alaskan physicians' administrative and supervisory responsibilities in addition to patient care contribute to the need for more physicians to provide patient care services.
- Finding 3. Competition for physicians will intensify since the entire nation is expected to experience a shortage of physicians, associated with the aging of the population and an inadequate production of physicians.
- Finding 4. Retirement and practice reductions of aging physicians in Alaska and elsewhere, as well as changing preferences of physicians for more limited work hours, add to the need for more physicians.
- Finding 5. Alaska has and should maintain a higher ratio of mid-level providers (advanced nurse practitioners and physician assistants) to physicians than the national average, in order to make it feasible to provide high quality and timely care to the population. Without these providers the need for physicians would be even higher.
- Finding 6. Shortages are most apparent in internal medicine, medical subspecialties and psychiatry. It is important to evaluate the need for specialty types and distribution throughout Alaska, in order to plan for physician recruitment.

Over the next twenty years, nearly twice as many "physicians in practice" will be needed – about 1100 more than the current 1347 MDs in patient care – to meet expected demand as the state's elderly population triples and as medical practice patterns change. This projection assumes that doctors of osteopathy, advanced nurse practitioners and physician assistants will continue to increase proportionately over time.

Figure A. Gain in Alaskan Physicians: Static Doctor to Population Ratio vs. Desired Growth Scenario



Source: Based on HPSD analysis (AMA Master File 2006)

Basis for strategies for meeting the need for physicians for Alaska's health care system. After investigating the supply and need for physicians and reaching Findings 1- 6, the Task Force shifted its focus to investigating strategies for meeting the need. The Task Force drew on the knowledge of in-state professionals and educators, and of national experts, to identify lessons and information that form the basis for recommendations for action, as well as for further investigation and monitoring. The Task Force's selection of strategies is based on the following findings.

Finding 7. Alaska is one of six states without an independent in-state medical school. Alaska funds ten state-supported "seats" at the regional WWAMI medical school, administratively centered at the University of Washington School of Medicine. This number (10 seats) represents fewer seats per capita than all but five of the 50 states.

Finding 8. Residency programs are one of the most effective ways to produce physicians for a state or community. Alaska has only one in-state residency, the AFMR, which places 70% of its graduates in Alaska.

Maintaining and expanding residency opportunities will be critical in augmenting Alaska's physician numbers.

- Finding 9. Over the last ten years, an increasing number of Alaskan students have applied to medical schools; the average number of applicants has been 65. In 2005, 29 of 73 applicants were admitted into medical school. Ten per year attend WWAMI and the remainder attends medical schools without state support from Alaska. Since 1996, only WWAMI has had Alaska-supported seats. Prior to 1996, Alaska supported programs for medical and osteopathic students through the WICHE program and student loans.
- Finding 10. Recruitment for physicians is facilitated by the availability of loan repayment programs such as the IHS and NHSC loan repayment programs. Service obligations related to student loans have historically accounted for some recruitment and should be explored.
- Finding 11. There are several initiatives to increase interest in medical careers among Alaskans, including efforts by the tribal health care system, hospitals, the University of Alaska's newly funded Area Health Education Center (AHEC) and the UA Scholars Awards, school system initiatives for improvement of math and science programs, and programs that encourage students to go into health careers. Collectively, these initiatives generate qualified applicants to medical schools, but too few applicants matriculate to replenish Alaska's shortage, and there is inadequate diversity.
- Finding 12. Medical practice environments in Alaska have positive and negative aspects that affect the recruitment and retention of physicians.
- Finding 13. Surveys of providers (physicians and mid-levels) by the AMA and many states have provided data on practice characteristics, preferences, and retirement plans.
- Finding 14. Workforce development activities exist in multiple locations including the tribally managed system, private sector, and various state and federal agencies. However existing programs are not monitoring or analyzing specialty distribution or needs, changing roles of mid-level providers, or potential impact of electronic health records on all providers. Coordination of the efforts, and research and analysis of relevant trends, should inform policy.

In view of these findings, the relevant literature, and the experience of other states, the Task Force developed the following goals and strategies to respond to the physician shortage. The strategies are chosen because of their likely effectiveness, cost-to-benefit advantages, and achievability. Each strategy is discussed with respect to the time frame in which it will be effective, and the average expected cost to the state to produce each practicing physician, where such information is reasonably accessible. The listing below

	G. Empanel a group to assess medical education in Alaska, including the viability of establishing an Alaska-based medical school	Long	Undetermined at time of PSTF Report
2. Increase the recruitment of physicians to Alaska by assessing needs and coordinating recruitment efforts.	A. Create a Medical Provider Workforce Assessment Office to monitor physician supply and facilitate physician recruitment efforts	Short	\$250,000 per year
	B. Research and test a physician relocation incentive payment program	Short	\$65,000 per physician
	C. Expand loan repayment assistance programs and funding for physicians practicing in Alaska	Short	Undetermined – need to consult with other states
3. Expand and support programs that prepare Alaskans for medical careers	A. Expand and coordinate programs that prepare Alaskans for careers in medicine	Medium	Up to \$1,000,000 per year
4. Increase retention of physicians by improving the practice environment in Alaska.	A. Develop a physician practice environment index for Alaska	Short	\$100,000 to develop index; \$20,000 annually to update
	B. Develop tools that promote community-based approaches to physician recruitment and retention	Short	\$50,000 per year
	C. Support federal tax credit legislation Initiative for physicians that meet frontier practice requirements	Short	Zero cost to the state

Adoption of these strategies will depend on further analysis of resources and a balancing of effectiveness and achievability. Strategies to recruit and retain physicians promise the earliest positive results, but probably have a relatively low benefit ceiling, in that the maximum number of physicians achievable by those strategies will soon be reached. The

gives a brief identification of each goal and strategy. Full discussion of the strategies is included in the body of the report.

Goals and Strategies for Securing an Adequate Physician Supply for Alaska's Needs

Major Goal	Strategy	Timeline for Impact	Estimated Cost
1. Increase the in-state production of physicians by increasing the number and viability of medical school and residency positions in Alaska and for Alaskans.	A. Increase the number of state-subsidized medical school positions (WWAMI) from 10 to 30 per year	Medium	\$250,000 per practicing physician
	B. Ensure financial viability of the AFMR through state support including Medicaid support	Short	\$60,000 per practicing physician
	C. Increase the number of residency positions in Alaska, both in family medicine and appropriate additional specialties	Short	\$100,000 per year plus \$30,000 for planning in year 1 & 2
	D. Assist Alaskan students to attend medical school by: i) reactivating and funding the use of the WICHE Professional Student Exchange Program with a service obligation attached, and ii) evaluating the possibility of seats for Alaskans in the planned osteopathic school at the Pacific Northwest University of the Health Science	Medium	i) \$550,000 per practicing physician for WICHE; ii) cost unknown at time of PSTF report
	E. Investigate mechanisms for increasing Alaska-based experiences and education for WWAMI Students	Medium	Unknown at time of PSTF Report
	F. Maximize Medicare payments to teaching hospitals in Alaska	Short	Zero cost to the state

strategies likely to produce significant numbers of doctors over time are those designed to train physicians in Alaska, i.e. medical school and residency programs, but the time to realize the benefit in most cases is longer.

Implementation strategy – next steps for key policy makers. The shortage of physicians and other health care providers creates one of Alaska's most challenging public health and higher education issues. To ensure the work of the Task Force is carried forward, it is recommended that the President and Commissioner establish permanent structures to implement these recommendations. One component of this action would be creation of a Medical Provider Workforce Assessment Office (Strategy 2A).

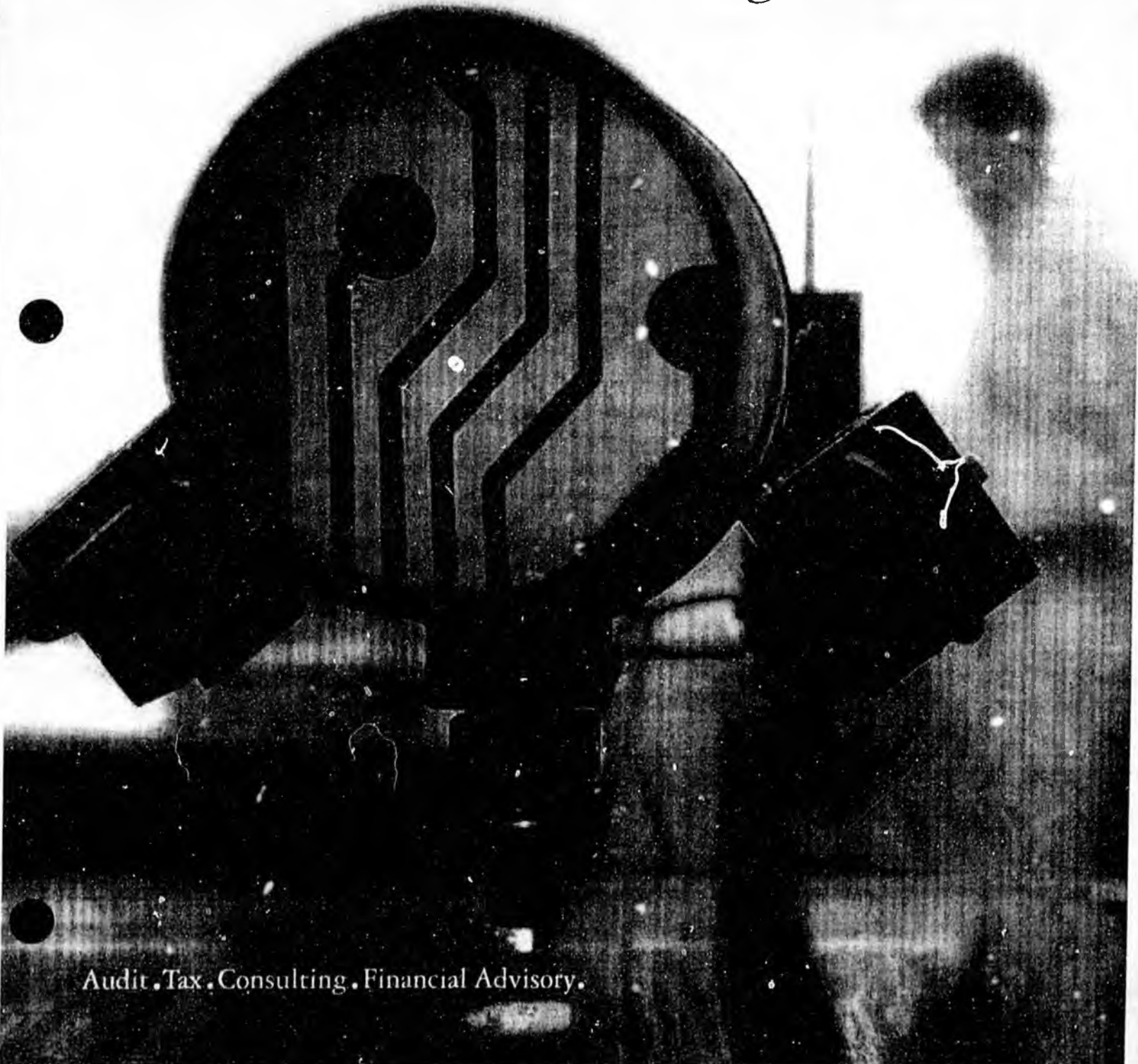
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Manufacturing

2005 Skills Gap Report – A Survey of the American Manufacturing Workforce



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Introduction

By Phyllis Eisen, Jerry J. Jasinowski and Richard Kleinert

In spring 2005, the National Association of Manufacturers' Manufacturing Institute/Center for Workforce Success and Deloitte Consulting LLP (Deloitte Consulting) developed the fourth iteration in a series of surveys designed to learn more about how manufacturers plan their human capital strategies and the barriers they encounter in the process.

The results of this survey confirm the skill shortages found in earlier reports. However, the 2005 report goes much beyond earlier findings in detailing the breadth and depth of the skill shortage, the negative impact of the shortages on business operations, and the extraordinary increase in employee performance requirements.

The picture that emerges is both more complex and more disturbing than in the past, because it exposes a broadening gap between the availability of skilled workers and the employee performance requirements of modern manufacturing. Specifically, the research finds:

- Today's skill shortages are extremely broad and deep, cutting across industry sectors and impacting more than 80 percent of companies surveyed.
- Skills shortages are having a widespread impact on manufacturers' abilities to achieve production levels, increase productivity, and meet customer demands.

- High-performance workforce requirements have significantly increased as a result of the skills gap shortage and the challenge of competing in a global economy, according to nearly 75 percent of survey respondents.

In sum, the confluence of the above trends and the increasingly competitive global environment has created an extraordinary gap between the supply of skills available and the performance requirements of the workforce needed for modern global manufacturing. This human capital performance gap threatens our nation's ability to compete in today's fast-moving and increasingly demanding global economy. It is emerging as our nation's most critical business issue.

Clearly, this situation calls for urgent action by both public and private stakeholders. If our country is to remain competitive, the issues of education and training reform now must be given at least as much focus as top business concerns of trade, tax, energy, and regulatory reform. As you read through this report, we hope to stimulate your thinking and leave you with an unmistakable sense that your urgent involvement is needed today.

Acknowledgements

The National Association of Manufacturers (NAM), the Manufacturing Institute's Center for Workforce Success, and Deloitte Consulting LLP (Deloitte Consulting) thank the many individuals who contributed to the conceptualization, implementation, analysis, and publication of this report.

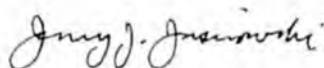
Thanks go to the Center for Workforce Success's Stacey Jarrett Wagner for helping to design the survey, analyze the responses, and manage the project, to Bill Canis, vice president of the Manufacturing Institute and David Heuther, NAM's chief economist, for providing their expert advice, and to Laura Narvaiz, vice president of communications for the Manufacturing Institute for helping us get out our message.

We deeply appreciate all the help and thoughtful analyses and writing provided by the Deloitte Consulting team, without whom this

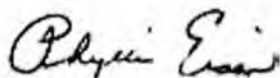
report could not have been developed. While many members of its team participated at various stages, the lion's share of the work was done by Juliet Glassroth, Lauren Mistretta, Leah Reynolds, Burt Rea, and David Rizzo. It was our great pleasure to work with such a talented team. In addition, we would like to thank Linda Segervall for her invaluable contributions.

We would also like to thank NAM members for their participation and thoughtful answers – they were very forthcoming in their responses and we are grateful for their honest insights.

Finally, we would especially like to thank Jerry Jasinowski, president of the Manufacturing Institute, John Engler, CEO of the National Association of Manufacturers, and Doug Engel, National Manufacturing Industry Leader, Deloitte & Touche USA LLP, for their support and encouragement as we try to tell the manufacturing story.



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Executive Director, Center for Workforce Success



Richard A. Kleinert
Principal
Deloitte Consulting LLP

Executive Summary

The vast majority of American manufacturers are experiencing a serious shortage of qualified employees, which in turn is causing significant impact to business and the ability of the country as a whole to compete in a global economy. This is the key finding of the 2005 Skills Gap Survey.

The problem for U.S. manufacturers is that this challenge is not universal. Countries with rich educational heritages, e.g., India, China and Russia, are graduating millions more students each year from college than the United States.¹ These highly educated individuals are actively participating in the development of innovative new products without regard for historical barriers, such as geography – thanks to technologies such as broadband, inexpensive Internet-ready laptops, and collaborative tools.

With such international talent readily available and significant shortages existing at home, it is clear that the future of American manufacturing may now be at stake.

A Serious, Persistent Shortage

The details behind the talent shortage reveal a stark reality. **More than 80 percent of respondents indicated that they are experiencing a shortage of qualified workers overall** – with 13 percent reporting severe shortages and 68 percent indicating moderate shortages. Also worrisome is the finding that **90 percent of respondents indicated a moderate to severe shortage of qualified skilled production employees**, including front-line workers, such as machinists, operators, craft workers, distributors, and technicians. As expected, the research showed that engineers and scientists are in short supply, with 65 percent of manufacturers reporting deficiencies – 18 percent severe and 47 percent moderate.

In addition to shortages of various types of employees, manufacturers surveyed reported they are also dissatisfied with the skills of their current employees. Among respondents to this national survey, nearly half indicated their current employees have inadequate basic employability skills, such as attendance, timeliness and work ethic, while 46 percent reported inadequate problem-solving skills, and 36 percent indicated insufficient reading, writing, and communication skills.

Significant Business and Economic Impact

The talent shortage being reported is not a theoretical or distant problem. In fact, **83 percent of respondents indicated that these shortages are currently impacting their ability to serve customers.** Specifically, the survey found that skill deficiencies are causing difficulties for manufacturers in terms of their ability to maintain production levels consistent with customer demand (56 percent), to achieve productivity targets (43 percent), and to achieve or maintain target levels of customer service and satisfaction (33 percent).

Clearly, this situation is untenable for America. Although our manufacturing sector has been able to remain vibrant and to compete successfully in a global economy, its ability to do so in the future is predicated on the availability of a highly skilled, innovative, "high-performance workforce." Without a sufficient supply of these types of employees, the manufacturing sector will suffer – which in turn will have a detrimental impact to the nation's overall economic health.

The Key to Business Success

Notwithstanding the bleak picture of the workforce situation today, manufacturers surveyed believe that having a high-performance workforce is the most important driver of future business success. Nearly three out of every four respondents selected this as a key to future success.

The second most commonly selected driver of success was "new product innovation" – which is also inextricably linked to employee quality and performance. Surprisingly, "low-cost producer status" ranked only third on the list of most important drivers of future business success, but not far behind in terms of percentages. In past studies, manufacturers have consistently ranked this as their number one response – but perhaps they have come to accept as a given that ongoing pursuit of lean operations and efficiency is essential to success in an incessantly competitive global manufacturing industry. To stay ahead of the pack, successful companies must constantly push the innovation envelope, which requires innovative and high-performing employees. As a result, the new manufacturing mantra may be "high-performing and innovative, but lean."

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Getting There From Here

While the situation is already posing significant challenges, the basic laws of supply and demand as they operate in the labor market suggest an even more difficult future. On the demand side, employers want more highly skilled employees that are exceptionally engaged and innovative. But basic demographic, social, and educational trends indicate a gloomy supply outlook:

- The exodus of Baby Boomers from the workforce with substantial accumulated skills will reduce the available talent pool
- Changing attitudes about careers and job satisfaction among Generation Yers
- Changing job requirements, necessitating some level of technical skill in almost all jobs and making truly unskilled jobs a thing of the past
- Significant dissatisfaction among manufacturers with the quality of K-12 education and the dearth of adequate career counseling
- Declining percentage of students in U.S. universities studying science and engineering

In addition, research has shown a direct relationship between manufacturing's negative image – which is tied to the old stereotype of the assembly line – and the decreasing number of young people pursuing careers in the industry. The good news is that manufacturers are beginning to realize they need to improve this image. A growing number of companies are providing support for NAM's *Dream It. Do It.* campaign that actively seeks to help young adults find careers they can be passionate about in one of manufacturing's many exciting sectors.

Manufacturers also seem to understand what they need to do to remain competitive, with so many clearly viewing a high-performance workforce as the foundation of future competitive ability. The challenge for manufacturers is how to attract, retain, and motivate this high-performance workforce.

Thus, there is a focus on both **reducing turnover among current employees and attracting new workers**. Most manufacturers reported **spending more on training programs** today (as a percentage of payroll) than in 2001 – which is critical because training opportunities are an important component of a strategy to attract, retain, and develop employees.

On the other hand, it is unclear that manufacturers are engaging in the right type of activities and employing the right tactics to attract, develop and retain a high-performance workforce given the realities of the current environment. Much has been written about the changing nature of the employer/employee relationship and the changing picture of what employees want and value, especially among Generation Y employees. While many manufacturers are seeking to provide the right programs and trying out new strategies, often they rely on a rather traditional mix of compensation and benefit plan offerings for recruitment and retention purposes, which may not prove as effective with this new breed of employee.

Getting There From Here

While the situation is already posing significant challenges, the basic laws of supply and demand as they operate in the labor market suggest an even more difficult future. On the demand side, employers want more highly skilled employees that are exceptionally engaged and innovative. But basic demographic, social, and educational trends indicate a gloomy supply outlook:

- The exodus of Baby Boomers from the workforce with substantial accumulated skills will reduce the available talent pool
- Changing attitudes about careers and job satisfaction among Generation Yers.
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A Public-Private Collaboration

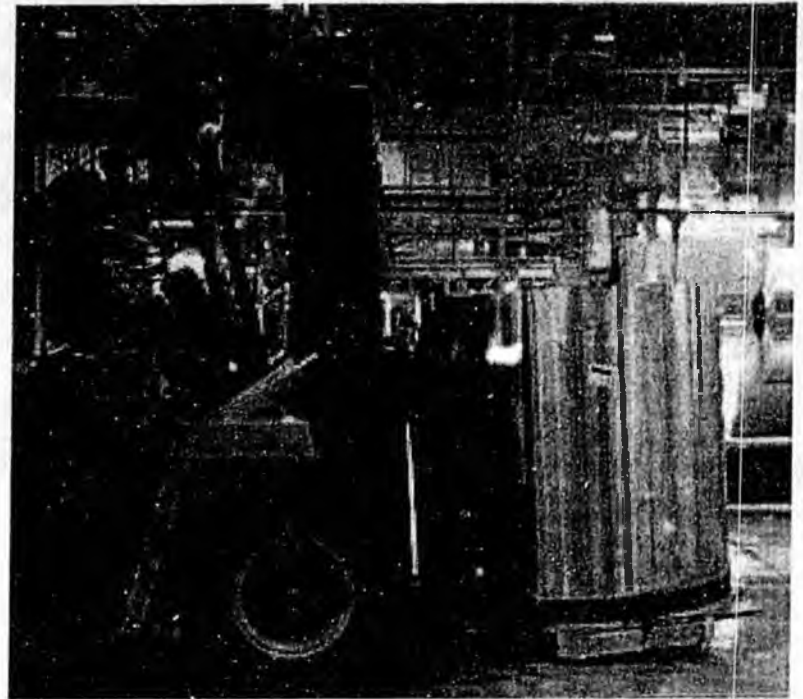
Clearly, the ability of manufacturers to attract, retain, and develop a high-performance workforce is of major importance to our nation as a whole. This challenge presents a significant opportunity for collaboration between the public and private sectors. Manufacturers are not expecting government to solve the problem for them, but would like encouragement and support for investments in training programs.

Our survey indicates that a very large percentage of respondents either has never heard of the government workforce programs or has never been contacted by Workforce Investment boards. Undoubtedly, increased communication and collaboration are required to better utilize these programs and to improve the effectiveness of the public education system in preparing students for the workplace and future careers.

Recommendations for Individual and Shared Responsibility

The issues associated with the skills gap are numerous and complex. Yet with increased competition from countries around the world, the future success and vibrancy of the American manufacturing industry is now at stake. To hold back further competitive encroachments, all the parties must assume responsibility – including manufacturing companies, the government, educators, and individuals. We believe the urgency of this situation also requires the follow actions:

- Educators must emphasize science, math and technology-related programs in K-16 curricula, invest more in effective teacher education focused on science and math, and ensure that programs regarding career opportunities and requirements for graduation are geared for 21st century employment.
- Employers should invest at least three percent of payroll whenever possible to provide training opportunities for their current employees, particularly in areas that will enable them to become a high-performance workforce, learn new methods to attract, retain, develop and motivate employees.
- State and federal government should invest in the capacity of community and technical colleges to prepare individuals for careers in high growth industries such as manufacturing
- State education standards should include career education as measurable criteria for K-12 success
- The Higher Education Act and its funding mechanisms should provide increased access for adult learners
- Individuals must take responsibility for their own careers and employability by earning industry relevant certifications and formal education credentials such as community college and bachelor degrees.



- The public workforce system, companies and their business associations must strengthen their engagement in order to better advise Workforce Investment Boards on rising and declining economic conditions, business investments, skill needs and employment requirements.
- Public/private partnerships should be encouraged to support career awareness campaigns that help individuals understand all the career options available to them. A model for this is The Manufacturing Institute's Dream It Do It manufacturing careers campaign.

The Business and Economic Reality Behind Today's Talent Shortages



In an effort to gain a clearer understanding of the processes and challenges associated with human capital management in the manufacturing sector, the NAM Manufacturing Institute/Center for Workforce Success and Deloitte Consulting LLP (Deloitte Consulting) conducted the fourth in a series of surveys in the spring of 2005. Specifically, the survey was designed to learn more about today's talent shortage and the resulting business impacts, what companies believe they need to provide for future business success, and how companies are seeking to attract, retain, and develop a high-performance workforce.

With media coverage persistently reporting an overall decline in manufacturing employment and layoffs among well known employers many may be surprised with the key finding from this research. **The Skills Gap 2005 Survey found that the vast majority of American manufacturers surveyed continue to experience a serious shortage of qualified employees that is causing significant impact to business and the ability of the country as a whole to compete in a global economy.**

In fact, **81 percent of respondents answered that they are currently facing a moderate to severe shortage of qualified workers** – nearly unchanged from the 80 percent who reported a moderate to severe shortage with *The Skills Gap 2001 Survey*. More specifically, 53 percent of those responding indicated at least 10 percent of their

total positions currently remain unfilled due to a lack of qualified candidates. This clearly supports the view that the shortage of qualified workers is becoming a persistent challenge and raises important questions, such as "Where is the pain most acute?" and "What are the business and broader economic implications?"

In answer to these questions, survey respondents suggested that the shortage of qualified workers is truly widespread, impacting companies regardless of size, industry, or geographic location. Large employers, defined as those with more than 500 employees, are only slightly more likely to report a moderate to severe shortage of qualified workers than small employers with fewer than 500 employees (85 to 80 percent respectively).

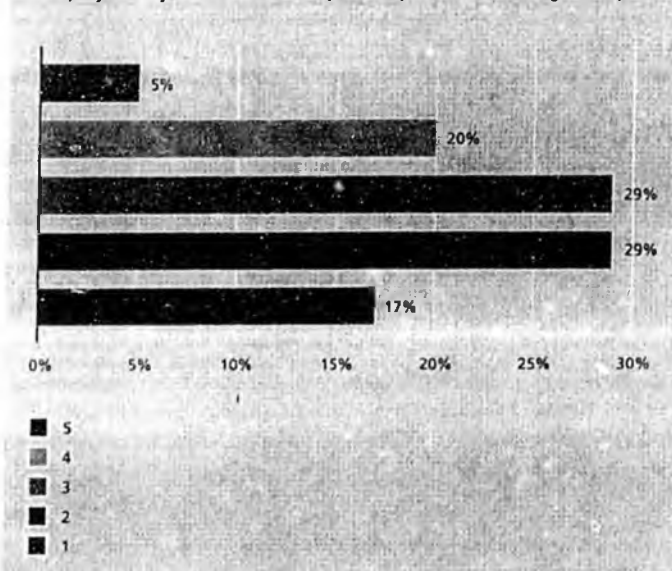
However, while all respondents appear to be impacted, not all segments of the workforce are affected equally. The largest shortages occur for technical skilled employees and engineers, but more than one-third of respondents also claimed shortages of **unskilled production employees**.

- 90 percent of respondents indicated a moderate to severe shortage of qualified **skilled production employees**. This result does not vary significantly when controlling for size, industry segment or region.
- 65 percent of all respondents and 74 percent of respondents with more than 500 employees reported a moderate to severe shortage of **scientists and engineers**. This shortage is even more acute for certain industry segments, such as Aerospace and Defense, with 80 percent of respondents indicating a moderate to severe shortage.
- 39 percent of respondents also indicated a moderate to severe shortage of qualified **unskilled production employees**.

While it is clear that employees with "hard skills" (such as skilled production, scientists, and engineers) are in short supply, the results are less severe for employees with "softer skills." Thirty-one percent of respondents indicated a shortage of qualified customer service employees; 36 percent of respondents indicated a shortage of qualified human resources, information technology (IT), finance, and executive employees; 44 percent of respondents report a shortage of qualified sales and marketing employees. Again, these results vary little when controlling for size, industry, or geography.

Taken together, these findings add more weight to the frequently voiced concern that the United States is not graduating enough students with technical, engineering and scientific degrees to meet the current demand for employees with these skills.

Figure 1. To Which Extent Does the Shortage of Available Skills Impact Your Company's Ability to Serve Customers? (1 = No Impact, 5 = Greatest Negative Impact)



However, the critical issue is the impact that these shortages are having on business performance. When asked, "To what extent does the shortage of available skills impact your ability to serve customers?" 54 percent of all respondents indicated a moderate to high degree of negative impact.

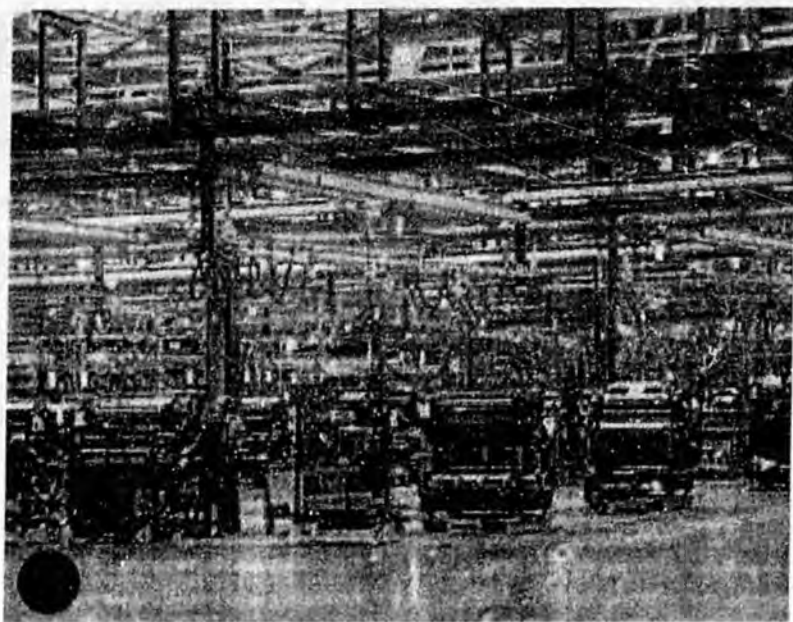
When asked to select the three most significant negative impacts of the shortage of qualified workers on business performance, respondents indicated:

- Maintaining production consistent with customer demand
- Achieving productivity targets
- Achieving or maintaining target levels of customer service and satisfaction

To better understand which skill deficiencies among current employees significantly contribute to negative business performance, the most frequently cited concern is inadequate basic employability skills, including attendance, timeliness and work ethic. Again, this response is consistent with a similarly constructed question in the 2001 survey, and poses an interesting challenge to employers and to the public education system that is expected to prepare most individuals for the workplace.

Among Aerospace and Defense companies, it was noteworthy that the most frequently mentioned response by a significant margin was inadequate problem solving skills – potentially reflecting the more complex nature of working with highly engineered products.

Tomorrow's Outlook: Business Success in a Changing Environment



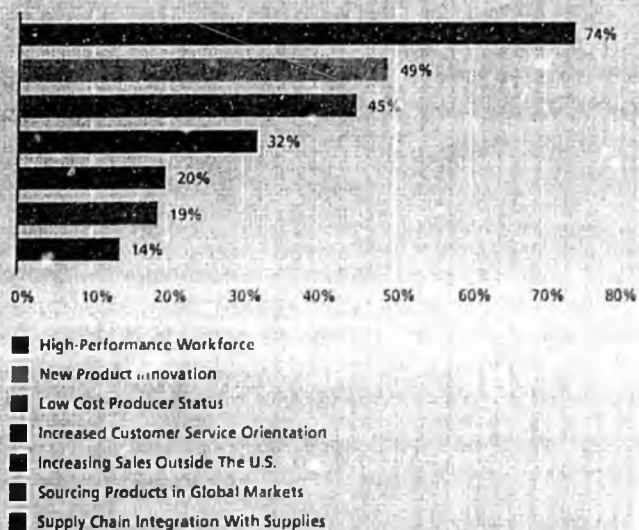
Given the painful realities of the current talent shortage, changes in the economy and business environment, increasing international competitive pressures, and other complex challenges that manufacturers face, respondents were asked to indicate what would be most important to their success over the next three years (Figure 2).

Although many expect that overall employment levels in manufacturing will not rise appreciably, an overwhelming majority of respondents stated that their workforce is the most important factor for future business success – **74 percent of respondents indicated that having a “high-performance workforce” will be key to their business success.**

The second most frequently chosen attribute, selected by 49 percent of respondents, is “new product innovation.” This, too, is directly linked to having a high-performance workforce that can generate the innovative ideas for new products, as well as process innovation.

At the same time, cost pressures remain top of mind for respondents, with 45 percent specifying that “low-cost producer status” will be important to business success over the next three years. When taken together, these findings suggest that “high-performing, innovative, but lean” may become the new manufacturing mantra.

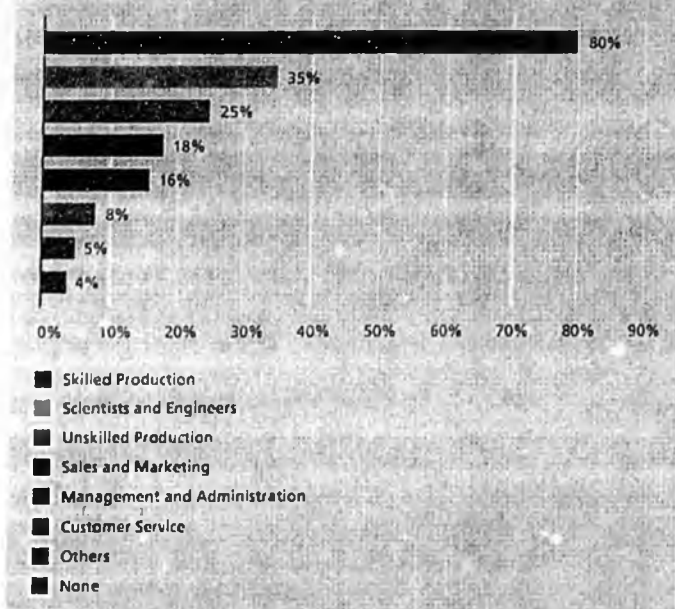
Figure 2. Given Changes in the Economy and Business Environment, Which of the Following Will Be Most Important to Your Company's Future Business Success Over the Next Three Years? (Select Up to Three)



With the many changes to the overall business environment, including the economy and competitive landscape, manufacturers were asked to identify the employee types among whom they anticipate shortages over the next three years. The real pressure point again appears to be the skilled production workers, **with a full 80 percent of respondents anticipating shortages of skilled production workers over the next three years – this is over twice the severity of the next skill shortage category.**

Thirty-five percent of all respondents anticipate shortages for scientists and engineers, with this rising to 46 percent for respondents with 500 employees or more. Following that is the unskilled production worker – a quarter of our respondents said these workers will be in short supply over the next three years. At the other end of the spectrum, it does not appear that employees engaged in management and administration, sales and marketing, or customer service will be in tight supply.

Figure 3. What Types of Employees are Expected to Be in Short Supply Over the Next Three Years? (Select All that Apply)



We next asked respondents to tell us which types of skills their employees will need more of over the next three years. Not surprisingly, technical skills was the area most commonly selected (53 percent). Beyond this, there are a number of related skills that will be needed over the next several years that are characteristic of high-performance workforces, such as the ability to work in teams (47 percent), strong computer skills (40 percent), the ability to read and translate diagrams and flow charts (39 percent), and strong supervisory and managerial skills (37 percent).

Basic employability skills (attendance, timeliness, work ethic, etc.) essentially tied with technical skills, which is consistent with the area of greatest deficiency seen in today's workforce – and consistent with the *The Skills Gap 2001* report. Following that are reading/writing/communication skills, where 51 percent of the respondents said they will need more of these types of skills over the next three years. This paradoxical mismatch – between the need for the highest skill levels ever and the current need to address basic employability issues and basic skills in general – is particularly vexing given the emphasis companies place on having a high-performance workforce. It also suggests the need for significant change in approaches within the education and public workforce systems.

Throughout this report, we have provided brief vignettes of NAEP-member companies to illustrate the key points and examples of innovation in workforce initiatives.

Bollinger Shipyards, Inc.

Literacy and Training Programs at Bollinger

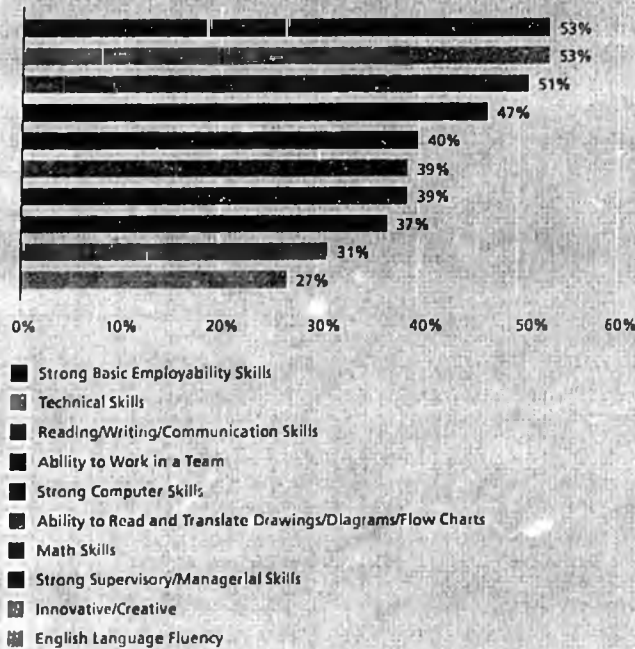
At Bollinger Shipyards just outside of New Orleans, people who are eager to work can earn more than just a decent paycheck. "We take people who have a desire to learn and teach them to be a welder or a fitter," explains Chuck Fontenot, corporate director of training. "We hire them from landscaping companies and fast food restaurants. We go to churches and into the community and find good people who never had a chance."

Bollinger provides a paid, five-week training program for each new hire that includes on-the-job and classroom skilled trades instruction, as well as training in "soft skills." "We teach them the life skills they need to sustain a job. Taking care of their money and coming to work each day."

Bollinger recently collaborated with the Literacy Alliance of New Orleans and invited the Alliance to conduct a six-week literacy program with its employees. The results were outstanding, according to Fontenot. "By using the materials the students use every day, she taught a group of our employees how to read in a practical, non-reading way," Fontenot says.

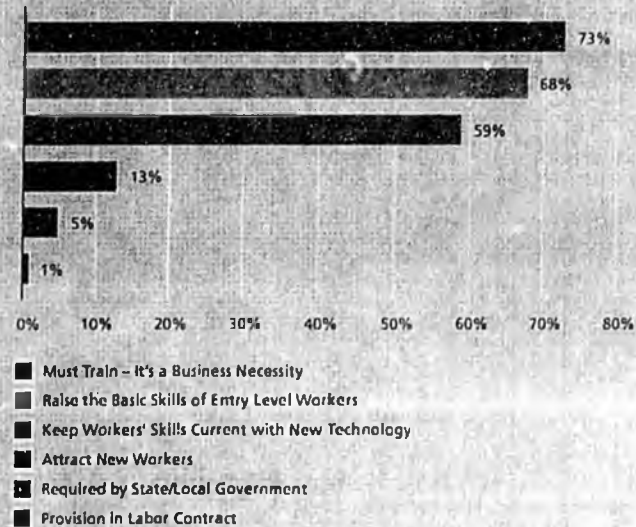
Bollinger also works with a regional economic development agency to register high-school-age applicants for its apprenticeship program. "We've had this program for several years," says Fontenot. "It starts when they're a junior or senior. They gain school credit for working, but they can't quit school. Right now, we have ten people who've completed the program. We've never had anyone quit the program. One guy became a supervisor, one became a trafter. One guy started out at \$5.00 an hour and now he's making \$55,000 a year supervising other people. The program got a lot of investment."

Figure 4. What Types of Skills Will Employees Need More of Over the Next Three Years? (Check All that Apply)



In an environment of extreme global competition, and given the workforce shortages and skill deficiencies that companies face today, it is not surprising why companies provide training to employees. Seventy-three percent report that they provide training to employees today because it is a "business necessity." To have a high-performance workforce, companies must create a culture of high-performance workplaces and training is integral to meeting this objective. Characteristics of a high-performance workplace include employee autonomy and involvement in decision-making, the sharing of information and knowledge, rewards for performance and support for employee performance – including training. A very small percentage of respondents that provide training do so because they are required by labor contract or by state or local government.

Figure 5. Why Do Companies Provide Training to Employees Today? (Select Up to Three)



It may not be surprising that a high percentage (73 percent) of respondents report that they have done formal workforce planning to forecast their needs for different workforce segments, considering anticipated shortages of key employee types and the need for increased levels of certain skills into the future. This does, however, raise the question of whether manufacturers have effectively and rigorously forecasted their future workforce needs – to reflect not only upcoming retirements, but also changes in business strategy/emphasis, types of employees needed, skills needed, and the availability of various employee types in the labor market today.

Finally, looking into the future it appears that high-performance workforce companies may consist of several different categories of employees. Roughly one-third of respondents indicated they may increase their utilization of temporary contract workers to attract and retain employees with the skills needed for the company over the next three years. These temporary or contract workers could be highly skilled employees who work on a project basis, but who cannot be justified on a full-time regular basis. Alternatively, it may be that companies intend to focus more on certain types of regular employees who represent their critical workforce segments and to utilize less highly skilled or non-business critical employees under contract or temporary arrangements. This is an area that warrants additional analysis to better understand how manufacturers intend to secure the various types of talent needed to achieve their goals.

New Aspirations, Old Tactics – What's Working and What's Not

With manufacturers clearly understanding that change is needed to achieve their goals, respondents provided important insights into several key leverage points – ranging from **recruitment, retention, and benefits strategies to how schools are preparing students for the workplace** – that can positively impact the talent shortage.

The Employer/Employee Disconnect

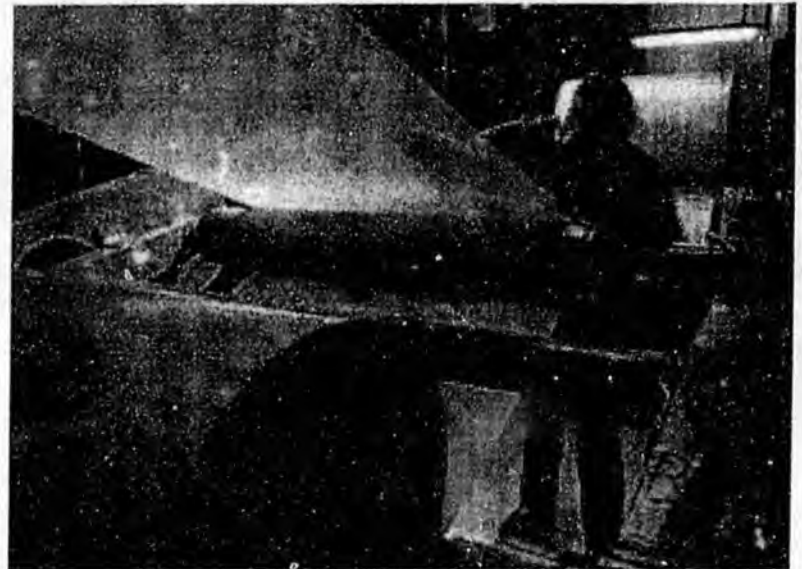
There is a growing disconnect between what today's workforce wants and what employers traditionally offer. The phrases used to describe this disconnect are familiar – lack of employee engagement, loss of company loyalty, and the need for a new employer/employee "deal."

The dramatic changes in the employer/employee relationship became acute in the past decade. Trends such as downsizing, merger mania, and globalization created an ever-shifting work environment that has resulted in negative and cynical views about the workplace. In recent years, organizations that regularly survey the U.S. workforce, such as The Conference Board and The Gallup Organization, have warned that employee opinions about the workplace are at an all-time low. The latest Conference Board research on worker attitudes was conducted in late 2004 and reflects a decline in job satisfaction that is widespread among workers of all ages and income brackets.

Adding to this low worker satisfaction is the huge demographic shift currently taking place – older Baby Boomers retiring, Gen Xers and Gen Yers moving in. Today's younger generations (Xers are in their mid-20s to late 30s; Yers are 25 and younger) bring a different and more challenging set of expectations to the work world.

Attracting members of the younger generations, while retaining the valuable knowledge and experience of older workers, will be increasingly important to manufacturers over the next five years. Young people bring technology-savvy skills, a global and diverse orientation, and an ability to think in innovative ways that are critical to competitive advantage.

Much has been written about changing employee attitudes and expectations, the erosion of job security, and the new "employee covenant." Instead of promising lifetime employment, employers offer meaningful jobs and development and growth opportunities through a combination of formal training, career options, and on-the-job experience. Against this backdrop, it is somewhat surprising to note that only 13 percent of respondents indicated that one of the reasons they provide training to employees today is a way to attract new workers.



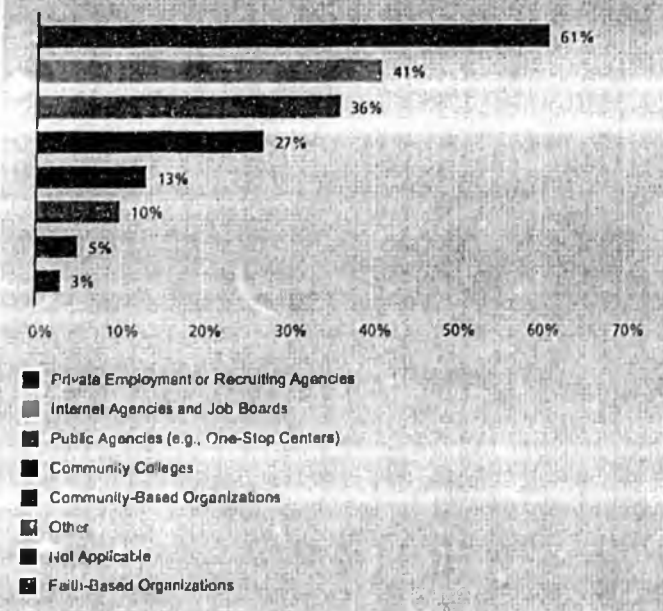
Recruitment Strategies

Despite an emerging desire for building a high-performance workforce and attracting highly engaged employees, the majority of respondents to the survey continue to use mostly traditional recruiting strategies. Manufacturers cited competitive wages, and health care and retirement benefits as their top methods for attracting employees – which for most employees are considered a given rather than differentiators.

Indicating a growing awareness of more effective approaches for attracting employees, the following scored moderately on the survey: flexible work arrangements, tuition reimbursement, employee referrals, and professional development.

Respondents ranked other recruitment techniques, including signing bonuses, on-site services, and stock options or equity, much less favorably – perhaps because they were perceived as ineffective in attracting and recruiting new employees or as impractical given the investments required for implementation.

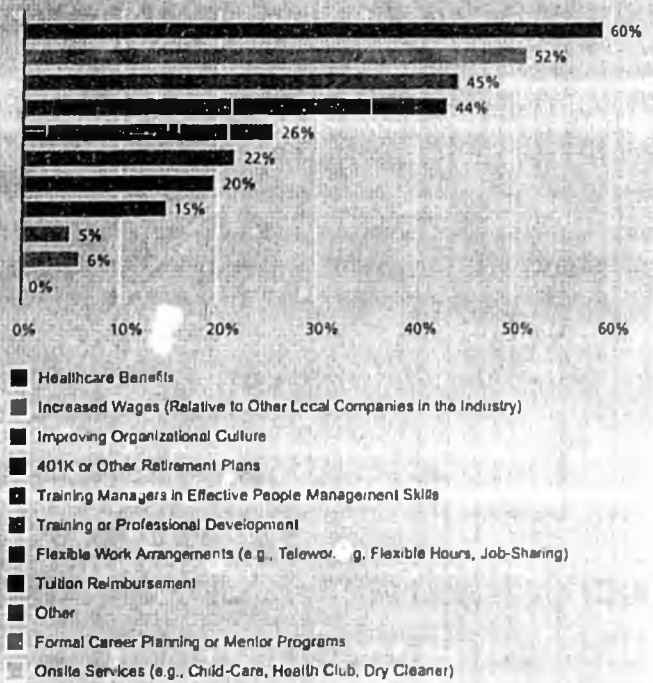
Figure 6. Have Placement Services From the Following Organizations Been Used to Recruit and Hire Employees? (Check the Two Most Used)



U.S. manufacturers have an opportunity to increase the impact of their recruitment strategies by moving beyond the traditional means of attracting employees and including additional dimensions to differentiate their approaches. Of course compensation and benefits must be competitive, but based on what we know employees are looking for – development and training, challenging work assignments, and connection in the workplace – U.S. manufacturers need to improve their recruitment strategies by including and promoting these aspects of the workplace. These efforts will also pay dividends in increased employee retention rates.

In response to how employers are using placement services to recruit and hire employees, traditional private employment/recruitment agencies scored highest by a clear margin. But there are some signs of creativity in recruitment techniques, such as the use of Internet agencies and job boards (41 percent), followed by the use of public agencies and community colleges (36 and 27 percent, respectively). Low responses were received for community-based and faith-based organizations.

Figure 7. Which of the Following Have Been Used Most Successfully to Retain Current Employees? (Select Up to Three)



Retention Strategies

Survey respondents noted the importance of organizational culture, effective managers, flexible work arrangements, training and development, and tuition reimbursement in retaining employees – indicating a growing awareness of what drives employee satisfaction and retention. In particular, the importance of organizational culture for retaining employees shows a dramatic shift in thinking about employer responsibility and the need to create an environment that breaks down barriers to productivity and employee engagement. It also underscores an opportunity to improve recruitment results by better promoting what companies are already doing to retain and engage current employees.

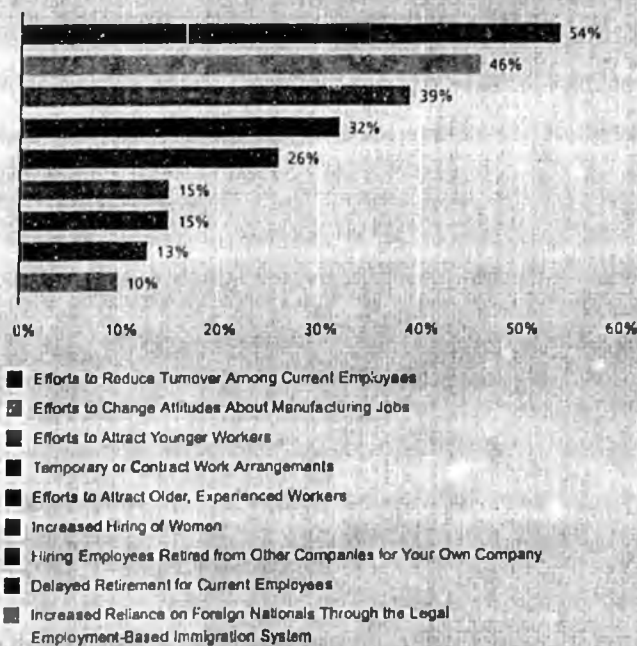
Like the responses for recruitment strategies, survey participants scored compensation and benefits highly as drivers of retention. This traditional view of employee motivators is consistent with the responses for recruitment strategies above. But clearly, there is a movement toward more progressive thinking around how to retain talent and the program elements that need to be implemented.

Low response rates were seen for formal career planning, mentoring, and on-site services as drivers of employee retention.

Looking ahead over the next three years, respondents felt they would address skills-retention challenges by working to reduce turnover, participating in efforts to change attitudes about manufacturing jobs, attracting younger as well as older, experienced employees, and using contract or temporary workers. Low to moderate responses were seen for the following tactics: hiring retired employees, employing more women, delaying retirement, and increasing reliance on legal foreign nationals.

This reaction indicated a willingness to try multiple and non-traditional approaches to dealing with skills retention in the years ahead. Considering the traditional approaches for current recruiting and retention strategies reported above, it is likely that manufacturing employers will need to use new and additional ways to source and retain the skills they require to be competitive.

Figure 8. Considering the Challenge of Attracting and Retaining Employees with the Right Skills for Your Business, Which of the Following Tactics Might You Utilize Over the Next Three Years? (Select Up to Three)



"Battlebots" and Developing Young Talent at E.J. Ajax

To prepare for the future, E.J. Ajax and Sons, a metal stamping company in Minneapolis, is promoting a program called "Battlebots," designed to attract young people to a career in tool and die. Currently in a dozen high schools in the Midwest, the Battlebots program introduces students to electronics, computer control, fluid motion, welding, working with sheet metal, and other manufacturing skills, all in the pursuit of building competitive robots.



E.J. Ajax realizes that the manufacturing sector is not as popular a career choice for young people as it once was in the United States. But, the company's leadership has been encouraged recently by growing interest in high schools and on college campuses as a result of the Battlebots program.

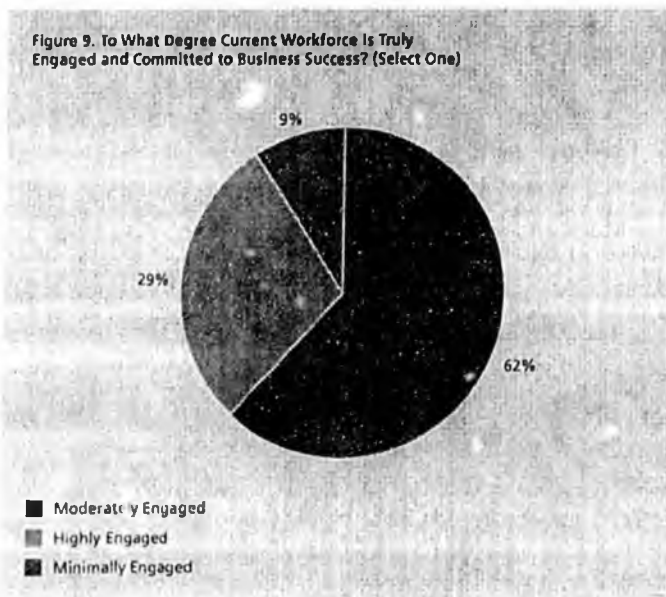
E.J. Ajax is also forming an alliance with the University of Minnesota at Crookston (UMC). The university recently introduced a four-year degree program in manufacturing that recognizes the value of previous college coursework and specialized training, as well as work experience. The company currently employs an intern who is attending a two-year program at a Minneapolis technical college and plans to complete his studies through the UMC program, while continuing to work for Ajax.

"One of my biggest challenges in the next three to ten years will be the retirement of my incumbent workforce," said Erick Ajax, vice president of E.J. Ajax. "A quarter of my workforce is over 50 years old. Our four-year apprenticeship program is a good way to provide a career path for young people and interest them in this highly challenging field. There are some wonderful opportunities for someone who wants to pursue a degree in engineering, robotics, or automation and help the United States compete in the world."

Employee Engagement

In spite of the challenges employers are facing as reported in other parts of the survey, it was disappointing that only 29 percent of employers surveyed perceived their workforce to be highly engaged. If employers expect to have high-performance workplaces, they must do better at motivating all of their employees to be highly engaged. Sixty-three percent of respondents said their employees were moderately engaged and 9 percent said they were minimally engaged. These percentages demonstrate that employers should be concerned about their ability to achieve high performance without a more fully committed workforce.

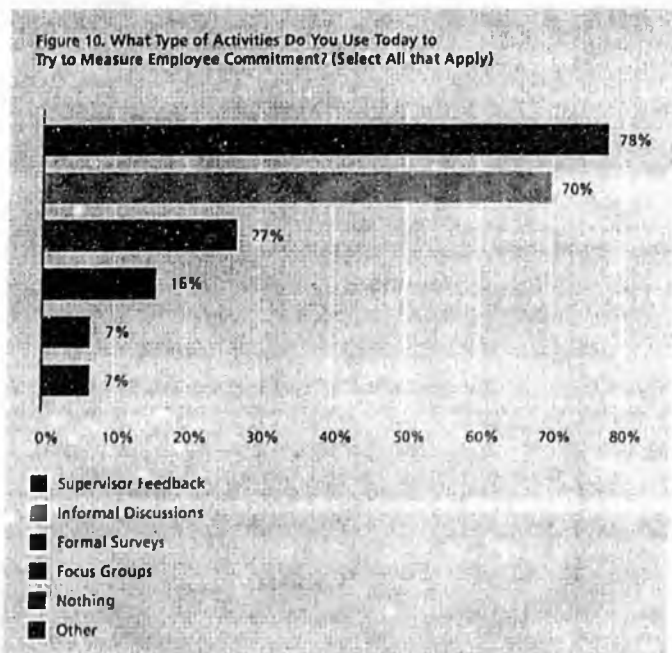
Figure 9. To What Degree Current Workforce Is Truly Engaged and Committed to Business Success? (Select One)



These results may be mitigated by how survey respondents reported that they measured employee engagement. Most methods reported were informal, including supervisor feedback and informal discussions. More impartial measures, including formal surveys and focus groups, received significantly lower scores, indicating an opportunity for employers to connect more objectively with and hear feedback from their employees.

Just as successful manufacturing companies pay close attention to and study what their customers want, these same companies must apply similar rigor to understanding what their employees want and how to motivate them. In short, manufacturers would greatly benefit from learning how to maximize the return on their human capital investments.

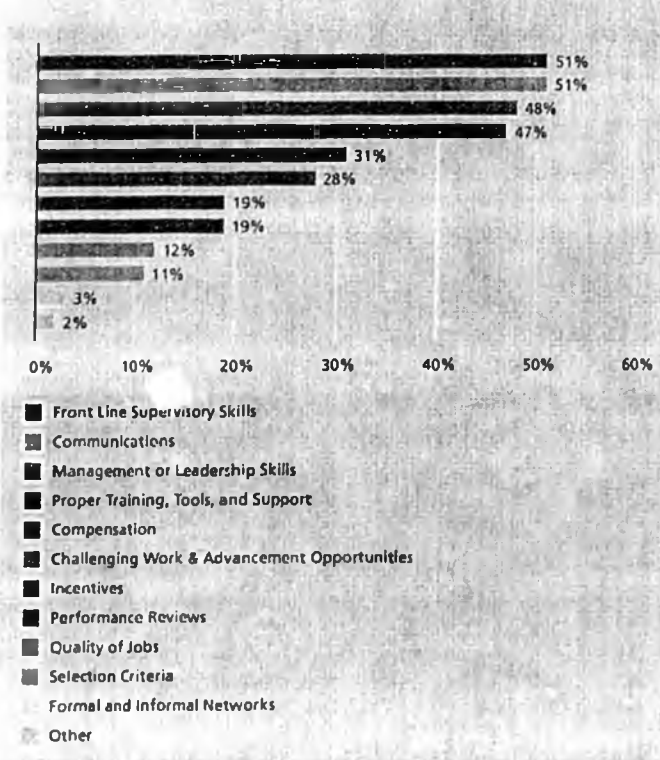
Figure 10. What Type of Activities Do You Use Today to Try to Measure Employee Commitment? (Select All that Apply)



Further, the large percentage of respondents who reported their workforce was moderately engaged indicates a significant opportunity to raise the level of involvement among employees. This will help many of the respondents achieve their stated objective to develop a high-performance workforce.

The methods employers reported for maximizing employee commitment showed a strong awareness of what employees value, including high response rates for front-line supervisory skills, management/ leadership skills, proper training, tools, support, communications, and other skills that are required for lean manufacturing environments. Compensation was identified as a moderate driver, which indicates a healthy perspective that employee commitment is not just about money. Low responses to several areas offer further opportunities for improving employee commitment, including providing challenging work, advancement opportunities, quality of jobs, incentives, performance reviews, selection criteria, and formal and informal networks. As employers seek to increase engagement and commitment toward developing a high-performance workforce, these opportunities will be critical.

Figure 11. Which Factors Do You Think Are the Most Important to Maximizing Employee Commitment and Productivity? (Select Up to Three)



Competitive Wages and Benefits

As noted above, respondents do not see compensation and benefits as their best way to maximize employee commitment. Certainly, these dollars are important in the employee/employer equation, but the reality is that employees quickly take compensation and benefits as a given and look to other aspects of a company's value proposition in making decisions about joining or staying and how much effort to put forth.

The key message for U.S. manufacturers is that competitive wages and benefits are important in attracting and retaining employees, but these are just the starting points for developing a differentiated value proposition for employees. People want more from their work experience than a paycheck. They want transferable skills and experiences that make them valuable to their current employer as well as to the broader market. This comes in the form of challenging work assignments, training and development, advancement and promotion, and rotational assignments. Employees also want respect, recognition, and connection in the workplace, specifically relevant performance management processes and incentives (monetary and non-monetary), formal and informal networks, formal and informal mentoring, and a general sense of community within the workplace.

Training

Manufacturing employers surveyed see training as a business necessity to be delivered just-in-time, and not as a way to attract employees, as noted above in the section on recruiting strategies. Respondents noted moderate value for training as a retention tool. At the same time respondents reported that their spending on training is increasing – and not just for executives, but across all employee groups. Employers are placing emphasis on specific job skills in offering training to their employees.



Running a Lean Enterprise at Whirlpool Corporation

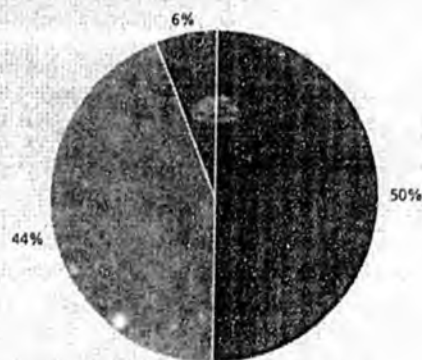
At Whirlpool Corporation, every plant around the world conducts what is called a Lean Focused Event, or LFE. The LFE involves representatives from all areas of the plant – operators, hourly workers, process engineers, industrial engineers, quality controllers, and product designers – to form a work team that examines an existing process and develops a better, more “value-added” way to do it.

“Lean means eliminating waste and non-value-added labor or activity,” explains J. C. Anderson, senior vice president for North American Operations at Whirlpool. “Lean isn’t just about increasing labor productivity. It includes quality enhancement, more strategic inventory control, better use of space, and ergonomic benefits.”

An LFE team focuses on a particular area that needs improvement. The team’s first step is to examine the current state and map out the current process. Then the team envisions the future state by asking, “What would be the ideal way to do this?” The most important step is creating a “migration path” for making the change. All the necessary actions and resources for successfully making the change are documented. The LFE team then makes a presentation to the plant manager, for review and approval to proceed with the team’s recommendations.

“We practice CI [continuous improvement] on our LFE processes as well,” says Anderson. “An LFE tomorrow will be better than the one we did yesterday.”

Figure 12. Does Your Company Spend More, Less, or About the Same Amount on Training Employees As It Did 3 Years Ago (Select One)?



■ More
■ About the same
■ Less

The types of training that respondents reported they are most focused on delivering to employees are technical and basic skills training. Specifically, the most important training programs were reported as those supporting specific skills for a particular job.

The next tier of responses was training for problem solving, teamwork, leadership, computer skills, basic or advanced mathematics, basic reading and writing, and interpersonal skills – all standard skills for high-performance workforces. However, only moderate to low responses were seen for supervisory skills, leadership skills and sales training. Still lower responses were reported for customer service training, certification training, tuition reimbursement, formal apprenticeship programs, English as a second language, and GED assistance.



Running a Lean Enterprise at Whirlpool Corporation

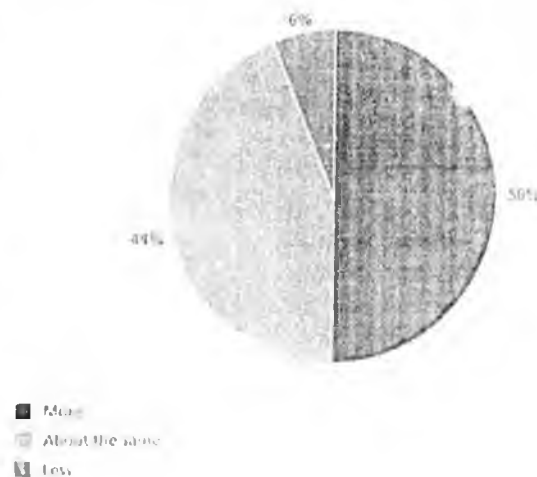
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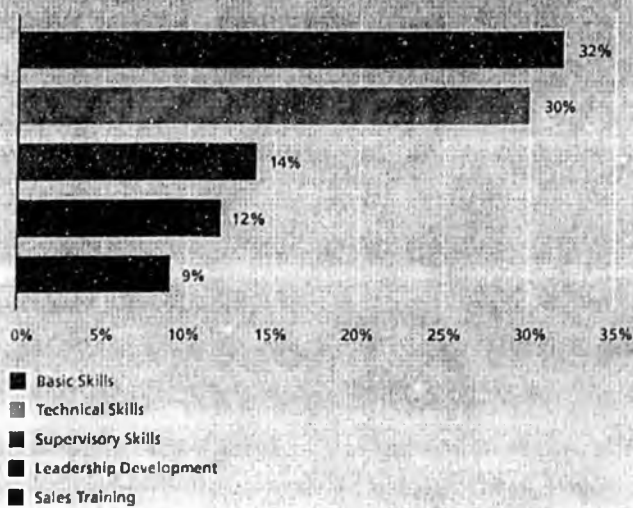
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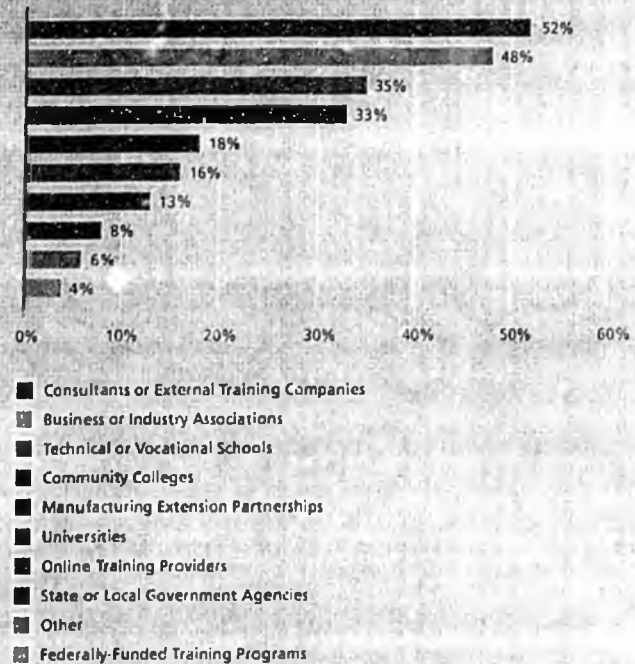
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Figure 13. How Do You Allocate Training Budget? (Average of Responses)



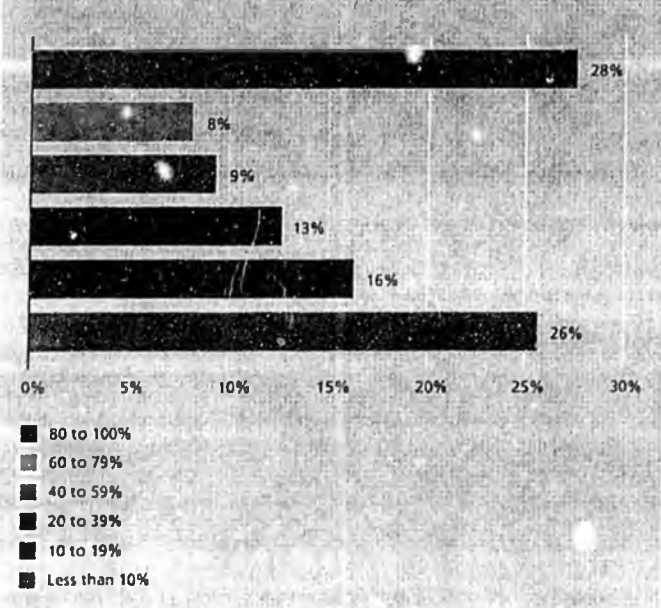
Survey respondents reported that the leading external training providers were training companies, consultants, business or industry associations, technical or vocational schools, and community colleges. Moderate to low responses were received for manufacturing extension partnerships, universities, online providers, state or local government agencies, federally funded programs, unions, and community or faith-based organizations. Based on the relatively low response reported for online training providers, this may be an opportunity for manufacturers to further leverage this flexible and cost-effective channel.

Figure 14. Where Does Your Company Most Often Turn for External Education/training Resources for Current Employees? (Select Up to Three)



Although the surveyed companies are spending more for training, on average, than companies responding to previous Skills Gap surveys, the majority of companies (64 percent) surveyed formally train less than 60 percent of their workforces. The decision whether or not to provide training to all employees may be driven by short-term cost pressures that companies are facing or by a lack of recognition by some regarding the beneficial performance, retention and attraction impacts of training and development investments. Given the gap between employee desires and current programs, it is believed that U.S. manufacturing companies will advance toward their goal of building a high-performance workforce by taking a longer-term investment view of the value of training and development.

Figure 15. On Average, What Percent of All Employees Receives Formal Training Provided by the Company Each Year? (Select One)



Culture as a Driver of Market Competitiveness

Almost half of the survey respondents (46 percent) reported that improving their organizational culture is a priority, while three-quarters of respondents (74 percent) reported their need to build high-performance workforces over the next three years. The challenge for most of the survey respondents in achieving these goals seems to be finding ways to overcome the traditional views of what drives employee attraction, engagement, and retention beyond pay and benefits.

As discussed above, the perspective that respondents reported in the survey is traditional regarding recruitment, engagement, and retention. There is an emerging sense that leadership, management effectiveness, and the overall employee experience are critical to employee satisfaction and commitment, but for the most part respondents see dollars and benefits as their main tools. Competitive wages and benefits have always been a cornerstone of attracting top employees in the United States since the 1950s. Half a century later, a number of

manufacturers are still maintaining the status quo of compensation, seeing it as the primary driver of employee attraction and retention.

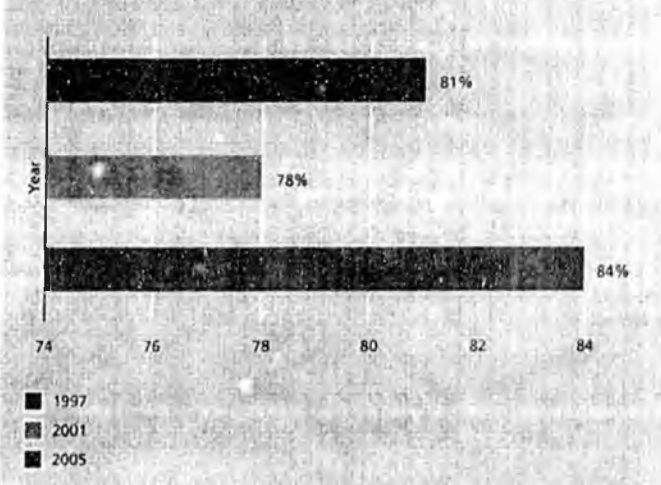
So, how can U.S. manufacturers build high-performance cultures within their companies? Moving beyond traditional ways of motivating employees by implementing some of the engagement approaches discussed above is a start. But, culture is pervasive and often slow to change. Change can happen based on leadership's ability to guide people toward new behaviors and actions, reinforce and reward those new behaviors until they are embedded in the culture, and measure progress toward those goals – both individually and as an organization. "What gets measured, gets done" and so it is for culture and behavior as well.

Public Education's Role in the Solution

Manufacturers are seeking help in closing the skills gap and they view the public education system as having the potential to be a significant part of the solution. The results of this survey indicated, however, that many opportunities exist to improve the public education system and to increase the level of collaboration with employers.

When asked whether K-12 schools are doing a good job preparing students for the workplace, 84 percent of respondents indicated "no." This compares with 78 percent indicating "no" in 2001, and 81 percent in 1997.

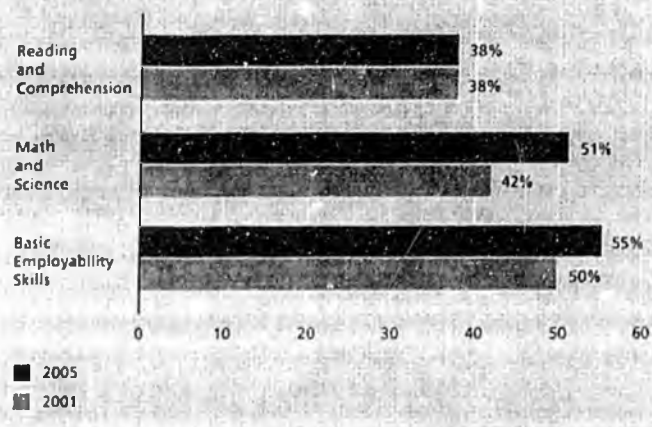
Figure 16. Are K-12 Schools Doing a Good Job Preparing Students for the Workplace? (Those Responding 'No')



Over the past eight years, which have included noteworthy educational reforms, employers of all sizes have yet to see an improvement in the ability of public education institutions to prepare students for the workplace. When controlling for industry segment, it is noteworthy that Aerospace and Defense reported "no" 93 percent of time – eight percentage points higher than the next highest segment, Process Manufacturing. Again, given the skill requirements of working with highly engineered products, it may not be surprising that the response was so high in Aerospace and Defense.

When asked to elaborate on the specific deficiencies of the public education system in preparing students for the workplace, the top three most frequently cited responses were: basic employability skills (attendance, timeliness, work ethic, etc.) at 55 percent, math and science at 51 percent, and reading and comprehension at 38 percent. As Figure 17 illustrates, these same top three responses appeared in the 2001 report.

Figure 17. What Are the Specific Deficiencies of the Public Education System in Preparing Students for the Workplace? (Top Three Responses)

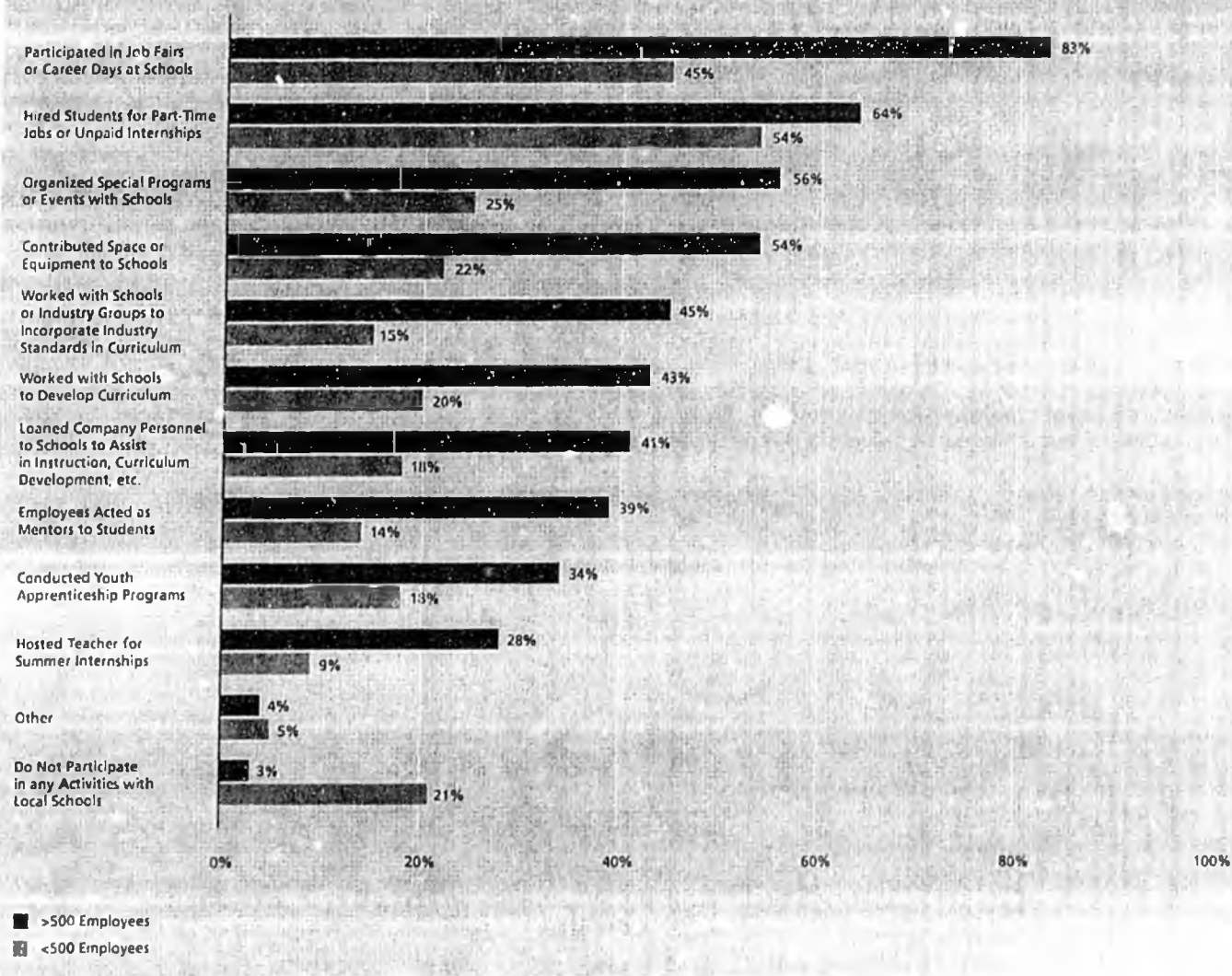


As with the 2001 survey, employers continue to cite basic employability skills as the single most frequent deficiency among employees. This, of course, presents an interesting challenge to the public education system and society overall. Even if schools perform well in their traditional role of increasing math, science and reading comprehension skills, this would not address the top, pressing concern of employers – the need for attendance, timeliness, and work ethic.

Given that traditional approaches are inadequately addressing these urgent issues, additional dialogue between manufacturers and the public education system is required regarding standards and expectations and the role that schools are playing in the preparation of students for the workplace. This effort should focus on better understanding the policies and practices that may have hindered schools in turning out students ready to work – from the types of teachers and career counselors that are hired, to disincentives that are in place holding students back even when they are qualified for advancement, limited parental interest in education, and a lack of school board awareness in changing workplace skill requirements.

When asked what they themselves are doing to address the skills gap via the public education system, 32 percent of respondents indicated that they are participating in state or local business organizations that promise educational reform. However, companies are not attempting to achieve reform only from the "outside." They also are working directly with schools on a number of fronts, such as participating in career days, hiring students for internships, and having employees act as mentors to students. The frequency of respondents' participation in these activities is shown in Figure 18.

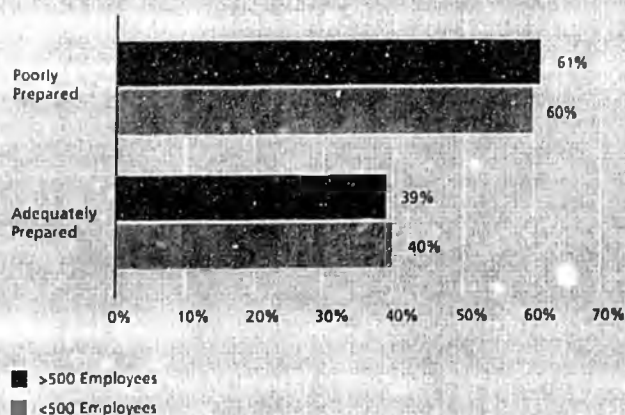
Figure 18. Has Your Company Participated with Local Schools in Any of the Following Activities? – Difference in Frequency Between Large and Small Employers (Select All That Apply)



Possibly the most important finding from the response to this question is that large employers, those with more than 500 employees, participate in these activities at a rate of two to three times that of the smaller employers, those with less than 500 employees. Given the impact small companies now have in maintaining overall levels of manufacturing employment, and the extent to which small companies draw their candidates from their local communities, it appears important to increase the level of direct interaction between small companies and their local schools.

Part of the reason that companies are not achieving their potential in directly collaborating with public education may be an incomplete understanding of the potential benefits. When asked why companies are participating in activities directly with the schools, the most frequent response is as part of their community outreach/citizenship activities. However, in a broader sense, most of the top responses, by both large and small companies, can be viewed as contributing to an increased pipeline of qualified and interested new talent into the workplace.

Figure 19. How Prepared for a Typical Entry Level Job In Your Company Are Applicants with High School/GED Qualifications?



Reducing Turnover and Training New Talent at Behlen

Ten years ago the turnover among welders at Behlen Manufacturing was more than 100 percent per year. "We've introduced gain sharing and profit sharing programs as well as a safety bonus. We also cross-train our welders to give them flexibility," explained Duane Matson, training coordinator for Behlen. "This gives employees a wider range of responsibilities."

Behlen is also making an effort to attract new hires that have exposure to welding and the skilled trades

"This is harder to do today than in the past," explains Matson, "since many high schools have eliminated their industrial training programs."

The "2 + 2 Machine Tool" program, offered in conjunction with the local community college, gives Behlen the opportunity to bring high school age students into after school internship programs in the tool and die area. "We teach the students various welding processes, like wire welding. Wire welding is a process that's used all over the country and the world. It's a very marketable skill," says Matson.

Behlen produces fencing, gates, horse and cattle pens, and steel frames for industrial buildings. They also make smaller items, such as park benches, bike racks, and grain bins.

"Our turnover in the welding area is 45 percent right now," says Matson. "Some of that is because people come into welding and then transfer to other positions. Still, we are in considerably better shape than we were several years ago. Our turnover rate company-wide is 30 percent. We attribute a lot of that success to employee training, as well as the gain sharing and other productivity enhancing programs we've implemented."



Leaders and Employees Develop a Lean Focus at Wainwright

At Wainwright Industries in St. Peters, Missouri, having the last name "Wainwright" does not keep you from rolling up your sleeves and joining the team, especially if the topic is lean manufacturing.

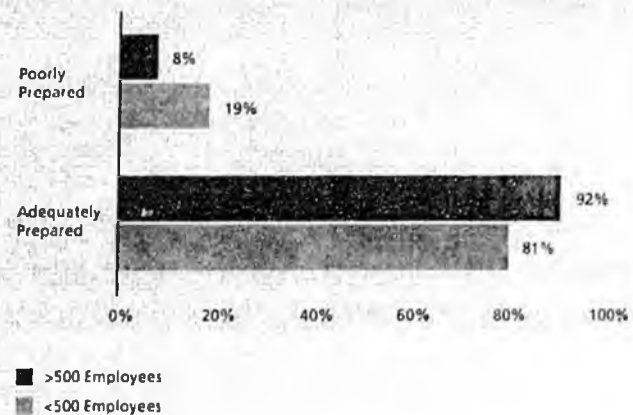
A recent lean manufacturing goal at Wainwright involved dramatically increasing the number of parts welded each week. A cross-functional team was assembled, including a floor operator, plant operator, people, a team facilitator, and the president of Wainwright. The objective was to increase production to 3,000 parts each week. "At first, the group didn't think we could do it, even with three shifts," says Fay Aubuchon, training coordinator at Wainwright. "Then, we started asking, 'What's keeping us from making this goal?'"

The group decided to invite specialists from the plant to examine the situation. A maintenance specialist found a machinery problem that was causing a delay. Repairing that issue raised output by 200 parts per week. Another specialist recommended preventative maintenance that resulted in fewer production delays. The press room specialists worked with the team to revise how the part was being made. An engineer helped the team revise the manufacturing process to increase speed. "We achieved our goal because we kept asking, 'What can we do better?'" says Aubuchon.

"A high-performance team is only as good as everybody on the team. You have to have respect for each other and all be focused on the same objective - from Nelson Wainwright to the people who keep the floors clean," says Aubuchon. "Our leadership is just as committed as the workforce. To have leaders who will come out on the floor and work with you, that's pretty amazing."

One significant reason that only about a third of respondents (27 percent) see local schools as a potential pool of new talent may be because they do not believe local schools are graduating students who are prepared to accept even their entry level positions. When asked, "How prepared for a typical entry-level job in your company are applicants with the following qualifications?" only 40 percent responded that graduates with a high school degree are prepared (Figure 19). This does not appear to be the case, however, for local community colleges, with 81 percent of the respondents indicating that a two-year degree or a job-related, industry certification is adequate for their entry-level positions (Figure 20).

Figure 20. How Prepared for a Typical Entry Level Job in Your Company Are Applicants With a Certificate From a Two-Year College?

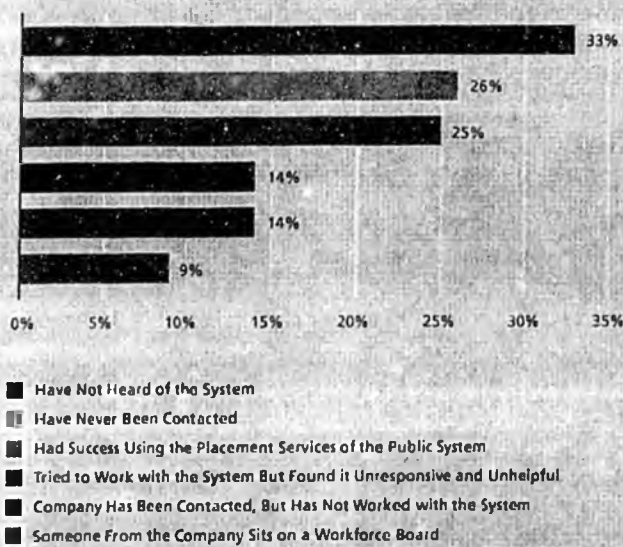


Government Involvement

The Workforce Investment Act of 1998 gives state and local officials new authority and flexibility for using federal job-training aid. Under this initiative, public systems provide training, job-search and placement assistance, adult literacy and other labor-market services through one-stop centers. The governor of each state appoints a State Workforce Investment Board, which must have a majority of business members and be chaired by a businessperson.

Relatively few of our respondents have had substantial interaction with the state or local government workforce system. When asked about their involvement, 33 percent report they have not heard of the government workforce system, and 26 percent indicated they have never been contacted.

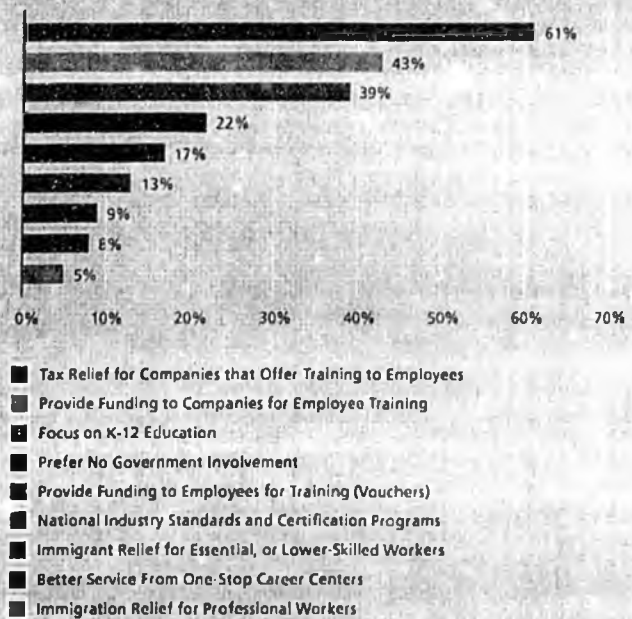
Figure 21. Describe Your Company's Level of Involvement with Your State or Local Workforce System: (Select All that Apply)



In large part, it appears the limited involvement with the Workforce Investment Board stems from a lack of knowledge with the system – 53 percent have never been asked to serve on a local Board and 40 percent do not know about any Workforce Boards in their area.

U.S. manufacturers believe the federal government can be most helpful in supporting their efforts to attract and retain a highly effective workforce by providing incentives for these companies to offer training programs. Tax relief for companies that provide training to their workers is the most valued support (61 percent), followed by direct reimbursement to companies for employee training (43 percent). Finally, 39 percent of respondents believe the federal government should focus on K-12 education.

Figure 22. How Should the Federal Government Provide Assistance to U.S. Based Manufacturers in Support of Their Efforts to Attract and Retain a Highly Effective Workforce? (Select Up to Three)



The Path Ahead – Recommendations for an Individual and Shared Responsibility



Over the last decade the *Skills Gap Surveys* have recorded an alarming trend: **the largest manufacturing country in the world can barely find the skilled employees it needs to remain competitive in a global economy.** The 1990s and the recession of 2000-2003 were a proving ground for manufacturers – they were forced to adopt lean manufacturing processes, utilize new technologies, develop new products and new niches, and adapt to an extremely competitive global business environment. In the process of making these changes, manufacturers came to understand the true requirements of the new manufacturing workforce. They also came to see that their employees would need more sophisticated skills than those needed in the past and that workers did not necessarily have the right kinds of skills needed for manufacturing's current and future challenges.

This year's report continues to peel back the layers of aspiration versus reality regarding the talent shortage and underscores its very real business and economic impacts. What this report hopefully makes abundantly clear is that the talent shortages and skills gaps outlined in this report are neither theoretical nor distant problems. **Today, these issues are having a negative impact on the business operations of 83 percent of companies surveyed.**

The inescapable conclusion is that the ability of manufacturers to attract, retain, and develop a high-performance workforce is of major importance to our nation as a whole. This challenge presents a significant opportunity for collaboration between the public and private sectors. Manufacturers are not expecting government to solve the problem for them, but would like encouragement and support for investments in training programs.

It is also obvious that the issues associated with the skills gap are numerous and complex. To provide for the future viability and vibrancy of the American manufacturing industry, each stakeholder must assume responsibility – including manufacturing companies, the government, educators, and individuals. Specifically, we believe the urgency of this situation requires the follow actions:

Employers must understand the importance of human capital as a business investment. Similar to the other aspects of their business, employers need to look at their human capital as an investment rather than as expenditure. If employees are engaged through a strategy of career ladders, incentives, competitive wages and benefits, and supportive working conditions, they will stay – research bears this out. *As a result, we recommend that employers invest at least 3 percent of payroll whenever possible in training supports for their current employees.* The key is to be proactive in understanding the types of workers needed now, the types needed going forward, what they value as incentives, and how to motivate them to reach their workplace potential.

Employers must implement new and non-traditional approaches to dealing with skills retention challenges. This includes efforts to reduce turnover, participate in efforts to change attitudes about manufacturing jobs, utilize contract or temporary employees, and tap under-utilized talent pools among older, female, immigrant, and non-traditional workers.

Employers must help the general public and public sector to understand what companies need. Companies need to become more engaged in public education, working with educators on curricula, holding field trips and career fairs for students, providing internships and apprenticeships and generally giving community schools opportunities to learn about manufacturing. Companies also need to work with their local public workforce system, advising Workforce Investment Boards on rising or declining economic conditions, business investments, skill needs, and employment requirements. In addition, public/private partnerships should be encouraged to support career awareness campaigns that help individuals understand all the career options available to them. A model for this is The Manufacturing Institute's Dream It Do It manufacturing careers campaign.

Educators must produce graduates familiar with the world of work and the skills needed to be effective in it. Business/education collaborations are critical to help familiarize the teaching and counseling professions with the needs of business. Teachers and career counselors should engage in business externships, and certificate and associate degree programs in community colleges, and technical schools should be updated to the new 21st century skill requirements. And because K-12 education is where it all begins, *math and science should be emphasized in K-12 curricula with a focus on technology and innovation. State education standards should include career education as measurable criteria for K-12 results under the No Child Left Behind Act.*

Education and workforce policies must reflect the need for lifelong learning. Community colleges and technical schools should receive targeted public funding for workforce development because they are often the training provider of choice for employers. *In addition, the Higher Education Act and its funding mechanisms should include a focus on the adult learner and lifelong learning. And, current legislation should be reauthorized to support lifelong learning.*

Individuals must take responsibility for their employability. This is the millennium of the free-agent worker – a person who can go anywhere and do anything with the right kind of education and training. Individuals must accept their role in keeping their skills current and should understand that the value they bring to the workplace is contingent upon their commitment to lifelong learning – to keep their skills and their knowledge current.

Clearly, good jobs require a high level of skill and reap good wages that support families, communities, and the nation. The nation's competitiveness depends upon the manufacturing sector and the upwardly mobile jobs it provides. If manufacturers cannot find the skilled people they need here in the United States, jobs and industries will move to where they can find the skills.

The fact is that the rules of the competitive race have been changed forever. With inexpensive access to Internet, broadband, and collaboration technology, historical barriers like geography no longer prevent small companies and skilled individuals from around the world from participating in local markets. As Craig Barrett, CEO of Intel said, "You don't bring three billion people into the world economy overnight without huge consequences, especially from three societies (like India, China, and Russia) with rich educational heritages."²

This means that we are now facing an entirely new level of competition with no guarantees that the U.S. manufacturing base will remain strong. Plainly said, unless solutions to the skills gap issues are acted upon with great focus and determination, this country will likely be left behind in the global competitive race.

Glossary

Critical Workforce Segments

Specific groups of employees, based on skill type and role in the company, who are most central to the company's business strategy. They are responsible for a large portion of the company's value proposition. Typically, special efforts should be made to develop, retain, and engage these critical workforce segments.

Employee Commitment

Employee commitment is a somewhat subjective term that refers to the degree to which employees are willing to expend "discretionary effort" on behalf of the company. This is contrasted by employee behavior that seeks to deliver the minimum to "get by" and collect a paycheck. High employee commitment exists when workers think about and take action to improve the business processes they support, putting the customer first. These employees are engaged and actively contribute to the company's performance improvements because they understand the overall business and their role within it. Committed and empowered employees act like owners of the business.

High-performance Workplace

A work environment that uses such practices as teamwork, extensive training, regular appraisals and performance feedback, flexible job descriptions, and extensive communication to improve workforce performance. There is disagreement among organizational development specialists as to exactly what constitutes a "high-performance workplace." However, there is widespread agreement that there are four primary dimensions: employee autonomy and involvement in decision-making, support for employee performance, rewards for performance, and the sharing of information and knowledge.

Skilled Production Worker

A skilled production worker is the highest level production technician within the manufacturing environment. A skilled production worker is able to operate manufacturing equipment in more than one process and is capable of recognizing process improvement opportunities. His/her knowledge of manufacturing equipment and processes is sufficient to understand and resolve moderately complex production issues, provide preventive maintenance, and make routine repairs. The skilled production worker applies advanced problem solving and analytical thinking skills to troubleshoot non-routine production issues.

Training

Training can take several forms. Traditional instructor-led training often takes the form of classroom-style presentation, either on-site or as part of an off-site seminar or community college/vocational school. This is typically the most expensive type of training delivery, but offers high levels in interaction with the course instructor and the other participants.

Online or computer-based training is another form of instructional delivery. Whether Web- or CD-ROM-based, this training can be highly cost-effective and flexible. Students can start, stop, and work at their own pace through the training as their comprehension and schedule permits and can easily refer to materials. In addition, they do not have to travel to a particular location to attend training and results can be tracked centrally.

Methodology

The survey was designed to capture qualitative and quantitative answers regarding the U.S. manufacturing workforce, current skills and skill deficits, types of skills training offered, where it is delivered and by whom, as well as special needs and solutions.

Surveys were sent to 8,000 NAM members and Deloitte³ clients who were identified as CEOs, COOs, presidents, or senior executives of human resources. The survey was intended to gather employers' information about their workforces; we did not survey their workers.

More than 800 responded with input regarding the availability of qualified employees, recruitment, retention and training practices, drivers for future business success, and the business impact of labor and skills shortages. The data were entered into an SPSS database, and edited and reviewed to confirm validity. The respondents were parsed into industry groups according to NAIC codes and, in some cases, the groups were combined to provide for more robust cross-tabulations. We also ran cross-tabulations using groupings such as size, regions, and top ten manufacturing states. The majority of the companies participating in the survey were defined as small to mid-size companies with fewer than 500 employees.

This report includes the results of the survey, analysis of the responses and our recommendations. In addition, we have provided several brief vignettes of NAM-member companies to illustrate key points of the report.

Assumptions and Inferences

To gather data for the survey, we used the membership database of the National Association of Manufacturers, but had no way to fully ensure that we would receive a representative sample of all manufacturing across all industries. Thus, while our data are valid, we cannot make inferences about all manufacturing industries, but rather across manufacturing broadly. We believe that these data are suggestive of developments and trends in the manufacturing workplace.

If you have comments or questions about this survey, please feel free to contact the National Association of Manufacturers' Manufacturing Institute/Center for Workforce Success at manufacturinginstitute@nam.org. To order additional copies of the report, please visit www.nam.org/bookstore.

Endnotes

¹ Thomas L. Friedman, *The World Is Flat: A Brief History of the Twenty-First Century*, Copyright 2005

² Ibid.

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About The National Association of Manufacturers

The Manufacturing Institute is the research and education arm of the National Association of Manufacturers, building intellectual support and raising understanding among policymakers, the media, educators and potential workers about manufacturing's contributions to the quality of American life, the challenges facing the sector and its excellent career opportunities. Visit the web site at www.nam.org/institute for more information about manufacturing and the economy.

The National Association of Manufacturers is the nation's largest industrial trade association, representing small and large manufacturers in every industrial sector and in all 50 states. Headquartered in Washington, D.C., the NAM has 10 additional offices across the country. The NAM's mission is to enhance the competitiveness of manufacturers by shaping a legislative and regulatory environment conducive to U.S. economic growth and to increase understanding among policymakers, the media and the general public about the vital role of manufacturing to America's economic future and standard of living.

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MEMORANDUM

State of Alaska
Department of Administration
Division of Personnel & Labor Relations

To: Scott Nordstrand
Commissioner

Date: November 17, 2006

From: Dianne Kiesel
Director

Phone: 465-4430
Fax: 465-3415
Email: dianne_kiesel@admin.state.ak.us

Subject: Market Based Pay Implementation;
PK03B, Engineering, Unlicensed

Recently the Department of Administration, through the Division of Personnel and Labor Relations, implemented several strategies to increase the State of Alaska's ability to attract and retain a qualified workforce. One such strategy has been more aggressive recruitment, which has been used by different departments with varying degrees of success.

However, it became obvious that even with such recruiting techniques as utilizing an internal professional recruiter, increased presences at career and job fairs, opening vacancies to out of state applicants, and a greater use of print and other advertising media, there were occasions when all efforts still did not produce the desired or necessary responses. In an effort to address the times when aggressive recruiting did not yield the necessary result, the Department of Administration developed a market based pay initiative. The intent of the initiative is to assist hiring managers who have exhausted all conventional recruiting means and still have unfilled vacancies in critical positions. The Market Based Pay (MBP) initiative allows the State to implement a revised classification and pay plan which provides the employer more flexibility in responding to market conditions.

The State of Alaska maintains a classification plan based on the concept of like pay for like work. The classification plan is an organized arrangement of all positions in the classified and partially exempt service. Positions bearing sufficient similarities are grouped together on the basis of duties and responsibilities.

The pay policy guidelines for adjusting for Market Based Pay (MBP) are considered when there is a demonstrated history of recruitment difficulty for a job class family subgroup and where it can be shown that such recruitment difficulty is perpetuated by the State's inability to pay competitive market wages.

To determine which job class family subgroups were eligible for Market Based Pay considerations, the Department of Administration, Division of Personnel and Labor Relations, researched and analyzed recruitment data for each. The recruitment data for the job class family PK03B, Engineering, Unlicensed is summarized below.

Summary of Recruitment Data

**Market Based Pay Summary
PK03B, Engineering, Unlicensed**

Total recruitments conducted in 2005	68	
a 25% of recruitments posted were open to all applicants	35	51.47%
b 75% of recruitments posted were open to at minimum, Alaska residents	62	91.17%
c Majority of Recruitments resulted in fewer than 5 qualified, eligible, and interested applicants	34	50%
d Demonstrated recruitment failure of at least 15%	13	19.1%

With nearly 50% of all recruiting efforts resulting in fewer than five qualified, interested, and eligible applicants and a demonstrated recruitment failure rate of 19%, it is apparent that marketing strategies alone are not going to result in an adequate applicant pool. For all job families that met the first four criteria which demonstrate recruitment difficulties, a market survey was conducted. The market survey results also had to meet specific criteria before a job family received a recommendation for a salary increase.

For job class family PK03B, Engineering, Unlicensed, one job class, Engineer Associate, was surveyed. Five different sources, as available, were used to compare State of Alaska salaries to the prevailing market rate.

- Economic Research Institute is a world leader in salary survey information and their national database of salary and wages was accessed.
- Members of NASPE (National Association of State Personnel Executives) were surveyed, with a response rate of 46%.
- Milliman - The 2005 Alaska Cross-Industry Survey covers 156 benchmark positions, with data compiled from 38 major employers with operations located in Anchorage, Fairbanks, Southeast, and/or Kenai Peninsula areas. *Please note that this survey includes State of Alaska salary information.
- AASHTO (The American Association of State Highway and Transportation Officials) completes a survey every two years. The 2004 data, while too stale-dated to be considered usable for calculation purposes, is provided as an additional source of clarification. 2006 data is not yet available. *Please note that this survey contains State of Alaska salary information.

- A survey was sent to 352 Alaska businesses and industries, with an overall response rate of 22%, and a response rate from 62 engineering firms and other prime competitors for this benchmark position of 11%.

A compilation of the information from each source is summarized below.

Summary of Survey Results

Engineering Associate

State of Alaska			Years of Service	50th Percentile				
Current Range 20	Range 21	Range 22		ERI	AK Survey	NASPE Survey	AASHTO*	Milliman*
64,740.00	69,192.00	74,100.00	5.00	64,177.57	72,953.23	67,756.89	87,621.00	82,795.74

5 years=F step

Average: 71,920.86

The survey of this benchmark position in this job class family shows that State of Alaska salaries are below market for this level of experience. The survey revealed the fact that the state's prime competitors, engineering and architectural firms within the state, pay significantly more for this type of work.

For this job class family, it is imperative to recognize that 15% of the current incumbents are eligible to retire within one year and 32% within the next five years. Additionally, it has been projected that there will be a need for up to 17% more professionals in this occupational group nationally and 8.1% statewide over the next six years. Recruitment nationwide and statewide will be fierce for qualified individuals to fill the anticipated needs.

Increased wages have the potential to help improve the state's ability to attract and retain unlicensed engineering staff. Based on the available recruitment and market data, the job class family PK03B, Engineering, Unlicensed meets the intent of the market based pay initiative. A one-range increase would bring the state's salaries substantially closer to the current market rate. Therefore a one-range increase will be granted.



Nonresidents Working in Alaska 2005

State of Alaska

*Sarah Palin, Governor
Commissioner Click Bishop*

Published January 2007



**ALASKA DEPARTMENT OF LABOR
& WORKFORCE DEVELOPMENT**

Jobs are Alaska's Future

Highlights

- The number and percentage of nonresidents* working in Alaska in 2005 increased due to strong growth in the construction, accommodations and food services, and mining (oil and gas) industries. The nonresident hire rate rose from 18.4% in 2004 to 19.1% in 2005. The number of resident wage and salary workers grew by 2,317, while 3,899 nonresident workers were added in 2005.
- Nonresident hire grew faster in 2005. The number of nonresident wage and salary workers employed in Alaska increased by 5.5% (3,899). The resident wage and salary workforce increased by just 0.7% (2,317) from 2004 to 2005.
- Total wage and salary earnings in private sector, state and local government* jobs totaled \$11.1 billion in 2005. Nonresidents earned about 12.2% of the total (or \$1.4 billion), an increase from the 11.8% of total wages paid to nonresidents in 2004.
- Resident earnings increased 4.2%, or \$388.4 million, from 2004 to 2005. Nonresident earnings increased 8.7%, or \$108.8 million, from 2004. Despite the higher growth, average earnings for residents grew by \$1,014 in 2005, while average earnings for nonresidents grew by just \$535.
- Nonresidents accounted for 29.6% of the oil industry's (major oil companies and oilfield services) workforce in 2005. This was more than 1.5% higher than 2004. The industry added 275 nonresident worker and 60 resident workers. Many of the new nonresident workers were short-term hires who worked two quarters or less.
- Earnings paid to nonresidents working in the oil industry increased from \$226.6 million in 2004 to \$242.9 million in 2005. The nonresident share of earnings in the oil industry rose from 26.7% in 2004 to 27.2% in 2005, a figure higher than the statewide private sector average of 14.7%.
- The number of nonresident workers employed in the construction industry increased by 13.1%, or 729 workers; resident hire increased by just 5.0%. As a result, the percentage of nonresidents working in construction increased from 19.0% in 2004, to 20.2% in 2005.
- Alaska's construction industry paid \$924.2 million to residents in 2005, an increase of \$108.8 million from 2004. Nonresidents were paid \$148.0 million, up about \$29.9 million from the 2004 nonresident earnings of \$118.1 million. Nonresidents' share of the construction earnings increased from 12.7% in 2004 to 13.8% in 2005. Construction accounted for a third of all private sector wage growth in 2005.
- Alaska's seafood processing industry employed the highest percentage of nonresident workers of any industry sector in 2005. More than 73 percent of workers in that industry were nonresidents. Nonresident seafood processing workers earned \$184.3 of the \$276.6 million paid to all seafood processing workers in 2005.
- Alaska industries affected by visitor expenditures have relatively high nonresident hire rates. The accommodations (Hotels/Lodging) industry showed an increase in its percentage of nonresident workers, climbing to 37.8% in 2005 from 36.9% in 2004. This marks the sixth year in a row that the nonresident hire rate has increased in this industry. The scenic and sightseeing transportation sector had a nonresident hire rate of 45.1%, more than twice the private sector average.
- The Southwest Region's Aleutians East Borough, Aleutians West Census Area, and the Bristol Bay Borough had the highest borough/census area nonresident hire rates due to significant seafood processing employment. North Slope's oil and gas and Skagway-Angoon-Hoonah Census Area's tourism-related nonresident employment contribute to their high nonresident employment rates.
- Relatively high paying occupations with the largest number of nonresident workers include: general construction workers, carpenters, nurses, operating engineers, pilots, and electricians.

* See Page A-22 Methodology for the definition of residency and workers included in this report.

Nonresidents Working in Alaska - 2005

Introduction

Alaska has a unique set of databases that allow for quick and accurate monitoring of resident hire in the state. Utilizing Alaska unemployment insurance (UI) wage records that contain worker occupation and place of work data, the Alaska Permanent Fund Dividend (PFD) database, and other data series, Alaska can monitor the resident hire status of particular employers, industries, occupations, and regions in a way not available to any other state. This information is used to identify occupations eligible for preference on public funded construction projects as required by AS 36.10.150, to report on the status of resident hire in the state as required by AS 36.20.130¹, and report on resident hire by employer as allowed under AS 23.20.110.

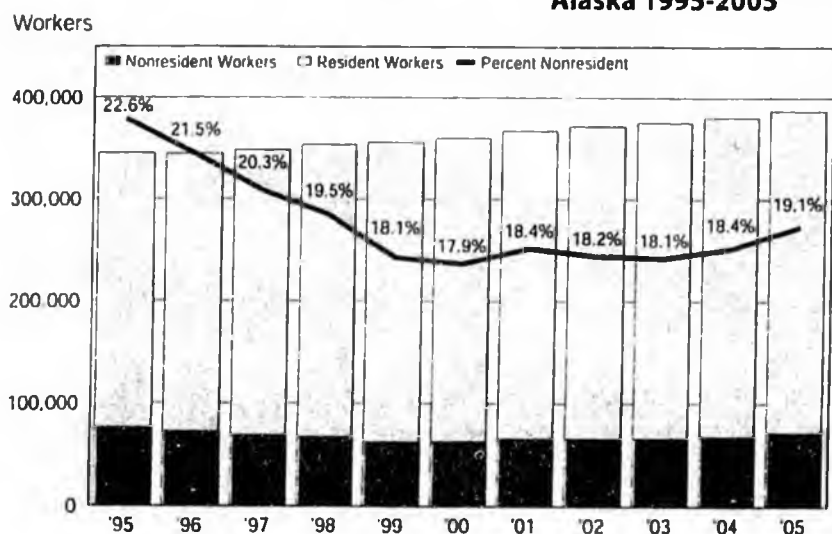
This Alaska resident hire preference legislation was initiated by the Alaska legislature in 1986 in response to the large influx of nonresident workers associated by the oil fueled construction boom of the early 1980's. As the economy slowed with a decline in oil prices, there was heightened interest in insuring that Alaskans be given preference for as many public funded jobs as possible and that information be collected to identify those private employers and industries that hired a large percentage of their workers from outside the state.

With Alaska's seasonal economy, relatively small total labor force and small pool of local workers with special construction or oil-related skills, there has often been a strong tendency for employers to recruit workers from outside the state. Although resident hire preference requirements and information spotlighting problem areas can help to discourage nonresident hire, recent efforts have focused on improving existing training programs and creating new training programs to meet unmet needs.

A number of high paying jobs are taken by nonresidents for which Alaskans are available or can be quickly trained. Many of these jobs are year-round, rather than one-time, short-term, or seasonal. Alaska also has many workers that commute from outside the state on a regular basis to their jobs in Alaska. In the fourth quarter (October - December) of 2005, approximately 49,000 workers were newly hired in Alaska wage and salary employment. New hires are workers that had not been employed by the hiring firm at any time in the previous four calendar quarters. More than 11,000 of these new hires were nonresidents of Alaska.

Industries and occupations with a high percentage of nonresident workers have been given high priority for new training dollars. The Alaska Workforce Investment Board and the University of Alaska include resident hire data in identifying unmet training needs. The Alaska Department of Labor & Workforce Development also identifies particular craft occupations that are eligible for a 90 percent

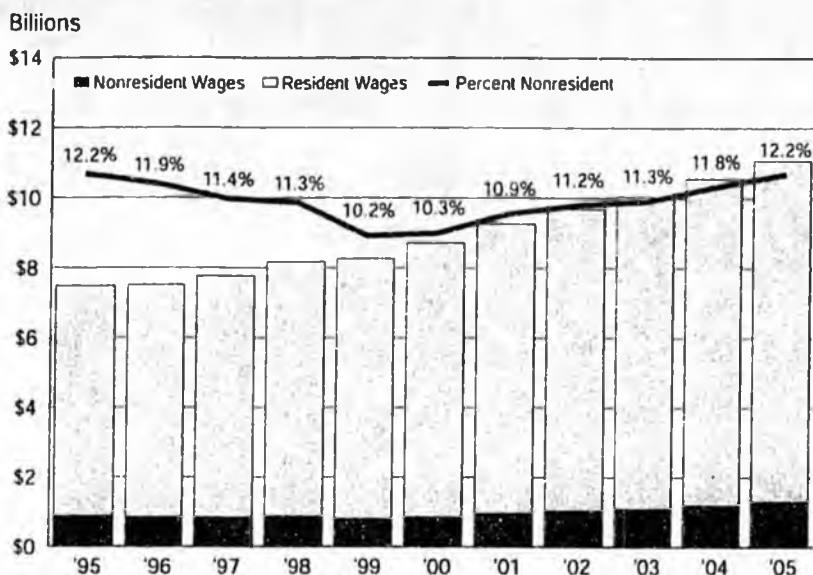
Resident and Nonresident Workers and Percent Nonresident
Alaska 1995-2005



Note: Includes private sector, state and local government workers.

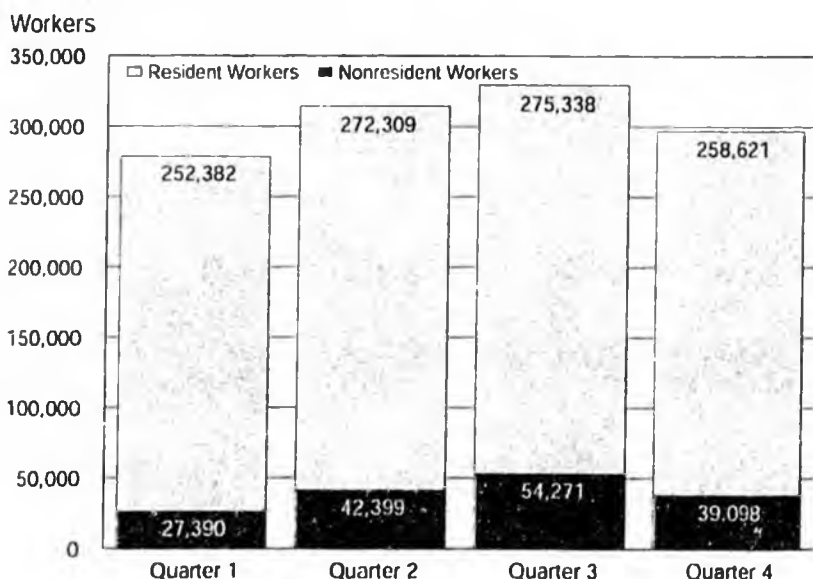
Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

2 Resident and Nonresident Wages and Percent Nonresident Alaska 1995-2005



Note: Includes private sector, state and local government workers.
Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

3 Alaska Workers by Quarter Resident and Nonresident 2005



Note: Includes private sector, state and local government workers.
Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

resident employment preference based upon provisions and procedures outlined in Alaska statutes and regulations. Maximizing resident hire requires a variety of tools, including improved training, industry education, and regulatory enforcement, depending upon the industry or occupation group.

Encouraging resident hire requires constant effort. The fast paced growth in Alaska's construction and oil service industry resulted in a small increase in the percentage of nonresident workers in 2005, despite heavy investment in training programs. This result raises concern for the resident hire impact that may result from construction of an Alaska gas pipeline.

Measuring Residency

To calculate residency, quarterly Alaska unemployment insurance wage records (which contain industry, occupation, earnings, and place of work) for each worker are matched with Alaska PFD data to identify resident and nonresident workers. The two most recent years' PFD data are used to determine residency. Workers who received a PFD in one of the two most recent years are considered residents for purposes of this report. Historical analysis of the PFD file shows that this information is an excellent indicator of residency. Although some workers not eligible for a PFD at the time residency reports are generated become residents in the following year, the most recent data show that these workers represent only about 15 percent of total nonresident workers. Workers' industry and occupation are determined based upon the industry and occupation in which they earned the most money in 2005.

Nonresident Workforce Grows Faster than Resident Workforce

The total number of private sector, state and local government wage and salary² workers employed in Alaska in 2005 was 389,269. This was an increase of 6,216 from 2004. In 2005, nonresident workers comprised 19.1% of private sector, state and local government workers employed during the year, an increase from the 18.4% nonresident

hire rate reported in 2004. (See Exhibit 1.) The number of nonresident³ workers increased 5.5%, or 3,899, to 74,266, while the number of resident workers increased 0.7%, or 2,317, to a total of 315,003 resident workers. This is the first time since 1992 that the increase in the number of nonresident workers from the prior year exceeded the increase in resident workers.

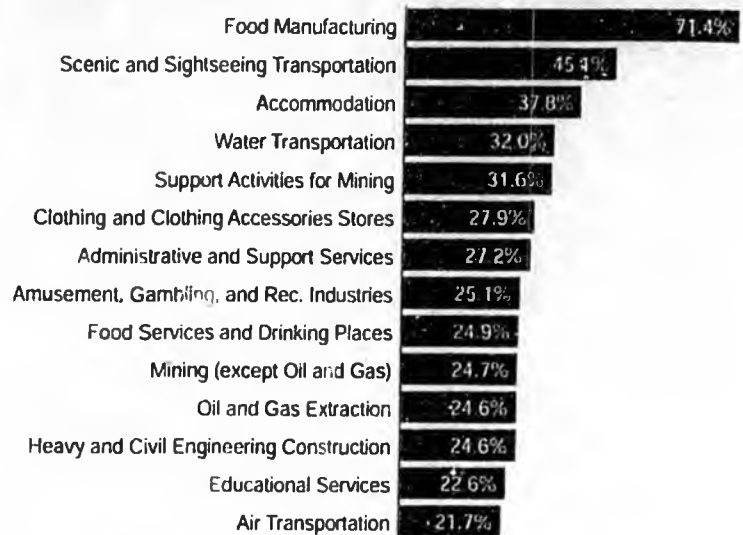
Total wage and salary earnings grew 4.7% to \$11.1 billion in 2005. Nonresidents earned 12.2% of the \$11.1 billion, up from the 11.8% share they received in 2004. Total resident earnings, or wages, increased by \$388.4 million to \$9.7 billion in 2005 while total nonresident earnings increased by \$108.8 million to \$1.4 billion. Despite the relatively large increase in the number of nonresident workers, their earnings did not keep pace with resident workers.

With some significant exceptions, nonresidents typically do not work all four quarters of the year, often working only one or two calendar quarters.

Many nonresident workers are employed only during the summer months or in short-term or seasonal jobs, including those in the seafood processing and visitor-related industry sectors. In 2005, residents earned an annual average of \$30,821 while nonresidents earned 59.2 percent as much at \$18,242. Average annual earnings grew by \$1,014 for residents and \$535 for nonresidents. The average earnings per quarter worked for nonresidents were \$8,303 in 2005, which is 90.5 percent as much as resident workers earned, \$9,171.

Private Sector Industries with Highest Percent Nonresident Workers **4**

Alaska 2005



Note: Industries with 1,000 or more workers.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

Workers and Wages **5**

Major and Selected Industry Categories
Alaska 2005

Industry	Total		Nonresident			
	Workers	Wages (in millions)	Workers	Percent	Wages (in millions)	Percent
Agriculture, Forestry, Fishing, and Hunting ¹	2,165	\$40.6	850	39.3	\$13.3	32.9
Mining	14,085	1,020.3	4,078	29.0	270.6	26.5
Oil and Gas	3,183	404.3	784	24.6	100.4	24.8
Oilfield Services ²	8,445	489.8	2,658	31.5	142.5	29.1
Utilities	2,240	120.2	142	6.3	3.7	3.1
Construction	31,096	1,072.1	6,288	20.2	148.0	13.8
Manufacturing	25,173	451.1	15,417	61.2	196.5	43.6
Seafood Processing	19,848	276.6	14,564	73.4	184.3	66.6
Wholesale Trade	7,767	264.8	1,003	12.9	16.2	6.1
Retail Trade	48,466	927.7	7,262	15.0	63.3	6.8
Transportation and Warehousing	25,066	901.0	5,540	22.1	184.1	20.4
Air Transportation	7,757	315.3	1,683	21.7	90.4	28.7
Information	5,047	340.1	688	8.5	14.0	4.1
Finance and Insurance	9,909	403.9	747	7.5	14.0	3.5
Real Estate and Rental and Leasing	7,272	163.9	871	12.0	9.5	5.8
Professional, Scientific and Technical Services	14,322	561.6	2,543	17.8	77.3	13.8
Management of Companies and Enterprises	593	32.5	56	9.4	2.2	6.9
Admin. Support/Waste Management and Remediation	16,707	353.5	4,351	26.0	69.1	19.6
Educational Services	2,655	58.9	599	22.6	6.9	11.7
Health Care and Social Assistance	39,890	1,210.9	3,984	10.0	76.8	6.3
Arts, Entertainment, and Recreation	5,856	61.8	1,489	25.4	9.8	15.9
Accommodation and Food Services	40,161	452.0	11,559	28.8	85.1	18.8
Accommodation	12,256	153.3	4,628	37.8	36.9	24.1
Food Services and Drinking Places	27,843	298.4	6,918	24.8	48.1	16.1
Other Services	11,799	257.8	1,658	14.1	19.7	7.6
Public Administration	503	8.2	31	6.2	0.2	2.7
Unclassifiable ³	195	2.5	87	44.6	0.8	33.1
State Government	26,429	961.7	1,885	7.1	30.0	3.1
Local Government	48,873	1,396.3	3,138	6.4	43.4	3.1
Total	389,289	11,063.5	74,266	19.1	1,354.8	12.2

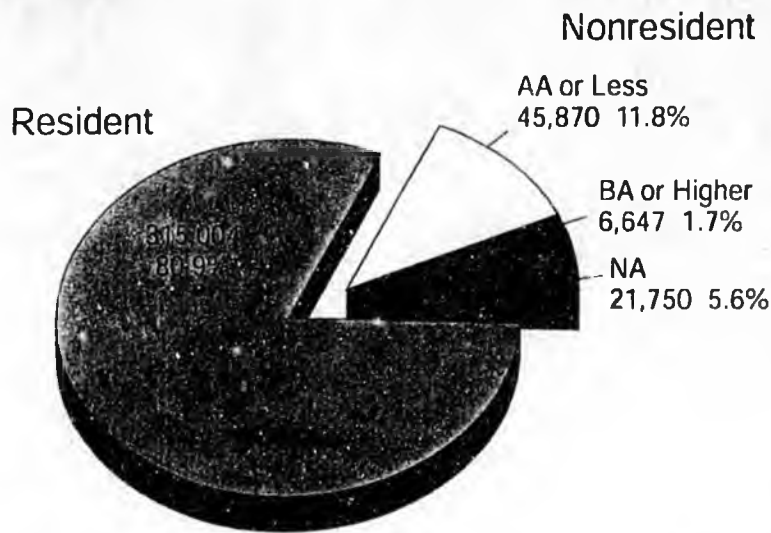
¹ Does not include fish harvesting employment numbers.

² This industry category includes support activities for oil and gas drilling and related operations.

³ No industry data is available.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

20 Nonresident Workers By Education Required for Occupation



Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

education or work experience requirement were employed in jobs requiring education less than or equal to an associate degree (approximately two years of postsecondary education). (See Exhibits 20 and 23.) The median quarterly wage for resident workers increased 4.0% in 2005 to \$6,573. Roughly a third of nonresident workers earned a higher quarterly wage than the median quarterly wage for residents.

In 2005, nonresident workers were employed throughout the state, many in jobs with relatively high average earnings requiring less than a four-year degree. The North Slope Borough, which includes the Prudhoe Bay oilfields, in particular, had a large number of nonresident workers earning a significant amount of money (approximately \$140 million) in occupations that required less than a four-year degree. (See Exhibit 23.)

21 Alaska Resident and Nonresident Workers and Wages 2004 and 2005

Industry	Resident Workers			Nonresident Workers		
	2004	2005	Percent Change	2004	2005	Percent Change
Agriculture, Forestry, Fishing, and Hunting ¹	1,368	1,315	-3.9	844	850	0.7
Mining	9,794	10,007	2.2	3,560	4,078	14.6
Oil and Gas	2,342	2,399	2.4	730	784	7.4
Oilfield Services ²	5,784	5,787	0.1	2,437	2,658	9.1
Utilities	2,051	2,098	2.3	119	142	19.3
Construction	23,628	24,808	5.0	5,559	6,288	13.1
Manufacturing	9,841	9,756	-0.9	15,077	15,417	2.3
Wholesale Trade	6,657	6,764	1.6	950	1,003	5.6
Retail Trade	41,171	41,204	0.1	6,851	7,262	6.0
Transportation and Warehousing	19,606	19,526	-0.4	5,569	5,540	-0.5
Information	7,487	7,359	-1.7	674	688	2.1
Finance and Insurance	9,049	9,162	1.2	734	747	1.8
Real Estate and Rental and Leasing	6,276	6,401	2.0	833	871	4.6
Professional, Scientific, and Technical Services	11,396	11,779	3.4	2,234	2,543	13.8
Management of Companies and Enterprises	523	537	2.7	78	56	-28.2
Administrative Support/Waste Management and Remediation	12,155	12,356	1.7	4,096	4,351	6.2
Educational Services	1,999	2,056	2.9	521	599	15.0
Health Care and Social Assistance	35,531	35,906	1.1	3,994	3,984	-0.3
Arts, Entertainment, and Recreation	4,247	4,367	2.8	1,341	1,489	11.0
Accommodation and Food Services	28,996	28,602	-1.4	10,968	11,559	5.4
Other Services	10,276	10,141	-1.3	1,688	1,658	-1.8
Public Administration	482	472	-2.1	33	31	-6.1
Unclassifiable ³	80	108	35.0	32	87	171.9
Total Private Sector	242,613	244,724	0.9	65,755	69,243	5.3
State Government	24,188	24,544	1.5	1,637	1,805	15.1
Local Government	45,885	45,735	-0.3	2,975	3,138	5.5
Total	312,686	315,003	0.7	70,367	74,266	5.5

¹ Does not include fish harvesting employment numbers.

² This industry category includes support activities for oil and gas drilling and related operations.

³ No industry data is available.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

Area saw the largest declines in nonresident hire rates from 2004.

The areas with the lowest percentage of nonresident workers include northern and western rural areas of Alaska (excluding the North Slope Borough). These areas generally offer little in the way of seafood, oil, or visitor-related industries that would lead to the employment that has historically at-

tracted nonresident workers. The areas that are mostly urban, economically diverse, and offer the most year-round jobs have a moderate or "average" number of nonresident workers. Anchorage/Mat-Su, Fairbanks, and Juneau fall into this category.

22 Employed and Unemployed Residents and Nonresidents Alaska 2005

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Total Resident Workers*	252,382	272,309	275,338	258,621
Total Nonresident Workers*	27,390	42,399	54,271	39,098
Estimated Avg. Number of Unemployed**	26,618	22,858	20,442	22,145

*Includes all workers employed in the quarter in private sector, state and local government.

**Derived from monthly Alaska labor force estimates.

Note: Data is derived from series that are not directly comparable due to differing definitions.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

23 Nonresidents in Occupations With Known Educational Requirement By Place of Work - Alaska 2005

Borough/Census Area	Education Required	Nonresident Workers	Nonresident Wages (In Millions)	Average Nonresident Wages
Anchorage/Mat-Su Region				
Anchorage	AA or Less	16,845	\$269.0	\$15,972
Anchorage	BA or Higher	2,635	145.2	55,098
Mat-Su	AA or Less	2,312	20.5	8,884
Mat-Su	BA or Higher	272	4.2	15,372
Gulf Coast Region				
Kenai	AA or Less	3,849	36.2	9,408
Kenai	BA or Higher	193	4.2	21,537
Kodiak	AA or Less	1,455	16.5	11,354
Kodiak	BA or Higher	51	1.1	21,706
Valdez-Cordova	AA or Less	1,660	20.2	12,195
Valdez-Cordova	BA or Higher	55	2.0	35,831
Interior Region				
Denali Borough	AA or Less	992	9.8	9,873
Denali Borough	BA or Higher	22	0.3	14,408
Fairbanks	AA or Less	5,866	94.4	16,092
Fairbanks	BA or Higher	450	14.0	31,074
Southeast Fairbanks	AA or Less	806	22.2	27,514
Southeast Fairbanks	BA or Higher	72	3.2	43,958
Yukon-Koyukuk	AA or Less	220	3.6	16,277
Yukon-Koyukuk	BA or Higher	23	0.4	19,336
Northern Region				
Nome	AA or Less	317	6.6	20,758
Nome	BA or Higher	58	2.5	43,658
North Slope Borough	AA or Less	2,595	138.9	53,534
North Slope Borough	BA or Higher	342	30.9	90,244
Northwest Arctic Borough	AA or Less	278	10.9	39,250
Northwest Arctic Borough	BA or Higher	78	4.0	53,028

(continued on next page)

Geographic Distribution of Local and Non-Local Residents and Nonresidents

For many areas, filling jobs with local residents is a high priority. Worker employment records showing place of work information are matched with PFD applicant address information to determine the number of local residents, non-local Alaska residents, and nonresidents working in each Alaska borough or census area⁹. Overall, 69.2% of workers were local residents of the area where they worked in 2005, while 11.7% were residents of Alaska, but did not live in the borough or census area in which they worked. (See Exhibits 27 and 29.)

The Aleutians East Borough, with its large number of nonresident seafood processing workers, had the lowest percentage of local resident private sector workers in 2005. The North Slope Borough had a very significant amount of nonresident wages paid due to the presence of many oil workers who are generally stationed there on a rotating basis. The Denali Borough is a major summer tourist destination and many of that area's seasonal workers are nonresidents or residents from other parts of Alaska.

Economic and Social Impact of Nonresident Workers

Nonresidents take direct job opportunities away from Alaskans. In addition, they keep the overall economy, including retail sales, services, and housing construction, at a level lower than would otherwise be the case because they take the bulk of their earnings outside the state. Nonresident workers typically work only a quarter or two of the year in Alaska.

The loss of income, or leakage¹⁰, outside the state and the reduced multiplier effect¹¹ have

A2 Resident and Nonresident Workers and Earnings Private, State, and Local Government Workers - Alaska 2005

Industry	Resident Workers	Nonres. Workers	Percent Nonres.	Resident Wages	Nonres. Wages	Percent Nonres.	Resident Earnings/Qtr.	Nonres. Earnings/Qtr.
Agriculture, Forestry, Fishing and Hunting								
Crop Production	298	74	19.9	\$2,509,756	\$459,207	15.5	\$3,351	\$3,145
Animal Production	329	201	37.9	7,893,234	1,924,427	19.6	7,575	4,277
Forestry and Logging	492	391	44.3	13,457,783	7,400,913	35.5	8,583	8,478
Fishing, Hunting and Trapping ¹	107	135	55.8	1,831,060	3,035,143	62.4	8,211	12,861
Support Activities for Agriculture and Forestry	89	49	35.5	1,568,058	528,105	25.2	7,032	6,520
Mining								
Oil and Gas Extraction	2,399	784	24.6	303,882,538	100,383,040	24.8	32,934	40,250
Mining (except Oil and Gas)	1,685	553	24.7	92,977,459	25,106,131	21.3	15,442	17,532
Support Activities for Mining	5,918	2,737	31.6	352,855,339	145,004,806	29.1	16,581	18,171
Utilities								
Utilities	2,098	142	6.3	116,535,059	3,706,260	3.1	15,101	10,712
Construction								
Construction of Buildings	7,988	1,873	19.0	275,131,738	37,623,379	12.0	10,875	9,630
Heavy and Civil Engineering Construction	5,264	1,719	24.6	247,003,383	64,331,200	20.7	14,241	15,725
Specialty Trade Contractors	11,528	2,678	18.9	401,762,261	45,910,062	10.3	10,656	8,323
Manufacturing								
Food Manuf.	5,901	14,744	71.4	104,300,476	186,038,266	64.1	5,785	6,003
Beverage and Tobacco Product Manuf.	137	14	9.3	3,996,332	91,838	2.2	8,576	3,401
Textile Mills	4	0	0.0	ND	0	0.0	ND	0
Textile Product Mills	97	19	16.4	2,211,113	208,022	8.6	6,620	5,074
Apparel Manuf.	11	2	15.4	298,543	ND	ND	10,295	ND
Leather and Allied Product Manuf.	3	0	0.0	ND	0	0.0	ND	0
Wood Product Manuf.	399	127	24.1	8,756,252	1,322,457	13.1	7,027	4,935
Paper Manuf.	9	0	0.0	ND	0	0.0	ND	0
Printing and Related Support Activities	415	48	10.4	10,848,325	688,246	6.0	7,507	6,145
Petroleum and Coal Products Manuf.	675	38	5.3	43,865,908	1,041,772	2.3	17,449	11,838
Chemical Manuf.	251	13	4.9	ND	ND	ND	ND	ND
Plastics and Rubber Products Manuf.	115	29	20.1	3,623,070	420,713	10.4	9,058	6,897
Nonmetallic Mineral Product Manuf.	413	86	17.2	12,692,840	1,515,791	10.7	9,682	7,773
Primary Metal Manuf.	13	3	18.8	ND	ND	ND	ND	ND
Fabricated Metal Product Manuf.	466	70	13.1	16,773,615	1,000,017	5.6	10,303	6,494
Machinery Manuf.	54	5	8.5	2,119,205	128,145	5.7	12,250	9,857
Computer and Electronic Product Manuf.	78	9	10.3	4,388,957	300,299	6.4	15,400	14,300
Elec. Equip., Appliance, / Component Manuf.	21	2	8.7	967,623	ND	ND	11,658	ND
Transportation Equipment Manuf.	298	143	32.4	8,233,822	2,375,122	22.4	8,334	7,787
Furniture and Related Product Manuf.	166	32	16.2	3,910,909	356,556	8.4	7,111	5,243
Miscellaneous Manuf.	227	32	12.4	6,208,277	335,134	5.1	7,970	5,238
Wholesale Trade								
Merchant Wholesalers, Durable Goods	2,937	350	10.6	114,669,522	7,933,403	6.5	10,939	9,378
Merchant Wholesalers, Nondurable Goods	3,235	553	14.6	108,156,195	6,695,591	5.8	9,756	6,444
Wholesale Elec. Markets / Agents / Brokers	581	99	14.6	25,241,343	1,568,228	5.8	12,124	7,650
Retail Trade								
Motor Vehicle and Parts Dealers	5,216	695	11.8	170,489,088	3,790,437	4.9	9,348	5,795
Furniture and Home Furnishings Stores	1,083	191	15.0	25,078,966	2,244,597	8.2	7,078	5,244
Electronics and Appliance Stores	854	170	16.6	19,923,082	1,548,466	7.2	7,190	4,514
Bldg. Material / Garden Equip. / Sup. Dealers	4,303	625	12.7	111,974,586	6,725,310	5.7	7,659	5,008
Food and Beverage Stores	7,561	1,178	13.5	145,326,184	8,448,256	5.5	5,836	3,526
Health and Personal Care Stores	903	158	14.9	23,896,863	2,019,807	7.8	7,696	6,139
Gasoline Stations	1,630	271	14.3	23,670,208	2,090,625	8.1	4,589	3,598
Clothing and Clothing Accessories Stores	2,166	837	27.9	26,015,859	6,439,733	19.8	4,134	3,863
Sporting Goods, Hobby, Book, / Music Stores	2,166	521	19.4	26,420,024	3,116,869	10.6	4,013	2,991
General Merchandise Stores	11,135	1,723	13.4	208,224,506	15,038,751	6.8	5,634	4,188
Miscellaneous Store Retailers	3,062	768	20.1	48,919,802	5,190,854	9.6	5,179	3,431
Nonstore Retailers	1,114	111	9.1	36,318,765	1,509,767	4.0	9,488	6,397
Transportation and Warehousing								
Air Transportation	6,074	1,683	21.7	224,924,704	90,400,533	28.7	10,387	20,009
Rail Transportation	8	0	0.0	ND	0	0.0	ND	0
Water Transportation	811	382	32.0	36,790,247	14,260,778	27.9	13,461	13,647
Truck Transportation	3,158	506	13.8	124,728,813	9,237,695	6.9	11,225	7,869
Transit and Ground Passenger Transportation	1,466	145	9.0	24,429,330	1,461,943	5.6	4,884	4,526
Pipeline Transportation	861	65	7.0	ND	ND	ND	ND	ND
Scenic and Sightseeing Transportation	2,077	1,708	45.1	31,188,428	18,427,419	37.1	5,121	4,592
Support Activities for Transportation	2,991	695	18.9	95,544,773	17,228,032	15.3	9,479	11,260
Postal Service	78	10	11.4	1,048,601	28,405	2.5	4,424	2,200
Couriers and Messengers	1,792	307	14.6	78,686,488	25,749,743	24.7	12,098	30,912
Warehousing and Storage	198	37	15.7	ND	ND	ND	ND	ND

Industry	Resident Workers	Nonres. Workers	Percent Nonres.	Resident Wages	Nonres. Wages	Percent Nonres.	Resident Earnings/Qtr.	Nonres. Earnings/Qtr.
Information								
Publishing Industries (except Internet)	1,392	164	10.5	\$41,489,332	\$2,256,351	5.2	\$8,387	\$6,098
Motion Picture and Sound Recording Industries	486	92	15.9	3,795,571	368,287	8.8	2,750	2,002
Broadcasting (except Internet)	824	117	12.4	26,182,625	1,641,127	5.9	8,991	6,288
Internet Publishing and Broadcasting	9	5	35.7	403,477	113,970	22.0	13,449	8,141
Telecommunications	4,400	253	5.4	245,705,527	8,922,948	3.5	14,701	13,161
ISP's / Web Search Portals / Data Processing Svcs.	182	46	20.2	6,283,289	558,667	8.2	5,567	8,216
Other Information Services	63	11	14.9	2,198,712	174,094	7.3	9,772	6,003
Finance and Insurance								
Credit Intermediation and Related Activities	5,119	434	7.8	202,918,523	6,216,807	3.0	10,630	6,042
Securities, Commodity Contracts, Other Financial	480	37	7.2	35,753,106	1,443,965	3.9	20,326	17,397
Insurance Carriers and Related Activities	2,068	156	7.0	89,443,613	3,327,739	3.6	11,998	9,218
Funds, Trusts, and Other Financial Vehicles	1,494	119	7.4	61,759,694	3,036,813	4.7	12,555	11,909
Real Estate and Rental and Leasing								
Real Estate	4,383	469	9.7	110,141,941	5,209,734	4.5	7,703	5,179
Rental and Leasing Services	1,954	397	16.9	41,602,106	4,204,425	9.2	6,621	4,855
Lessors of Nonfinancial Intangible Assets	52	3	5.5	ND	ND	ND	ND	ND
Professional, Scientific and Technical Services								
Professional, Scientific, and Technical Services	11,762	2,530	17.7	483,854,247	76,905,856	13.7	11,922	12,818
Management of Companies and Enterprises	537	56	9.4	30,227,093	2,237,634	6.9	16,036	15,758
Management of Companies and Enterprises								
Administrative and Support Services	10,839	4,039	27.1	227,614,583	60,683,278	21.0	6,737	6,785
Waste Management and Remediation Services	1,470	300	16.9	56,117,167	8,397,475	13.0	11,587	12,188
Educational Services								
Educational Services	2,056	599	22.6	51,957,027	6,912,847	11.7	7,746	5,898
Admin. Support / Waste Mgmt. and Remediation								
Ambulatory Health Care Services	14,589	1,665	10.2	469,474,160	38,212,304	7.5	9,382	10,316
Hospitals	9,940	969	8.9	430,875,941	26,622,201	5.8	11,560	11,615
Nursing and Residential Care Facilities	2,683	413	13.3	62,048,226	4,017,031	6.1	6,669	4,666
Social Assistance	8,691	932	9.7	171,638,745	7,964,017	4.4	5,876	4,002
Health Care and Social Assistance								
Performing Arts / Spectator Sports / Related	593	271	31.4	6,538,344	1,934,235	22.8	4,687	3,996
Museums, Historical Sites, and Similar Institutions	497	122	19.7	10,680,673	1,378,591	11.4	6,696	4,837
Amusement, Gambling, and Recreation Industries	3,277	1,095	25.0	34,754,707	6,467,827	15.7	3,668	3,029
Accommodation and Food Services								
Accommodation	7,628	4,628	37.8	116,382,856	36,926,068	24.1	4,939	3,936
Food Services and Drinking Places	20,925	6,918	24.8	250,321,817	48,119,802	16.1	4,001	3,313
Other Services								
Repair and Maintenance	2,590	476	15.5	70,409,539	7,619,513	9.8	8,159	7,243
Personal and Laundry Services	2,094	379	15.3	32,295,069	2,661,079	7.6	4,851	3,381
Religious / Grantmkg. / Civic / Prof. / Similar	5,209	744	12.5	132,011,130	8,938,570	6.3	7,783	5,789
Private Households	243	56	18.7	3,347,912	478,447	12.5	4,592	4,645
Public Administration								
Executive / Legislative / Other Gen. Gov. Support	427	28	6.2	6,350,813	198,676	3.0	5,816	4,139
Justice, Public Order, and Safety Activities	18	3	14.3	266,220	ND	ND	4,512	ND
Administration of Human Resource Programs	21	0	0.0	ND	0	0.0	ND	0
Administration of Economic Programs	6	0	0.0	ND	0	0.0	ND	0
Unclassified ²	315	177	36.0	4,527,524	1,742,739	27.8	5,812	6,030
Total Private Sector	244,724	69,243	22.1	7,424,056,565	1,281,341,089	14.7	9,129	8,419
Local Government	45,735	3,138	6.4	1,352,911,599	43,430,529	3.1	8,714	6,640
State Government	24,544	1,885	7.1	931,724,192	30,002,084	3.1	10,428	7,270
Total Private and Government	315,003	74,266	19.1	9,708,692,356	1,354,773,702	12.2	9,171	8,303

ND: Not disclosable

¹ Does not include fish harvesting employment numbers.

² No industry data is available.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section

A3 Oil Industry Workers, North Slope and Statewide Residency Status and Place of Alaska Residence, Selected Employers

Employer	Work Location	Total Workers	Resident Workers	Nonres. Workers	Resident Workers by Region of Residence					
					Anch./ Mat-Su	Gulf Coast	Interior	Northern	Southeast	Southwest
Alaska Clean Seas	All Alaska	68	52	16	42	6	3	1	0	0
Alaska Clean Seas	North Slope	62	46	16	36	6	3	1	0	0
Alaska Interstate Const. LLC	All Alaska	590	512	78	214	52	168	32	43	1
Alaska Interstate Const. LLC	North Slope	425	368	57	164	35	121	32	15	1
Alyeska Pipeline Service Co., Inc.	All Alaska	933	869	64	380	297	188	1	1	1
Alyeska Pipeline Service Co., Inc.	North Slope	83	60	23	43	9	7	0	0	0
Amoco Corporation	All Alaska	434	260	174	210	42	6	0	2	0
Amoco Corporation	North Slope	13	6	7	4	0	2	0	0	0
Amoco Production Company	All Alaska	129	35	94	23	4	0	0	0	0
Arctic Catering, Inc.	All Alaska	327	262	65	147	53	30	8	22	0
Arctic Catering, Inc.	North Slope	143	128	15	82	32	9	5	0	0
Arctic Pipe Inspection, Inc.	All Alaska	32	21	11	10	10	0	0	0	1
Arctic Pipe Inspection, Inc.	North Slope	30	20	10	9	10	0	0	0	1
Arctic Structures LLC	All Alaska	112	100	12	51	40	8	0	0	1
ASRC Energy Services O&M	All Alaska	2,137	1,517	620	777	583	64	73	9	7
ASRC Energy Services O&M	North Slope	1,681	1,110	571	602	362	61	69	8	4
ASRC Energy Pipeline Power & Comms	All Alaska	1,131	864	267	216	108	509	15	11	4
ASRC Energy Pipeline Power & Comms	North Slope	130	109	21	37	14	51	4	3	0
Baker Hughes Oilfield Operations, Inc.	All Alaska	168	81	87	62	15	1	0	0	0
Baker Hughes Oilfield Operations, Inc.	North Slope	87	23	64	17	6	0	0	0	0
BJ Services Company USA	All Alaska	34	30	4	1	29	0	0	0	0
BP Exploration Alaska, Inc.	All Alaska	1,691	1,203	488	890	253	46	1	4	2
BP Exploration Alaska, Inc.	North Slope	55	30	25	17	13	0	0	0	0
CCI, Inc.	All Alaska	290	227	63	133	40	6	1	5	41
CCI, Inc.	North Slope	107	96	11	63	20	3	1	3	5
Colville Environmental Services	All Alaska	92	74	18	50	12	8	3	0	0
Colville Environmental Services	North Slope	92	74	18	50	12	8	3	0	0
ConocoPhillips Company	All Alaska	1,087	889	198	704	171	3	0	2	1
ConocoPhillips Company	North Slope	491	365	126	238	115	7	0	2	0
Doyon Drilling, Inc.	All Alaska	429	321	108	166	45	99	5	1	5
Doyon Drilling, Inc.	North Slope	410	302	108	148	44	99	5	1	5
Doyon/Universal Services JV	All Alaska	1,007	919	88	540	111	257	1	0	2
Doyon/Universal Services JV	North Slope	484	432	52	244	43	142	1	0	1
Exxon Mobil Corporation	All Alaska	26	24	2	24	0	0	0	0	0
Fairweather E&P Services, Inc.	All Alaska	98	55	43	46	9	0	0	0	0
Fairweather E&P Services, Inc.	North Slope	68	28	40	21	7	0	0	0	0
Flowline Alaska, Inc.	All Alaska	130	117	13	4	3	109	0	0	1
Forest Oil Corporation	All Alaska	33	31	2	19	12	0	0	0	0
GBR Equipment, Inc.	All Alaska	43	28	15	23	3	1	1	0	0
GBR Equipment, Inc.	North Slope	38	23	15	18	3	1	1	0	0
GLM, Inc.	All Alaska	43	39	4	1	38	0	0	0	0
HC Price Co.	All Alaska	448	320	128	89	21	201	1	5	3
HC Price Co.	North Slope	207	163	44	36	11	109	1	4	2
Halliburton Energy Services, Inc.	All Alaska	295	222	73	182	34	6	0	0	0
Halliburton Energy Services, Inc.	North Slope	226	182	64	123	33	6	0	0	0
Inlet Drilling AK, Inc.	All Alaska	92	79	13	12	67	0	0	0	0
Kakivik Asset Management LLC	All Alaska	202	135	67	93	16	20	1	0	4
Kakivik Asset Management LLC	North Slope	95	60	35	52	4	1	0	0	3
Little Red Services, Inc.	All Alaska	109	69	40	39	25	3	0	1	0
Little Red Services, Inc.	North Slope	106	66	40	36	25	3	0	1	0
M-I LLC	All Alaska	189	142	47	113	26	2	0	0	0
M-I LLC	North Slope	64	51	13	41	9	1	0	0	0
Marathon Oil Co.	All Alaska	55	50	5	15	34	0	0	0	0
Nabors AK Drilling, Inc.	All Alaska	551	383	168	272	100	8	0	0	1
Nabors AK Drilling, Inc.	North Slope	428	279	149	203	67	7	0	0	1
Norcon, Inc.	All Alaska	553	416	137	197	22	188	6	2	0
Norcon, Inc.	North Slope	314	215	99	62	14	132	5	2	0
Nordic-Calista Services No. 1	All Alaska	108	89	17	48	36	2	0	0	3
Nordic-Calista Services No. 1	North Slope	103	86	17	45	36	2	0	0	3

Employer	Work Location	Total Workers	Resident Workers	Nonres. Workers	Resident Workers by Region of Residence					
					Anch./ Mat-Su	Gulf Coast	Interior	Northern	Southeast	Southwest
Nordic Well Servicing, Inc.	All Alaska	4	4	0	4	0	0	0	0	0
Peak Oilfield Services Co.	All Alaska	837	649	188	184	440	18	1	2	1
Peak Oilfield Services Co.	North Slope	340	208	132	132	57	14	1	1	1
Pollard Wireline, Inc.	All Alaska	39	38	1	0	38	0	0	0	0
Quadco, Inc. - AK Division	All Alaska	39	30	9	24	5	1	0	0	0
Quadco, Inc. - AK Division	North Slope	25	20	5	14	5	1	0	0	0
Qwick Construction Co., Inc.	All Alaska	14	13	1	0	12	0	0	1	0
R&K Industrial, Inc.	All Alaska	70	67	3	0	67	0	0	0	0
Raven Contractors, Inc.	All Alaska	17	17	0	0	17	0	0	0	0
Schlumberger Technology Corp.	All Alaska	581	385	196	290	81	7	2	1	1
Schlumberger Technology Corp.	North Slope	282	226	56	185	34	4	1	0	1
Udelhoven Oilfield System Services	All Alaska	581	444	137	242	190	7	1	1	2
Udelhoven Oilfield System Services	North Slope	142	67	75	45	19	2	0	1	0
Union Oil Co. Of California	All Alaska	343	324	19	122	201	0	1	0	0
VECO Alaska, Inc.	All Alaska	2,088	1,457	631	1,055	330	49	4	9	8
VECO Alaska, Inc.	North Slope	1,182	710	472	484	175	36	3	5	6
VECO Corporation	All Alaska	32	28	4	28	0	0	0	0	0
VECO Corporation	North Slope	1	0	1	0	0	0	0	0	0
Veritas DGC Land, Inc.	All Alaska	208	166	42	141	12	5	5	1	1
Western Geco Resources, Inc.	All Alaska	4	2	2	2	0	0	0	0	0
Western Geco Resources, Inc.	North Slope	1	0	1	0	0	0	0	0	0
XTO Energy, Inc.	All Alaska	42	40	2	5	35	0	0	0	0

The employed worker location is based upon information provided by employers. Workers employed in more than one area during the year were counted in the North Slope if they worked there one or more quarters during the year. Alaska region of residence is based upon the most recent zip code provided on the 2005 or 2006 PFD application. Not all residents provided a zip code so regional totals will not equal the total resident worker count.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis Section



NEA-ALASKA

Affiliated with the National Education Association

Rep. Craig Johnson
State Capitol, Room 126
Juneau, AK 99801

Dear Representative Johnson:


On behalf of the 13,000 public school employee members of NEA-Alaska I would like to submit this letter of support for House Bill 234.

This legislation recognizes that Alaska faces severe shortages in several professional fields. The thought of using incentives to assist in helping applicants make the decision to work in Alaska is a positive step. I have witnessed firsthand at job fairs this spring a dearth of applicants for teaching positions in Alaska. At the latest job fair it was easy to look around and witness that recruiters outnumbered the applicants for teaching positions.

NEA-Alaska understands HB 234 is meant to address all Alaska professions that are deemed to be in shortage. We realize this concept is fresh and needs to be vetted through the committee process. That said, it is the concept that warrants debate and ultimately approval.

Thank you for your efforts on this legislation and please let me know if I can be of assistance in helping this legislation move forward.

Sincerely,


Bill Bjork
President

Alaska State Medical Association

4107 Laurel Street • Anchorage, Alaska 99508 • (907) 562-0304 • (907) 561-2063 (fax)

May 1, 2007

Honorable Craig Johnson
State Capitol, Room 126
Juneau, AK 99801-1182

Transmitted by fax:
907-465-3872

RE: HB234 – Education Loan Repayment Program


Dear Representative Johnson:

The Alaska State Medical Association (ASMA) represents physicians statewide and is primarily concerned with the health of all Alaskans.

ASMA supports your efforts to help recruit the physicians we need in Alaska by sponsoring HB234. As you know the report of the Alaska Physicians Supply Task Force estimated the current shortage of physicians at about 400 doctors. This is a 30% shortage. Additionally the Alaska will need to have a net increase in physicians of about 60 per year over the next 20 years to meet the needs created by our projected population growth. (The 60 net actually translates into a requirement that about 100 doctors will need to be recruited each year to account for those leaving practice).

The recruitment efforts need to begin now and the enactment of HB234 will assist in those efforts. ASMA supports HB234.

Sincerely,



By: Roland Gower, MD, President
For: The Alaska State Medical Association

Cc: Honorable Peggy Wilson, Chair, House Health Education and Social Services Committee

3200 Providence Drive
P.O. Box 198604
Anchorage, Alaska
99519-6604

Tel 907.562.2211

April 27, 2007

The Honorable Craig Johnson
Alaska State House of Representatives
State Capitol, Room 126
Juneau, AK 99801-1182

Dear Representative Johnson:

I write today in support of House Bill 234, which you recently introduced, establishing an education loan repayment fund to assist in attracting and retaining workers in professions with severe workforce shortages.

Providence Health System is concerned about the increasing shortage of workers in critical areas, including nursing and allied health. I applaud your leadership, and that of the House of Representatives, in your effort to address this important issue.

Please let me know if I may be of any assistance as you deliberate this piece of legislation.

Sincerely,



Al Parrish
VP/Chief Executive
Providence Health System Alaska



☎ 907-274-0827
☎ 907-272-0292
3701 E. Tudor Rd, Suite 208
Anchorage, AK 99507
www.aknurse.org

April 30, 2007

Honorable Craig Johnson
Alaska State Legislature
State Capitol
Juneau, AK 99801

Dear Representative Johnson:

I am writing this letter, on behalf of the Alaska Nurses Association, to express our support of HB 234 and HB 235.

As is well known, we are on the verge of a serious shortage of Registered Nurses in Alaska. This is due to a number of converging factors. First, nurses from around the state report an increase in the number of patients they are serving due to population increase, outbreaks of infectious diseases such as RSV, increased number of premature births to wives of soldiers deployed in Iraq, and the aging of the population.

At the same time the nursing workforce is aging. The average age of an Alaskan RN is 48 and 75% of the nursing workforce is over the age of 40. To address the nursing shortage the University of Alaska, with funding from several Alaskan hospitals, set out to double the number of nurses they graduate each year so that now over 230 nurses graduate from UAA programs each year at sites around the state.

HB 234 is an excellent companion to UAA's efforts to address the shortage of Registered Nurses in Alaska. We want to make sure that a large portion of these new graduates stay in Alaska, and that nurses, like myself, who get their nursing degrees outside the state are encouraged to locate here.

For too long state funding has gone to pay for training of individuals for occupations for which the educational preparation is short in length. We are now suffering from that policy and are experiencing shortages in occupations that require longer preparation times such as nursing. It is imperative we reverse this trend and HB 234 goes a long way towards meeting this end.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Patricia Senner', is written over a horizontal line.

Patricia Senner MS, RN, ANP
Chair Legislative Committee

Cross references. — For applicability and transition provisions related to the enactment of this section, see §§ 4 and 5, ch. 90, SLA 1999 in the 1999 Temporary and Special Acts.

Effective dates. — Section 6, ch. 90, SLA 1999 makes this section effective July 1, 1999. The act was approved by the governor on July 1, 1999.

Sec. 14.43.990. Definitions. In this chapter,

- (1) "AlaskaAdvantage" means the service mark registered by the commission under 15 U.S.C. 1051 (Trademark Act) that is used to describe financial aid and higher education outreach programs and services provided by the commission;
- (2) "approved federal family education loan institution" means a postsecondary education institution in this state or outside of this state that is approved for participation in the federal guaranteed student loan program;
- (3) "commission" means the Alaska Commission on Postsecondary Education;
- (4) "corporation" means the Alaska Student Loan Corporation created in AS 14.42.100;
- (5) "education loan" means a loan made to finance the cost of attendance in a postsecondary education program that is made by the commission or is a loan received through the federal guaranteed student loan program.
- (6) "federal guaranteed student loan program" means the programs of the United States government making postsecondary educational financial aid available under 20 U.S.C. 1070 — 1099c-2, as amended. (§ 28 ch 43 SLA 1991; am §§ 37, 38 ch 85 SLA 2001; am § 28 ch 63 SLA 2004)

Revisor's notes. — Reorganized in 2001 and 2004 to maintain alphabetical order.

Effect of amendments. — The 2004 amendment effective June 17, 2004, added paragraphs (1) and (2).

Chapter 44. Interstate Education Compacts.

Article

- 1. Western Regional Higher Education Compact (§§ 14.44.010 — 14.44.040)
- 2. Compact for Education (§§ 14.44.050 — 14.44.060)

Article 1. Western Regional Higher Education Compact.

Section

- 10. Ratification, approval, and adherence
- 15. Terms and provisions of Compact
- 20. Execution of Compact by governor
- 25. Provisions of services

Section

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- 35. Administration
- 40. Repayment condition for program participants

Administrative Code. — For WICHE professional student exchange loan program, see 20 AAC 18.

Sec. 14.44.010. Ratification, approval, and adherence. The Western Regional Higher Education Compact, recommended by the Western Governors' Conference on November 10, 1950, for adoption by the states or territories of Alaska, Arizona, California, Colorado, Idaho, Hawaii, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming, is ratified and approved and the adherence of this state to this Compact, upon its ratification and approval by four or more of these states or territories in addition to this state, is declared. (§ 1 ch 164 SLA 1955)

Revisor's notes. — Formerly AS 14.40.660. Renumbered in 1982.

Sec. 14.44.015. Terms of the Compact referred to in

WESTERN REGIONAL HIGHER EDUCATION COMPACT

Whereas, the future of the quality of the education of potential students to warra adequate facilities in all of training, nor all of the Stat institutions capable of pro mentioned above; and

Whereas, it is believed th Region, cooperatively can p the needs of the Region and Now, therefore, the States New Mexico, Oregon, Utah, Hawaii do hereby covenant :

Each of the compacting st states and territories faithf Compact.

The compacting states and for Higher Education, her body corporate of each cor Commission shall have all the sue and to be sued, and such ac action of the respective legisla

The Commission shall consist territory. At all times one Comr the educator engaged in the field the commissioner is appointed.

The Commissioners from each thereof as provided by law in su or suspended from office as pro commissioner shall have been a

The terms of each Commissio The Commissioners shall be ap and one for four years. Each Co appointed and qualified. If any o present a Commissioner to fill th

any business transacted at any majority of the whole numbe

Article 2. Alaska Student Loan Corporation.

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Sec. 14.42.100. Creation of Alaska Student Loan Corporation. There is created the Alaska Student Loan Corporation. The corporation is a public corporation and government instrumentality within the Department of Education and Early Development but having a legal existence independent of and separate from the state. The corporation may not be terminated as long as it has bonds, notes, or other obligations outstanding. Upon termination of the corporation, its rights and property pass to the state. (§ 2 ch 92 SLA 1987)

Revisor's notes. — In 1999, in this section, "Department of Education" was changed to "Department of Education and Early Development" in accordance with § 89, ch. 58, SLA 1999.

Sec. 14.42.110. Purpose of corporation. [Repealed, § 31 ch 63 SLA 2004.]

Sec. 14.42.120. Corporation governing body. (a) The corporation shall be governed by a board of directors appointed by the governor consisting of two members of the Alaska Commission on Postsecondary Education, each of whom is selected by the commission under AS 14.42.015(a)(1) — (2), (4) — (6), (8), or (9) and the commissioner of revenue, the commissioner of administration, and the commissioner of commerce, community, and economic development. Members of the board serve without compensation but the members who are also members of the Alaska Commission on Postsecondary Education are entitled to per diem and travel expenses authorized by law for board members of commissions under AS 39.20.180.

(b) The board shall elect a chairman from among its membership at its annual meeting each year. A majority of the members constitute a quorum for organizing and conducting its business, and exercising the powers of the corporation. (§ 2 ch 92 SLA 1987)

Revisor's notes. — In 1999, "commissioner of commerce and economic development" was changed to "commissioner of community and economic development" in (a) of this section in accordance with § 88, ch. 58, SLA 1999. In 2004, "commissioner of community and economic development" was changed to "commissioner of commerce, community, and economic development" in (a) of this section, in accordance with § 3, ch. 47, SLA 2004.

Sec. 14.42.130. Meetings of the board. (a) The board shall meet at the call of the chairman and at other times as the board may determine in accordance with its regulations.

(b) Public notice of a meeting of the board at which the issuance of corporate bonds is authorized shall be provided at least 24 hours before the meeting. (§ 2 ch 92 SLA 1987)

Sec. 14.42.140. Minutes of meetings. The board shall keep minutes of its meetings and send a certified copy to the governor and to the Legislative Budget Committee. (§ 2 ch 92 SLA 1987)

Sec. 14.42.150. business of the corporation is controlled by the board. The board shall delegate supervision of the corporation

Sec. 14.42.160. Postsecondary Education of the corporation. SLA 1987)

Sec. 14.42.170. Education shall se

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Health Policy Report

NURSING IN THE CROSSFIRE

ROBERT STEINBROOK, M.D.

What is exceptional in nursing is the nature of the work: the continuous and intimate association with pain and not infrequent contact with death. . . . Not every man or woman would feel themselves able to undertake the duties of a nurse.

Brian Abel-Smith,
*A History of the Nursing Profession, 1960.*¹

NURSING is an embattled profession. Many nurses who work in hospitals feel that they are overworked and often unable to provide good patient care. The young people who traditionally have embarked on careers in nursing are increasingly choosing other fields, such as medicine or business, in which the pay and working conditions are better. Nurses who begin their careers in hospitals frequently leave for other positions. As the population ages, the demand for nurses is expected to grow rapidly. But because relatively few young people are entering nursing, severe shortages are anticipated by the end of the decade — unless this trend is reversed.

A 1996 Institute of Medicine report concluded that, although higher levels of staffing by nurses in nursing homes were linked to higher-quality care, the overall data for hospitals were not good enough to “isolate a number-of-RNs effect.”² In this issue of the *Journal*, Needleman and colleagues³ report that, in the United States, a higher proportion of hours of nursing care provided by registered nurses (registered-nurse-hours) and a greater number of registered-nurse-hours per day are associated with better outcomes for hospitalized patients. Among medical patients, these outcomes were a shorter length of stay and lower rates of urinary tract infection and upper gastrointestinal bleeding. A higher proportion of registered-nurse-hours was also associated with lower rates of pneumonia, of shock or cardiac arrest, and of death from five causes considered together — pneumonia, shock or cardiac arrest, upper gastrointestinal bleeding, sepsis, or deep venous thrombosis. The findings for surgical patients were similar, although fewer significant associations were found. The study found no evidence of an association between a greater number of hours of care per day provided by licensed practical nurses or hours of care per day provided by nurses’ aides and better outcomes.

The study by Needleman et al. focuses attention

both on the effect of nursing care on health outcomes and on efforts to increase the level of staffing by registered nurses in hospitals^{4,6}; such efforts include instituting minimal staffing ratios and prohibiting mandatory overtime, except in emergencies. In this report, I discuss some of the key issues for the nursing profession.

BACKGROUND

The problems facing registered nurses are longstanding.^{7,8} Registered nurses represent the largest single health care profession in the United States. People usually become registered nurses by completing an associate’s-degree program at a community college, a diploma program administered at a hospital, or a baccalaureate degree program at a college or university and then obtaining a state license. During the past 25 years, the number of diploma programs has sharply declined. A 2000 survey of registered nurses who had recently completed their initial nursing education showed that more than half had graduated from an associate’s-degree program and about two fifths from a baccalaureate program.⁹ Licensed practical nurses account for about one quarter of the nurse work force. They typically have a high-school diploma and are trained in a one-year program at a technical or vocational school or a community or junior college.

Every four years, the National Sample Survey of Registered Nurses provides a statistical snapshot of the profession.⁹ In 2000, there were an estimated 2,694,540 persons with a license to practice as registered nurses in the United States. An estimated 82 percent were employed in nursing, and of these, 28 percent were working on a part-time basis. Of the registered nurses employed in nursing, 1,300,323 (59 percent) worked in hospitals. The unemployment rate for registered nurses was about 1 percent.¹⁰ An estimated 95 percent of the nurses were women, 72 percent were married, and 87 percent were white. Their average age was 45 years. Thirty-four percent reported their highest level of education as an associate’s degree, 22 percent as graduation from a nursing diploma program, 33 percent as a bachelor’s degree, and 10 percent as a master’s or doctoral degree. Seven percent were practicing or prepared to practice in an advanced practice role, such as clinical nurse specialist, nurse anesthetist, nurse midwife, or nurse practitioner.

Between 1983 and 2000, the staffing levels of registered nurses in hospitals increased by 37 percent (Fig. 1). The staffing levels of licensed practical nurses decreased by 46 percent. The average daily census of hospitalized patients fluctuated but decreased overall. Through 1993, the ratio of registered nurses to patients increased, but it may merely have kept pace with increases in the severity of patients’ conditions.¹¹ Although the ratio of registered nurses to hospitalized

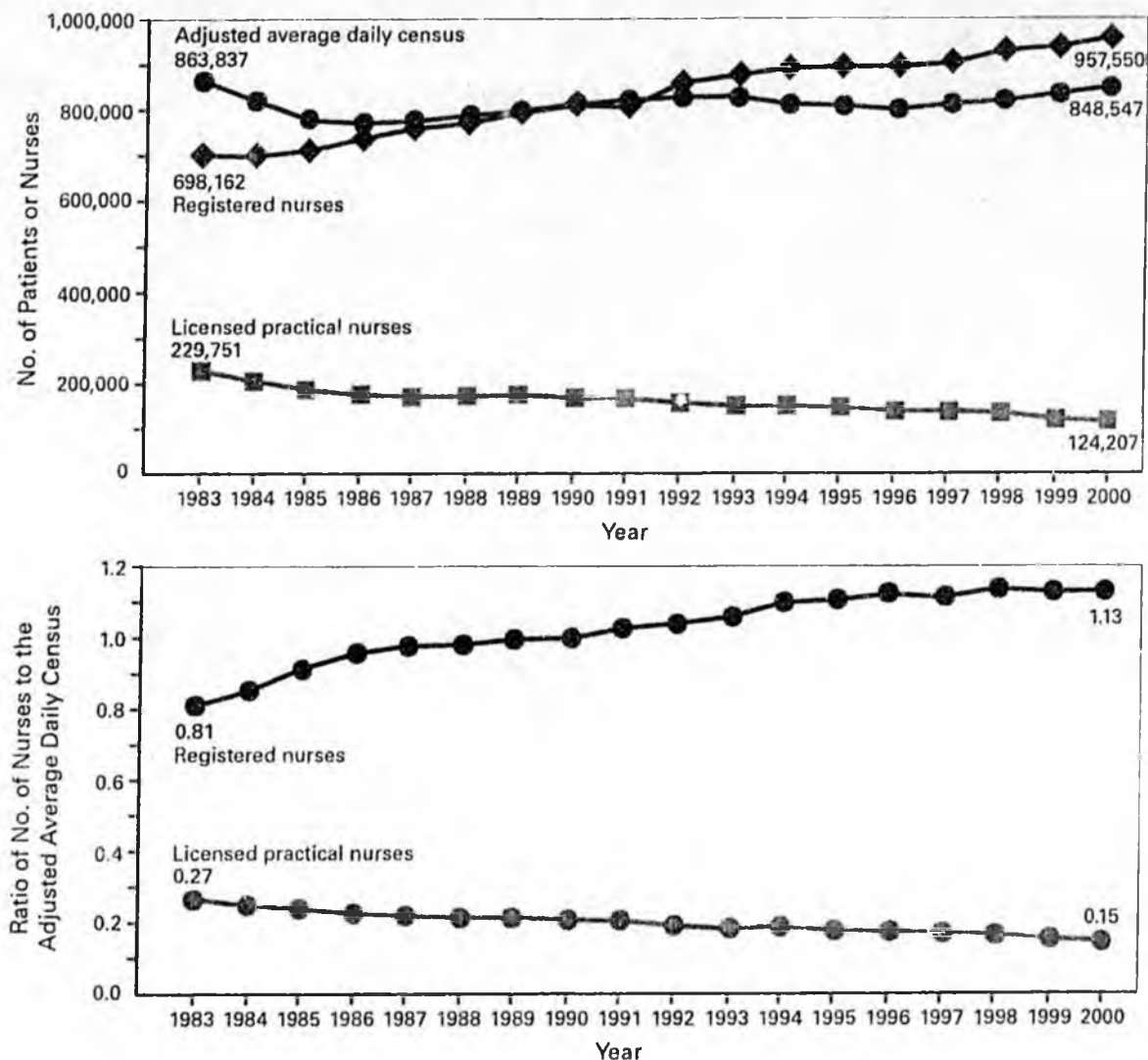


Figure 1. Levels of Staffing by Nurses in Registered Community Hospitals in the United States, 1983 to 2000. Absolute numbers are shown in the top panel, and ratios in the lower panel. The number of hospitalized patients, the number of registered nurses, and the ratio of registered nurses to patients have increased. The number of licensed practical nurses and the ratio of licensed practical nurses to patients have decreased. The number of registered nurses and the number of licensed practical nurses shown are full-time equivalents. The adjusted average daily census was calculated by dividing the number of inpatient-days by the number of days in the reporting period. Registered community hospitals (short-term general and specialty hospitals that are registered with the American Hospital Association) are included; federal hospitals are not included. Data are from the American Hospital Association, Health Forum, AHA Annual Survey of Hospitals, 1983–2000.

patients remained relatively constant between 1994 and 2000, there are no recent data on staffing that adjust for the severity of patients' illnesses as well as their shorter lengths of stay.

DISSATISFACTION AMONG NURSES

Nursing "is a very stressful job with a very flat career path," according to Frank Sloan of Duke University, who was the cochair of the committee of the In-

stitute of Medicine that reported on nursing in 1996.² "Women are finding many other choices." Registered nurses are discontented for many reasons, including inadequate levels of staffing for both nurses and support staff and excessive workloads. Because hospitalizations are shorter, nurses spend a higher percentage of their time admitting and discharging patients and teaching them what they need to do after they go home. The discontent is part of a broader malaise that

also affects physicians and others who work in hospitals. According to the April 2002 report of the American Hospital Association's Commission on Workforce for Hospitals and Health Systems, "Most health care workers entered their professions to 'make a difference' through personal interaction with people in need. Today, many in direct patient care feel tired and burned-out from a stressful, often understaffed environment, with little or no time to experience the one-on-one caring that should be the heart of hospital employment."¹²

According to Linda H. Aiken of the University of Pennsylvania School of Nursing, "There is the sense that nursing is becoming an impossible job, and that nurses have no control over things that are required to provide good patient care. Yet nurses are accountable for the health and welfare of their patients." The perception is that physicians and hospital administrators often treat registered nurses as workers, not as clinicians and peers, and when possible seek to replace them with less skilled and cheaper personnel, such as licensed practical nurses and aides.

Nurses who begin their careers in hospitals frequently leave for other positions. A large survey of nurses in Pennsylvania, conducted in 1998 and 1999, found that 41 percent were dissatisfied with their present job and that 23 percent of those surveyed were planning to leave this job within the next year.¹³

Only about a third agreed with the statements that "there are enough registered nurses to provide high-quality care," "there are enough staff to get the work done," and "the administration listens and responds to nurses' concerns." In a national survey of working nurses conducted in 2001 and 2002, 29 percent of the respondents said they were dissatisfied with their current position; 23 percent were dissatisfied with being a nurse.¹⁴

Financial Issues

In recent years, wages for registered nurses have been relatively flat as compared with the rate of inflation (Fig. 2). In 2000, the average annual salary of a registered nurse employed full-time was \$46,782.⁹ Between 1980 and 1992, real annual salaries for registered nurses increased by nearly \$6,000. Between 1992 and 2000, however, they increased by only about \$200.

Organizing Nurses

Working conditions have been a key issue in recent nursing strikes,⁴ such as a bitter two-month strike at the Oregon Health and Science University that ended in February.¹⁵ The ferment within the profession has led to increased interest in collective bargaining. For example, the California Nurses Association has an alliance with the United Steelworkers union. In 2000,

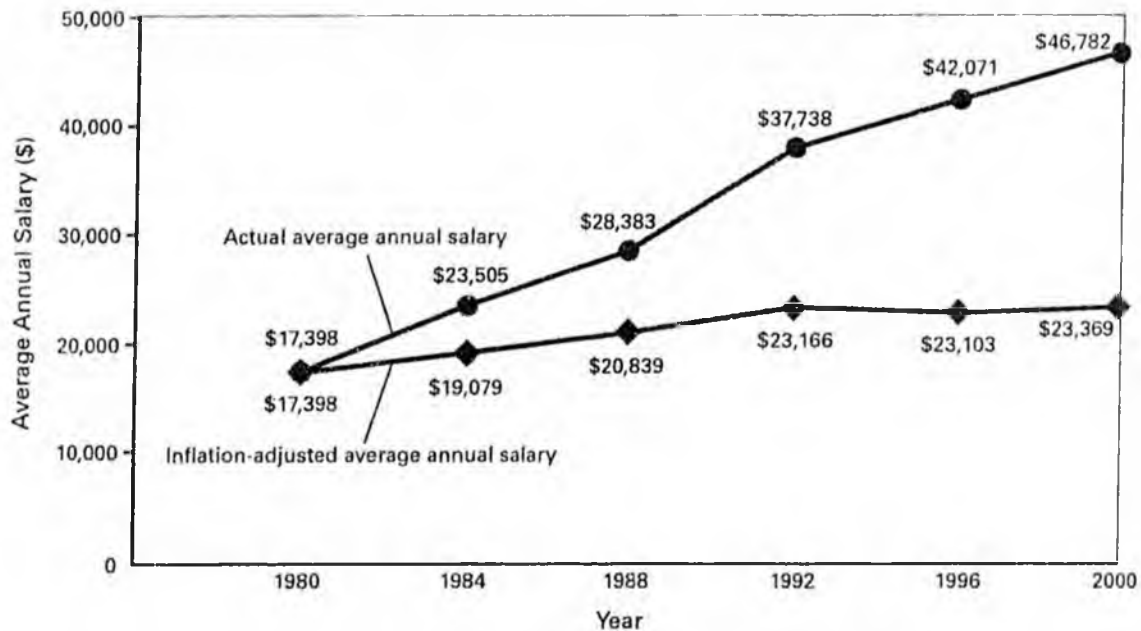


Figure 2. Actual and Inflation-Adjusted Average Annual Salaries of Full-Time Registered Nurses in the United States, 1980 to 2000. Adapted from the National Sample Survey of Registered Nurses, March 2000.⁹

17 percent of registered nurses who were employed in nursing were members of a union, and 19 percent were covered by a collective bargaining agreement.¹⁶ Although these percentages are similar to those for 1990 and 1995, the number of union members has increased — from about 275,000 in 1990 to about 350,000 in 2000 — because of the growth in the number of nurses.

There is also a schism between two groups that represent registered nurses. The American Nurses Association, the largest group, has been criticized for being too moderate. The California Nurses Association, a particularly aggressive and politically active group, left the American Nurses Association in 1995. The Massachusetts Nurses Association left in 2001. State nurses associations in California, Massachusetts, Maine, Missouri, and Pennsylvania are forming a new group, the American Association of Registered Nurses. This group will compete with the American Nurses Association in representing nurses at the national level.¹⁷

SHORTAGES OF NURSES

Since World War II, hospitals in the United States

have coped with cyclical shortages of nurses. The shortages have generally been related to economic factors. When the overall economy declines, married nurses and working mothers, who represent a substantial portion of the workforce, are more likely to seek work or increase their hours; in better economic times they may be less likely to work or may only work part-time.¹² As in other fields, higher wages and better jobs encourage more nurses to seek employment.

In the 1990s, the growth of managed care slowed employment growth for registered nurses in hospitals, particularly in states such as California.^{18,19} There was a surplus of registered nurses; some nurses lost their jobs, and some new nurses were unable to find jobs. Although hospitals were still hiring more registered nurses (Fig. 1), it seemed that they might need fewer in the long term. Enrollment in nursing schools declined (Fig. 3).

Measuring the Shortages

Shortages of hospital nurses are sometimes difficult to evaluate.²⁰ Among the potential measures of a shortage are reports by hospital officials or nurses, the vacancy rate for nursing positions, the turnover

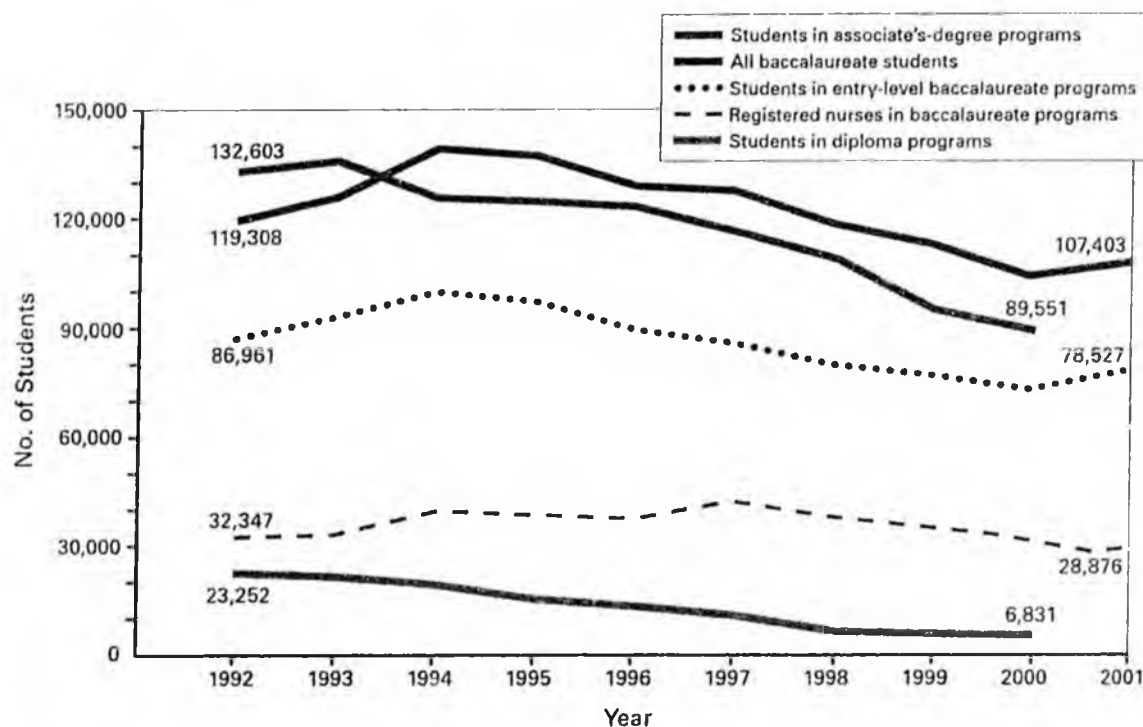


Figure 3. Enrollment in Educational Programs to Train Registered Nurses in the United States.

Baccalaureate programs for registered nurses allow nurses who have a nursing diploma or associate's degree to earn a bachelor's degree. The number of all baccalaureate students is the number of students in entry-level programs plus the number of registered nurses in baccalaureate programs. Data for baccalaureate programs are from the American Association of Colleges of Nursing. Data for associate's-degree and diploma programs are from the National League for Nursing; their data for 1997 through 2000 are preliminary.

rate for these positions, the number of nurses at a hospital after adjustment for the number of inpatients and the case mix, and the supply of registered nurses per 100,000 population. Although there is no gold standard, a recent study found the strongest relations between reports by hospital officials or nurses of a moderate or severe nursing shortage and job-vacancy rates.²⁰ Differences in the supply of nurses per capita did not predict which regions would have a majority of hospitals reporting shortages.

The number of employed registered nurses per capita varies widely from state to state (Fig. 4). In 2000, the national average was 782 employed nurses per 100,000 population. California had only 544, whereas Massachusetts had 1194 and Pennsylvania had 1010.⁹ These variations have been cited as evidence of regional shortages of nurses, particularly in states with a low supply of nurses, such as California,²¹ Nevada,²² and Texas.²³ The demand for hospital-based nurses, however, reflects many factors, including the number of hospital beds, the average length of stay, the specific medical services offered, population growth, and the number of elderly residents. Although Florida has 785 nurses per 100,000 population — about

the national average — the supply has been considered inadequate because the state has the highest percentage of elderly persons in the nation.²⁴ Because a low supply of nurses may reflect a low demand — not an unmet demand — for hospital-based nurses, the importance of the variations in and of themselves is uncertain.

The Current Shortage

The current shortage of nurses began in 1998 in intensive care units and operating rooms.²⁵ It has since spread to labor-and-delivery units and general medical and surgical wards. The shortage is widespread throughout the country.

In 2001, the mean vacancy rate for registered-nurse positions at a given hospital was 13 percent. Fifteen percent of hospitals reported vacancy rates of 20 percent or more.²⁶ Mean vacancy rates were 11 percent in the Northeast and Midwest, 13 percent in the South, and 15 percent in the West. There were about 126,000 vacant positions nationwide.²⁷ Eighty-two percent of hospitals reported that it was more difficult to recruit registered nurses in 2001 than it had been in 1999; 1 percent said that it was less diffi-

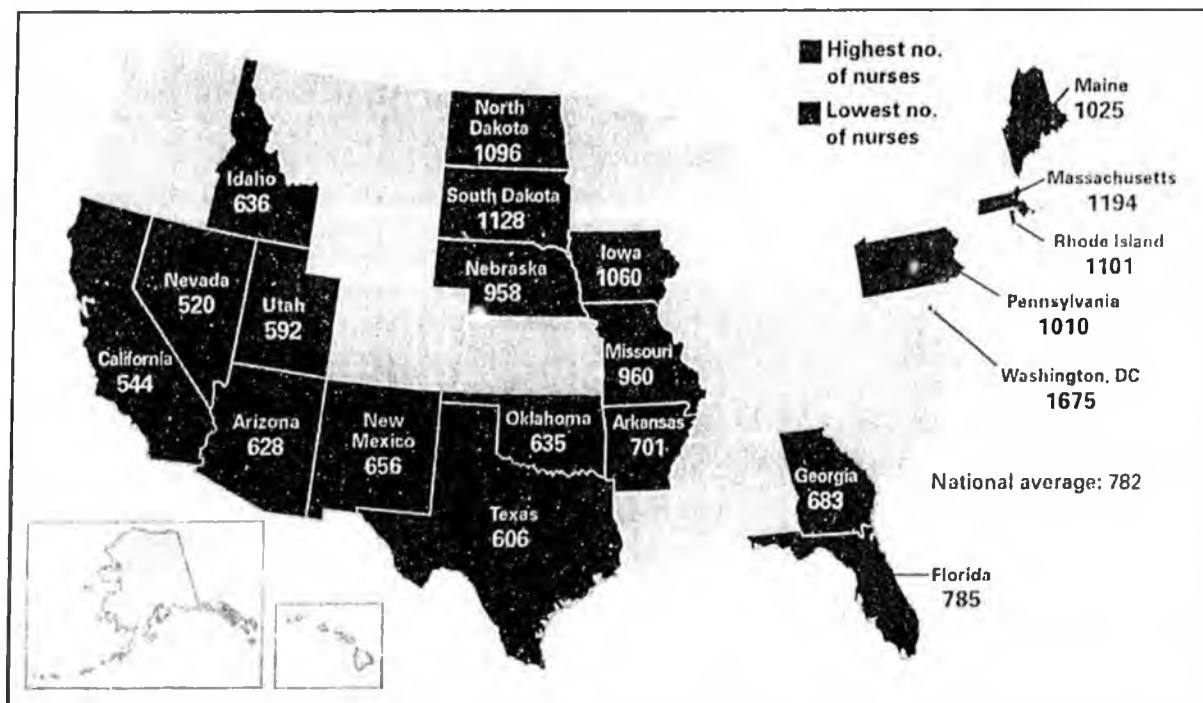


Figure 4. Employed Registered Nurses per 100,000 Population.

Both nurses who work full-time and those who work part-time are included. Data are from the National Sample Survey of Registered Nurses: March 2000.⁹

cult.²⁶ According to a 2001 survey of chief executive officers of hospitals, 84 percent of hospitals had shortages of registered nurses; the next most frequently cited job categories with shortages were radiology and nuclear imaging (71 percent) and pharmacy (46 percent).¹² Of registered nurses working in nursing who were surveyed in 2001 and 2002, 95 percent thought there was a shortage of nurses, and 88 percent thought that the supply of registered nurses working in patient care in their community was lower than the demand.¹⁴ National data about the current shortage of nurses are corroborated by reports from various states, including California,^{6,21} Florida,²⁴ Maryland,²⁸ Nevada,²⁹ New York,³⁰ and Texas.²³

The current shortage of nurses, albeit severe, may be similar to cyclical shortages that have occurred during the past 50 years. Better wages and better jobs, as well as better marketing of nursing schools and of nursing as a career, increased availability of training programs, and changes in the general economy, may encourage more students to enter nursing programs and bring more current nurses back into the job market. If these short-term factors are addressed, the current shortage should abate.

The Long-Term Shortage

Many predictions of long-term shortages or surpluses of physicians or other health care workers have turned out to be wrong. Nevertheless, there is the potential for a long-term shortage of nurses. This possibility reflects changing demographic and other factors, such as the decreased attractiveness of careers in health care to those entering employment and the dissatisfaction of people who currently work in hospitals.^{11,31} According to the workforce commission of the American Hospital Association, shortages of nurses and other employees "reflect fundamental changes in population demographics, career expectations, work attitudes and worker dissatisfaction. The shortages will not disappear with the current or the next economic downturn."¹²

Both the registered-nurse workforce and the general population are rapidly aging. As members of the "baby boom" generation begin to retire, the demand for nurses is expected to increase rapidly.³² Between 2000 and 2010, the occupation of registered nurse will be one of the five occupations with the greatest growth in the number of jobs, according to the Bureau of Labor Statistics. It is projected that during this period, there will be 1,000,400 job openings for registered nurses, including 561,000 new positions.³³

Younger nurses are more likely than older nurses to work in hospitals. In 2000, only 9 percent of registered nurses were less than 30 years of age, as compared with 25 percent in 1980 (Fig. 5). About a third of registered nurses were 50 years of age or older.⁹ A

related issue is that nursing, particularly in a hospital, can be physically demanding and lead to occupational injuries, particularly for older nurses.² By 2020, a shortage of more than 400,000 registered nurses is possible.³² One analysis concluded: "The evidence suggests a not-too-distant collision between the aging and shrinking RN workforce and the increasing demand driven (among other things) by the expanding population of Medicare beneficiaries."³⁴

MINIMAL NURSE-STAFFING RATIOS

In 1999, the California legislature, prompted by concern about the effects of decreased levels of staffing by nurses on the quality of care, required the state Department of Health Services to establish minimal staffing ratios of nurses to patients according to the types of licensed-nurse classification and hospital unit.^{35,36} In January 2002, Governor Gray Davis announced the proposed ratios (Table 1).³⁷ The actual regulations are likely to be finalized later this year, after public comments and hearings, and to take effect by July 2003.

The staffing ratios have been the subject of sharp disputes between the California Nurses Association, which worked for years to pass the legislation, and the California Healthcare Association, which represents hospitals in the state and has opposed the approach.³⁸ The nurses' association advocated a minimal ratio of 1 nurse to 3 patients on medical-surgical units; the hospital association advocated a minimal ratio of 1:10.

The proposed ratios include a minimum of one nurse to six patients on general medical-surgical units (Table 1). This minimum would change to one nurse to five patients 12 to 18 months after the regulations go into effect. Although most of the nurses are likely to be registered nurses, the extent to which licensed practical nurses could be substituted is not yet clear. For labor-and-delivery units, the minimal staffing ratio is one nurse to two patients. Intensive care units are already subject to a minimum of one nurse to two patients. The ratios are meant to be minimums; hospitals are expected to increase levels of staffing when patients require additional care.

Complying with the Ratios

California has 470 hospitals, according to the California Healthcare Association. Fifteen percent of hospitals with medical-surgical units would not be in compliance with the initial ratio if it took effect now, and 36 percent would not be in compliance with the final ratio, according to Joanne Spetz of the Center for California Health Workforce Studies at the University of California, San Francisco.³⁹ Fifteen percent of hospitals with labor-and-delivery units would not be in compliance with the proposed ratio.

Spetz predicted that the cost of implementing the

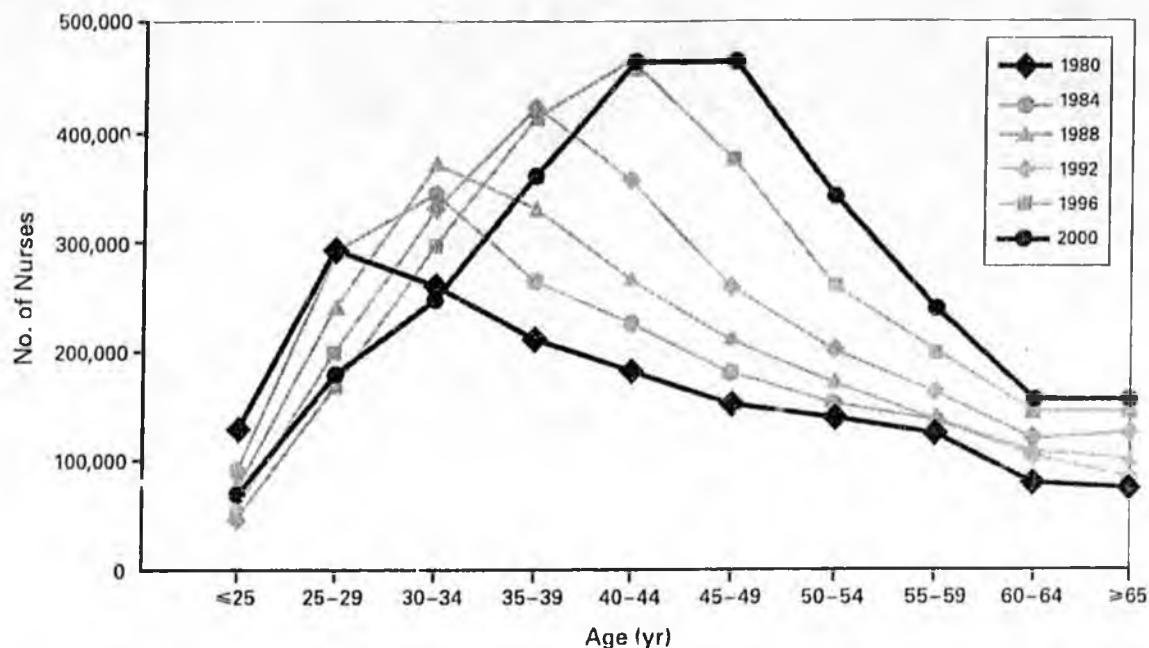


Figure 5. Age Distribution of Registered Nurses in the United States, 1980 through 2000. Adapted from the National Sample Survey of Registered Nurses: March 2000.⁹

recommendations would be "rather small," because many hospitals would have to hire few, if any, additional nurses. She estimated the annual per-hospital increase in expenditures for nursing as \$143,846 (1.0 percent) for the initial ratios and \$217,210 (1.7 percent) for the final ratios.³⁹ The California Healthcare Association has not prepared per-hospital estimates. It has estimated that if 5000 additional registered nurses are required statewide, the annual cost might be \$400 million. It is possible, however, that the costs of hiring additional nurses may be offset if patients have fewer complications and adverse events and therefore leave the hospital sooner.

Reaction to the Ratios

According to Rose Ann DeMoro, the executive director of the California Nurses Association, minimal nurse-staffing ratios "are a dramatic step forward for hospitals in California" and will help to "create conditions in hospitals for nurses to return." Jan Emerson, vice president of external affairs at the California Healthcare Association, said that although "the hospital industry agrees with the notion that more nurses is probably a good thing," the minimal staffing ratios could have "serious unintended consequences." These include an inability to find qualified registered nurses, which may force hospitals to eliminate beds

and reduce access to care. The proposed ratios also raise practical issues, such as whether the level of staffing is required around the clock.

The new American Association of Registered Nurses is encouraging other states to enact similar legislation. Mary Foley, the president of the American Nurses Association, said that her organization was "not opposed to the California bill but did not support it enthusiastically." She said that, although "10 to 12 patients per nurse is horrible," safe medical and nursing care is "not just a matter of numbers." Aiken, of the University of Pennsylvania School of Nursing, predicted that unless a "floor" for staffing is established, "we are not going to be able to stop the flight of nurses from hospitals. . . . If it is feasible to implement the ratios, a lot of other states may follow."

MANDATORY OVERTIME

Some people like to work overtime, because they can make more money or take other time off. Others prefer to work on a regular schedule. Although it might seem inefficient and expensive for an employer to hire too few employees and then pay higher wages for overtime, this approach reduces the number of permanent employees and is one way to cope with vacancies.

Overtime has unique aspects in health care. Physi-

TABLE 1. PROPOSED MINIMAL NURSE-STAFFING RATIOS FOR HOSPITAL UNITS IN CALIFORNIA.*

HOSPITAL UNIT	PROPOSED RATIO OF NURSES TO PATIENTS
Intensive or critical care†	1:2
Neonatal intensive care†	1:2
Intermediate care nursery†	1:4
Labor and delivery	1:2
Postanesthesia care	1:2
Emergency department	
General	1:4‡
Critical care	1:2
Trauma	1:1
Pediatrics	1:4
Step-down with telemetry	1:4
Specialty care (oncology)	1:5
General medical-surgical	1:6§
Behavioral health or psychiatric	1:6

*Data are staffing ratios proposed by the California Department of Health Services in January 2002¹⁷ under Assembly Bill 394, which was signed into law in 1999.¹⁸ The actual regulations — which have yet to be finalized — are to take effect in 2003. Although most of the nurses are expected to be registered nurses, the proposed ratios do not specify when licensed practical nurses can be used. Not all types of hospital units are listed.

†Minimal nurse-to-patient ratios are already in place for these units by California statute, regulations, or both.

‡Triage, radiology, or other specialty nurses are considered to represent an additional workforce; they are not included in this ratio.

§This ratio is an initial ratio; a ratio of 1:5 is to be phased in 12 to 18 months after the effective date of the regulations.

icians and nurses have professional obligations to care for their patients and not abandon them. Although overtime is essential in emergencies, there is concern that hospitals, like other businesses, are using it instead to compensate for inadequate levels of staffing. Exhausted nurses, like exhausted physicians, can pose safety risks. "By far the riskiest result of understaffing is the abuse of mandatory overtime as a staffing tool," Foley of the American Nurses Association stated in congressional testimony in March of this year.⁴⁰ Many nurses, she said, are being required to work some mandatory or unplanned overtime every month or face dismissal for insubordination or being reported to the state board of nursing for abandonment of patients.

In the recent national survey of working nurses,¹⁴ 61 percent of respondents said they had observed increases in overtime or double shifts during the past year. Forty-eight percent said that "the amount of overtime required" had increased, 6 percent said it had decreased, and 45 percent said it had remained the

same. Forty-five percent said working overtime was "strictly voluntary," 32 percent said it was "voluntary but feels like it is required," and 20 percent said it was "required" (Buerhaus P, Vanderbilt University School of Nursing; personal communication). A national survey of oncology nurses, conducted in 2000, had similar findings (Buerhaus P; personal communication).⁴¹

As of early May 2002, six states had enacted laws that ban or limit mandatory overtime, except in emergencies — Maine,⁴² Maryland,⁴³ Minnesota,⁴⁴ Oregon,⁴⁵ New Jersey,⁴⁶ and Washington.⁴⁷ The Washington law prohibits hospitals from requiring nurses who care for patients from working more than 12 hours in a 24-hour period or more than 80 hours in a period of 14 consecutive days. Many of the other laws have similar provisions. More states are likely to enact such laws, which are backed by the American Nurses Association and other nursing organizations.

POTENTIAL SOLUTIONS

A major goal of minimal nurse-staffing ratios or the prohibition of mandatory overtime is to improve the quality of care. These measures may exacerbate shortages in the short term because hospitals will most likely have to hire more registered nurses. However, if they help to make hospitals more attractive places to work, they may make it easier to recruit nurses. Their actual effects will not be clear for at least several years.

The potential solutions to the shortage of nurses and related problems include expanding enrollment in nursing schools and bringing more men and members of minority groups into the profession.^{21,34} They also include developing incentives to encourage nurses who work part-time to work more hours, offering better salaries, providing more regular work hours, and restructuring hospitals to make the work environment more attractive. In its recent report, the workforce commission of the American Hospital Association emphasized the need to make hospital work more meaningful and rewarding.¹² Still other approaches, such as recruiting more nurses from overseas⁴⁸ or encouraging affluent patients to hire their own nurses,⁴⁹ are less likely to have broad effects. Some combination of these approaches is likely to be most effective.

Financial incentives may be particularly important. Many hospitals are paying nurses signing bonuses of \$1,000 to \$5,000 or more and are temporarily filling vacant positions with registry or traveling nurses.^{14,26} In Boston, Tufts–New England Medical Center has agreed to raise nurses' pay 18 to 23 percent over a period of 23 months.⁵ Nurses at the Oregon Health and Science University will receive at least a 20 percent raise over a three-year period.⁵⁰

The American Nurses Credentialing Center, a subsidiary of the American Nurses Association, has developed the "magnet nursing services recognition pro-

gram" for hospitals that meet quality standards and provide nurses with more responsibilities, autonomy, and opportunities to participate in policy decisions. Studies suggest that nurses in such hospitals have greater job satisfaction, and the hospitals are less likely to have difficulty hiring and retaining nurses.⁵¹ As part of the new contract for nurses, the Oregon Health and Science University agreed to seek "magnet" status.

Enrollment in associate's-degree programs for nurses decreased through 2000, according to preliminary data (Fig. 3). One encouraging sign, however, is that enrollment in baccalaureate programs, which appeal to younger students,⁵² has increased⁵³ (Fig. 3). The increase — in 2001 — ended a six-year period of declining enrollment. The Nurse Reinvestment Act would authorize federal funding for scholarships and loan repayments for nurses who agree to work after graduation in areas where there are shortages, as well as for public-service announcements that would promote nursing as a career.⁵⁴ The Bush administration has announced the availability of grants and has proposed extending loan-repayment programs.⁵⁵ In California, Governor Davis has proposed a \$60 million initiative for the nurse workforce that expands training programs for nurses.⁵⁶

THE FUTURE

Nurses who work in hospitals are apprehensive about the future. Hospitals employ many more registered nurses than physicians and cannot function without them. At a time of serious financial constraints, however, they must often choose between hiring more nurses and launching or maintaining other programs that may improve patient care, such as computerized order-entry systems.⁵⁷ Some of the issues raised by nurses about hospital staffing reflect their interest in their own financial and job security. Yet there is ample evidence of a broader unease.

Many tensions will be difficult, if not impossible, to resolve, particularly if additional funds do not become available. For example, within the nursing profession, higher-quality care may mean a better-educated workforce, with a higher percentage of nurses with bachelor's or advanced degrees. Such a workforce, however, would expect more responsibility and greater independence and would be more expensive to hire and retain.

In the long term, the future of the nursing profession is related to its ability to attract more young nurses, to support the careers of current nurses, and to create more jobs for nurses with higher wages and greater responsibilities. Such efforts can be successful only if the positions students are training to fill are sufficiently attractive, as compared with the alternatives in other fields. "Nursing is a worthy career," said Foley, the president of the American Nurses As-

sociation. "It should not be considered secondary or inferior. We want nursing back on the list of career choices for bright young men and women who are looking at health care."

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Alaska Health Professional Shortage Area (HPSA) Designations

April 24, 2007

Census Area/Borough or Subarea:	Primary Care	Mental Health	Dental Health
Aleutians East Borough	18	8	18
Aleutians West Census Area	17	7	CHC
Anchorage Municipality	CHC	CHC	CHC
- Anchorage North Census Tracts (Low Inc)	7		
- Anchorage South Census Tracts (AK Nat)	4		
- Anchorage East Census Tracts (AK Nat)	4		
Bethel Census Area	15	20	CHC
Bristol Bay Borough	CHC	CHC	CHC
Denali Borough	15	7	No HPSA
Dillingham Census Area	CHC	CHC	CHC
Fairbanks North Star Borough (low income)	11	CHC	8
Haines Borough	CHC	CHC	CHC
Juneau City and Borough	CHC-Homeless	CHC	CHC
Kenai Peninsula Borough	CHC	CHC	CHC
- Seward Subarea		7	
Ketchikan Gateway Borough	No HPSA	No HPSA	No HPSA
Kodiak Island Borough	CHC	CHC	CHC
Lake and Peninsula Borough	No HPSA	11	11
Matanuska-Susitna Borough	CHC	CHC	CHC
- Talkeetna/Trapper Creek Service Area	9		
Nome Census Area	15	18	CHC
North Slope Borough	.3	16	No HPSA
Northwest Arctic Borough	18	12	CHC
Prince of Wales-Outer Ketchikan Census Area	CHC	9	CHC
Sitka City and Borough	CHC	CHC	CHC
Skagway-Hoonah-Angoon Census Area	15	4	16
Southeast Fairbanks Census Area	12	No HPSA	No HPSA
Valdez-Cordova Census Area	CHC	CHC	CHC
Wade Hampton Census Area	15	13	20
Wrangell-Petersburg Census Area	CHC	10	CHC
Yakutat City and Borough	7	CHC	6
Yukon-Koyukuk Census Area	17	13	20

Scores: Score listed if there is a Geographic HPSA; if the only HPSA is a community health center it is listed as such.

CHC means Community Health Center Designation is present



Grants

Shortage Designation

Student Assistance

National Health Service Corps

National Center for Health Workforce Analysis

Health Professional Shortage Areas

Support for Training Programs

Medicine & Dentistry
Nursing

Diversity

Area Health Education Centers

Public Health

Other Disciplines

Children's Hospitals
CME

Kids Into Health Careers

Practitioner Data Banks

Ricky Ray Hemophilia Relief Fund

Publications

Setup Instructions

- The Shortage Designation Branch in the HRSA Bureau of Health Professions National Center for Health Workforce Analysis develops shortage designation criteria and uses them to decide whether or not a geographic area or population group is a **Health Professional Shortage Area** or a **Medically Underserved Area or Population**.

- More than 34 federal programs depend on the shortage designation to determine eligibility or as a funding preference.

- About 20 percent of the U.S. population resides in primary medical care Health Professional Shortage Areas.

Health Professional Shortage Areas (HPSAs) may have shortages of primary medical care, dental or mental health providers and may be urban or rural areas, population groups or medical or other public facilities.

- [Automatic HPSA scores by category \(Excel/xls, 10/02/2006\)](#) | [Automatic HPSA scoring process summary](#)
- [Search the HPSA data base \(updated weekly\)](#)
- [HPSA data base dictionary of terms and abbreviations](#)
- [HPSA designation criteria](#)
- [Primary medical care HPSA designation criteria](#)
- [Dental HPSA designation criteria](#)
- [Primary medical care/dental HPSA guidelines](#)
- [Mental health HPSA designation criteria](#)
- [Mental health HPSA guidelines](#)
- [How to apply for HPSA designation](#)

Medically Underserved Areas (MUA) may be a whole county or a group of contiguous counties, a group of county or civil divisions or a group of urban census tracts in which residents have a shortage of personal health services.

Medically Underserved Populations (MUPs) may include groups of persons who face economic, cultural or linguistic barriers to health care.

- [Search the MUA/MUP data base \(live, updated continuously\)](#)
- [Guidelines for MUA/MUP designation](#)
- [MUA/P data dictionary](#)

For shortage designation inquiries, please call 1-888-275-4772. Press option 1, then option 2 or contact the Shortage Designation Branch:

sdb@hrsa.gov
 301-594-0816
 301-443-4370 fax

5600 Fishers Lane
Room 8C-26
Rockville, MD 20857

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Office of the Commissioner

H&SS-Office of the Commissioner-Health Planning & System Development



Health Planning & Systems Development

New Publications

- Alaska State Health Plans and Special Reports
- Directory of Health Care Sites
- Health Planning and Systems Development Annual Report, FY 2006
- Physician Supply Taskforce Report
 - Powerpoint Presentation (from Health Summit 12/06)
- Rural Health Clinics in Alaska

Publications

- Diagnostic Related Groups (DRG) Summary 2001-2004
- Hospital Discharge Data Report for 2001-2003 (PPT)
- In Step: Comprehensive Integrated Mental Health Plan, 2001-2006
- Moving Forward: Comprehensive Integrated Mental Health Plan, 2006-2011
- SORRAS I: Status of Recruitment Resources and Strategies (2004)
 - SORRAS Report
 - SORRAS Summary and Appendices
 - SORRAS Survey
- SORRAS II: Status of Recruitment Resources and Strategies 2005-2006
 - SORRAS II: Appendices 2005-2006

Presentations

Physician Supply Task Force PPT Presentation (12/06)

Presentations from the Health Insurance Forum (12/06)

Health Insurance Presentations from Health Summit (12/06)

Coming Soon!

- Check back soon for upcoming publications!

Health Planning Links

Health Planning Resources

Navigation

- ▶ Home
- ▶ Boards & Commissions
- ▶ Finance & Management Services (FMS)
- ▼ **Health Planning & Systems Development**
 - ▶ Alaska Office of Rural Health
 - ▶ Alaska Primary Care Office
 - ▶ Certificate of Need (CON)
 - ▶ Health Planning and Data Management
 - ▶ Rural Hospital Flexibility
 - ▶ SEARCH *Alaskan exposure*
 - ▶ Workforce
 - ▶ Publications
- ▶ Office of Program Review
- ▶ Office of Rate Review
- ▶ Tribal Programs

Resources

- ▶ Contacts
- ▶ Regulations
- ▶ Bioterrorism
- ▶ Medicaid State Plan
- ▶ Medicaid Independent Audit Appeal

Jeanne Ostnes

From: Carr, Patricia A [Pat_Carr@health.state.ak.us]
Sent: Tuesday, May 01, 2007 8:31 AM
To: Jeanne Ostnes
Subject: Health Professional Shortage Areas criteria and lists for AK

Jeanne:

Here's the website that has links to the USDHHS Health Professional Shortage Area (HPSA) designation criteria <http://bhpr.hrsa.gov/shortage/> and link to find a HPSA on the HPSA list - which is <http://hpsafind.hrsa.gov/>

I have attached a working list maintained by my office to identify the areas identified as either primary care, dental or mental health HPSAs.

We do not have state-developed criteria for determining shortages.

I mentioned several reports that may be of interest. The link to the Alaska Physician Supply Task Force report and the Status of Recruitment Resources and Strategies <http://hss.state.ak.us/commissioner/Healthplanning/publications>

I plan to attend the hearing today.

Let me know if you need additional information.

Pat

Patricia Carr, Unit Manager
Health Planning and Systems Development
Office of the Commissioner
Department of Health and Social Services
P.O. Box 110601
Juneau, Alaska 99811-0601
(907) 465-8618 phone
(907) 465-6861 fax
pat_carr@health.state.ak.us

5/1/2007



April 30, 2007

The Honorable Peggy Wilson, Chair
House Health, Education and Social Services Committee
Alaska State Capitol, Room 403
Juneau, AK 99801-1182

RE: HB 234 (Johnson)—Support

Dear Chair Wilson:

On behalf of the members of AARP in Alaska, we encourage you and your colleagues on the House Health, Education and Social Services Committee to support HB 234, authored by Representative Craig Johnson and co-sponsored by Representative Bob Buch.

As you know, Alaska has a shortage of qualified workers in a variety of occupational specialties. One public policy strategy that works to encourage students to enter specific fields of study and then to remain in Alaska is repayment of student loans. HB 234 would create the enabling legislation to allow a separate endowment fund to be established. Loan repayment would be limited to five years duration or fifty percent of the outstanding debt.

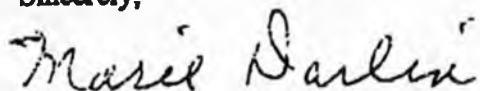
We know we currently have a shortage of health professionals and educators. We will soon need a skilled workforce for resource development and the gas pipe line. HB 234 won't solve all our recruiting and retention problems but it is an excellent step in that direction.

AARP recommends an "AYE" vote on HB 234.

Should you have any questions about our position, please feel free to contact me (586-3637) or Patrick Luby, AARP Advocacy Director (907-762-3314).

Thank you for your consideration.

Sincerely,



Marie Darlin, Coordinator
AARP Capital City Task Force
415 Willoughby Avenue, Apt. 506
Juneau, AK 99801
586-3637 (voice)
463-3580 (fax)

CC: Vice-Chair Bob Roses
Representative Anna Fairclough
Representative Mark Neuman
Representative Paul Seaton
Representative Berta Gardner
Representative Sharon Cissna
Representative Craig Johnson



217 Second Street, Suite 200 • Juneau, Alaska 99801
Tel (907) 586-1325 • Fax (907) 463-5480 • www.akml.org

Monday, April 30, 2007

Chairwoman Peggy Wilson
Members of the House Health, Education & Social Services Committee
State Capitol
Juneau, Alaska 99801-1182

Dear Chairwoman Wilson and members of the committee,

The Alaska Municipal League is writing in support of HB 234 – EDUCATION LOAN REPAYMENT PROGRAM and HB 235 – APPROP: EDUCATION LOAN REPAYMENT FUND.

We support HB 234 and HB 235 because this legislation may help Alaska attract and retain workers in fields where positions are currently hard to fill, including peace officers, engineers, and health care workers. With many vacancies in these areas throughout Alaska, public health and safety may be at risk in our communities. It is these employees who keep our communities functioning and livable.

Thank you for your support of HB 234 and HB 235.

Sincerely,

Kathie Wasserman

Kathie Wasserman, Executive Director
Alaska Municipal League
217 Second Street, Suite 200
Juneau, Alaska 99801
(907) 586-1325
upcoming fiscal year.



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Monday, April 30, 2007

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Members of the House Health, Education & Social Services Committee
State Capitol
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Thank you for your support of HB 234 and HB 235.

Sincerely,

Kathie Wasserman

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Alaska Municipal League
217 Second Street, Suite 200
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upcoming fiscal year.