

Securing
an
Adequate
Number
of
Physicians
for
Alaska's
Needs



Report of the
Alaska Physician
Supply Task Force

August 2006

prepared for Mark Hamilton, President,

University of Alaska and

Karleen K. Jackson, Ph.D., Commissioner,

Alaska Department of Health and

Social Services

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Cover photo: Foreground, Andrew Janssen, M.D., a 2005 graduate of the Alaska Family Medicine Residency Program, examines 6-month-old Cooper Baines at the Providence Family Medicine Center in Anchorage, Alaska. Paul W. Davis, M.D., is shown in background. Photo by Greg Martin, 2005, courtesy of Providence Family Medicine Center.

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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.

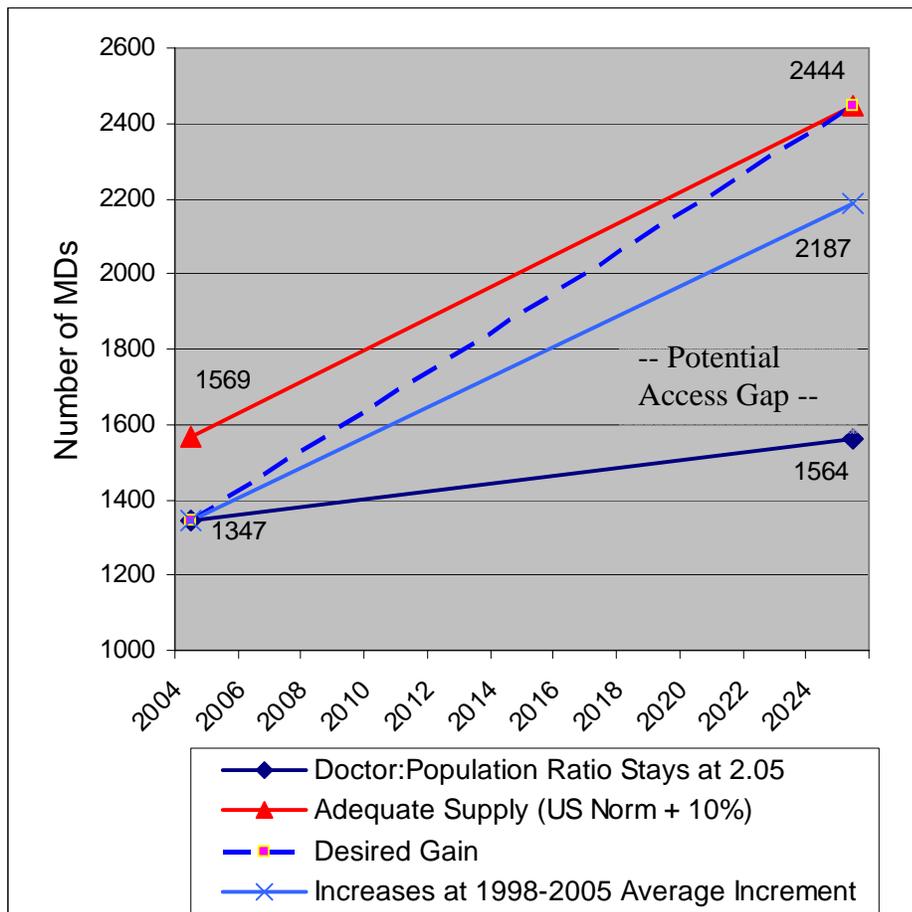
Assessment of need. The Task Force estimates that Alaska has a shortage of 375 physicians, based on the conclusion that Alaska should have 110% of the current national average physician-to-population ratio. In order to correct the deficit and reach an adequate supply of physicians by 2025, Alaska needs 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

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

	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

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).

Section I. Overview: The Physician Supply Task Force Approach

In December 2005, University of Alaska President Mark Hamilton and Alaska Department of Health and Social Services Commissioner Karleen Jackson appointed the Alaska Physician Supply Task Force to answer two primary 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 as a group of experts, was charged by President Hamilton and Commissioner Jackson to recommend the most appropriate and effective response to a persistent physician supply shortage within Alaska, spiraling costs of recruitment, effects on Alaska of projected national shortfalls, and the need to develop a workable plan to meet physician workforce needs throughout the state from now through 2025.

The Physician Supply Task Force worked through two phases:

- Phase I (December 2005– March 2006); and
- Phase II (February 2006 – August 2006).

During Phase I the Task Force identified and analyzed the data regarding medical provider counts for the state and compared it to data from other states and nationwide. This phase assisted in evaluating the scope of the problem. The Task Force also considered the expertise of its members, and the knowledge of other advisors and consultants from Alaska regarding state programs for encouraging students to enter health careers, for subsidizing or contributing to training programs, and for supporting students through scholarships and loans.

In Phase II the Task Force chose to focus on developing short, medium and long term recommendations to meet physician supply requirements in Alaska through 2025. They also considered the impact of their recommendations on training, recruitment and retention of physicians. The Task Force prioritized and grouped strategies based on reports from other states, Alaska's experience, and expected feasibility and effectiveness in the current environment.

Task Force members chose to operate under a consensus model related to findings and strategies. During their work, the Task Force members used scoring methodologies, expert testimony, and staff consultation to reach their findings and recommendations.

Task Force members and invited guests shared their expertise regarding training of physicians. Presentations included those from WWAMI (Washington, Wyoming, Alaska, Montana and Idaho) regional medical school based within the University of Washington School of Medicine, and the AFMR in Anchorage.

Staff contacted experts from the Center for Health Workforce Studies at the University of Washington, the North Carolina Rural Health Research Program and Program on Health Policy Analysis at the University of North Carolina at Chapel Hill, the Utah Medical Education Council, and other state and national programs. Reports of the several Centers for Health Workforce Studies, US Bureau of Labor Statistics, Health Resources and Services Administration, and other states that have addressed physician workforce issues were studied. A review of the literature focused on assessing and forecasting physician supply and demand at state and national levels, and on strategies being used to increase physician supply. Current status of recruitment and retention efforts and programs such as student loan programs and loan forgiveness options that have been used in Alaska and elsewhere were reviewed.

The Task Force met monthly from December 2005 to August 2006. Public comment was encouraged throughout the process. Meeting announcements were publicly posted and time was set aside at each meeting for public comment. In addition to monthly meetings, a longer meeting was held March 27, 2006 to discuss, enhance and prioritize recommendations. This meeting included a broad group including stakeholders, members of the public, and Task Force and project staff. The draft report was distributed for review and comment to over ninety individuals who have expertise and interest in this issue.

The next three sections of the report describe current information from diverse sources in Alaska about trends and issues related to physician supply and recruitment, distribution, and factors in Alaska that may need to be considered in forecasting need, followed by more detailed information about the data that can be used to forecast supply. This material provides the basis for the “findings” relating to the first question asked of the Task Force: “What is the current and future need for physicians in Alaska?” Section V provides the information gathered to answer the second question: “What strategies have been used and could be used in meeting the need for physicians in Alaska?” Section VI contains detailed discussions of the goals and strategies proposed by the Task Force. Section VII includes a listing of areas that warrant further consideration, in that they were discussed by the Task Force but not researched or thoroughly documented in this report.

Section II. Background: State and National Trends in Understanding Physician Supply and Demand

Alaska's health care organizations are facing major difficulties and great expense in recruiting and retaining physicians. Both private and public health care agencies have pointed out to state policymakers and the University of Alaska that they are spending increasing time and money seeking doctors to staff their services. A looming national shortage is already affecting Alaska's service delivery. Indeed, a review of the literature finds that the United States is experiencing a shortage of physicians which is predicted to rise due to the needs of an aging population, increases in physician retirement, restricted production of new physicians nationally, insufficient GME training capacity, and changes in practice patterns. By 2020, a deficit of 96,000 to 200,000 doctors is anticipated nationwide (Cooper, 2004).

History of national physician shortage. The current shortage can be traced back to a response to a series of influential reports published between 1981 and the mid 1990s, which inaccurately predicted that the nation would experience a large surplus of physicians by 2000. The reports were written by national advisory groups, including the Graduate Medical Education National Advisory Committee (GMENAC) and the Council on Graduate Medical Education (COGME), that were tasked with making policy recommendations regarding the adequacy of the supply and distribution of physicians (Cooper, 2004).² Their information was driven by an opinion that health maintenance organizations (HMOs) would decrease physician demand by promoting preventive care and reducing tests and procedures.

Subsequent to these reports, allopathic medical schools around the country voluntarily capped the production of new physicians. However, residency programs and osteopathic medical schools did not heed the reports' warnings and continued to increase the number of physicians in the residency programs and osteopathic schools. Between 1980 and 1990, the number of residents training in the U.S increased by nearly 50% from 62,000 to 92,000 residents (Salsberg and Forte, 2002).

As concerns about physician oversupply escalated, COGME recommended in 1996 that the number of physicians entering residency programs be reduced from 140% to 110% of the baseline (the number of medical school graduates in 1993) and that the percentage of specialists to generalists be evenly split, 50/50. Finally, in 1997, Congress placed a cap on the number of available residency slots that would be supported by the Medicare program. This significant economic disincentive effectively capped GME in the United States.

It was not long, however, before the wisdom of these recommendations and subsequent restrictive policies was questioned. Physician oversupply did not occur. Instead, reports of shortages for both general practitioners and specialists surfaced (Schubert et al., 2003;

² Richard Cooper MD has written extensively on the evolution and effect of these positions and reports. See *Annals of Intern Med* 141, 2004, p. 705.

Miller et al., 2001). It appeared that a significant shortage rather than oversupply was looming on the horizon. As a result, COGME reviewed physician workforce projections again, predicted that physician demand would significantly outpace supply, and recommended that medical schools expand the number of graduates by 3,000 per year by 2015. In 2005, the executive council of the Association of American Medical Colleges (AAMC) called for a 15% increase in medical school enrollment, and in June, 2006, the AAMC called for a 30% increase in medical school slots by 2020 in order to meet future physician needs (AAMC, 2006).

Economic impact of physician supply. The supply of physicians impacts state economies in many ways. It is an economic driver and affects a state's ability to draw businesses as well as skilled, competitive employees. Businesses and potential staff are more likely to locate in communities that assure the availability of quality medical care services. Dollars spent on health care are recycled in the economy to the extent that labor, supplies and services are acquired locally. In 2004, personal health care expenditures represented 13.4 percent of the gross national product. It represented 12.3 percent (1.6 billion dollars) of Alaska's gross state product.

(www.cms.hhs.gov/NationalHealthExpendData/downloads/nhestatesummary2004.pdf)

In Alaska, business concern about adequacy of health services in the state has been expressed by the Commonwealth North study of primary care and the subsequent initiatives in 2005-2006 of the Alaska Health Care Roundtable to examine costs of health care and health insurance, and availability of options for employers and employees (Commonwealth North, 2005). The University of Alaska, Institute for Social and Economic Research recently produced an analysis of costs of health care in Alaska (UA ISER, 2006). The Alaska State Medical Association (ASMA), the Alaska State Hospital and Nursing Home Association (ASHNA), the University of Alaska, and the state's largest health care organizations (Providence Health Systems and the Alaska Native Tribal Health Consortium (ANTHC)) have all focused on the looming shortage and have begun to take steps to improve practice environments.

Section III. The Alaska Story: Historical and Current Information on Physician Supply

A. Emerging Trends and Issues Related to Physician Supply

In 2004, Alaska’s physician-to-population ratio ranked 17th lowest in the nation – i.e. in the lower third of all states.^{3,4} About 1350 allopathic physicians (MDs) work in patient care and about 100 osteopathic physicians (DOs) are in practice in Alaska. Alaska has 205 physicians (MDs and DOs) providing patient care per 100,000 population, compared with 238 for the US (AMA, 2006).

A recent survey of “vacant” slots for Alaska physicians indicated a 16% vacancy rate outside of Anchorage. Although doctors of osteopathy, advanced nurse practitioners and physician assistants are available in Alaska to provide medical care, the current deficit in allopathic physicians is being felt by the profession and by health care organizations as they seek to staff their services. The current “shortage” using the national physician to population ratio as the norm can be defined as equal to 218 fewer physicians currently in patient care in Alaska than if the US ratio applied.

Figure 1. A First Look at Physician Count in Alaska		
Measure:	MD Count (Alaska)	MDs Per 1000 Population
2004 actual physicians in patient care (per AMA Master File)	1347	2.05
2004 "expected" at national average	1565	2.38
"Deficit" from national norm	218	---
Percent "deficit"	14%	---
Outside Anchorage Vacancy Rate (AFMR survey 2004)	16%	---

³ Allopathic medicine is conventional medicine. The term was coined in 1842 by C.F.S. Hahnemann to designate the usual practice of medicine as opposed to homeopathy. Doctors of osteopathy have completed a course of study equivalent to that of an MD and are licensed to practice medicine. They may prescribe medication and perform surgery, and they often use manipulation techniques similar to chiropractics or physical therapy.

⁴ Chen et al. 2005 show Alaska in the middle of the range of states using the 2005 AMA master file, selecting “clinically active” physicians, but using a slightly lower population estimate than that used in this report. Kaiser Family Foundation “statehealthfacts.org” and the US Statistical Abstract show rankings using counts of “non-Federal physicians” only. Since these use population estimates that include the military and Alaska Native and American Indian populations who are served by the excluded physicians, the resulting rankings placing Alaska lower than 17th. These differences show the importance of understanding the definitions of the inputs and assumptions made in any presentation of similar data.

Alaska's specialists are located mainly in the largest urban centers. Anchorage, which serves as the specialty center for the state as a whole, has approximately 464 specialists and 323 "primary care" physicians (family practitioners, internists, pediatricians and obstetrician-gynecologists).⁵ Anecdotal information suggests that Anchorage lacks sufficient primary care physicians, especially internists, to meet the population's needs. The Task Force identified this as one area needing further study.

Rural areas are served by primary care physicians who are headquartered mostly in regional centers. In rural census areas and boroughs there are fewer physicians per population than in the urban areas. Telehealth development in Alaska has improved the ability of physicians in regional centers to supervise and consult with mid-level providers in sub-regional and village clinics, and with community health aides and practitioners in the Alaska tribal health care system. Similarly, the telehealth options have enabled primary care physicians in rural areas to consult with specialists in Anchorage and in some cases out of state experts. Within both the tribal system and the private sector, there are still itinerant specialists (both in-state and out-of-state residents) who visit rural communities or regional centers to hold specialty clinics or see selected patients. The regionalized structure provides for a level of access to care that could not be supported economically by individual communities.

Small communities typically have a difficult time supporting physician services, in Alaska as well as elsewhere. Communities may be "too small, too poor, or too disadvantaged in geographic competition to support sufficient viable physician practices," and may not have the "economic wherewithal to support more physician practices even though physician to population ratios may indicate they are needed" (Wright et al., 2001). Seasonal fluctuations related to tourism, fishing season, and weather-dependent construction are often an additional challenge to small Alaskan communities. Staffing levels which may be appropriate on average through a year may be inadequate for peak periods, which can also "burn out" an isolated, solo provider. National trends are away from solo practices. Alaska is also experiencing trends toward hospital hires of physicians, reliance on emergency medicine specialists to staff emergency rooms, and clinics having a combination of physician and mid-level (advanced nurse practitioner and physician assistants) staffing.

Distribution of Alaska physicians. The Task Force has recognized that there are inherent inefficiencies related to the vast distances that must be covered by patients and providers, uncertainties of weather and transportation options, and the inherent challenges of living and working in remote and geographically isolated conditions. These factors were considered in Task Force deliberations about targets for physician supply. Figure 2 shows the distribution of physicians and population for areas with five or more physicians.

⁵ DHSS Health Planning and Systems Development analysis of occupational licensing and ASMA data (merged)

Figure 2. Distribution of Alaska Physicians by City and Percent in Primary Care

City/Area of Physicians in Alaska	Total Physicians	% of State's Physicians in the City	% of Physicians in the City who are in Primary Care	% of Alaska Population in the City/Area
Anchorage Total	787	60%	41%	42%
Fairbanks Total	151	11%	51%	13%
Wasilla, Palmer, Willow	83	6%	49%	11%
Juneau/Auke Bay	70	5%	46%	5%
Soldotna & Kenai	46	3%	52%	7%
Sitka	31	2%	68%	1%
Ketchikan	27	2%	56%	2%
Kodiak	23	2%	74%	2%
Homer	18	1%	44%	1%
Bethel	15	1%	100%	4%
Dillingham	8	1%	100%	1%
Nome	8	1%	88%	1%
Kotzebue	6	0%	100%	1%
Seward	6	0%	83%	1%
Barrow	5	0%	80%	1%
Balance of State	32	2%		7%
Total with known spec'ty	1,316	100%		

Note: Primary Care physicians include family practitioners, internists, pediatricians and obstetrician-gynecologists.

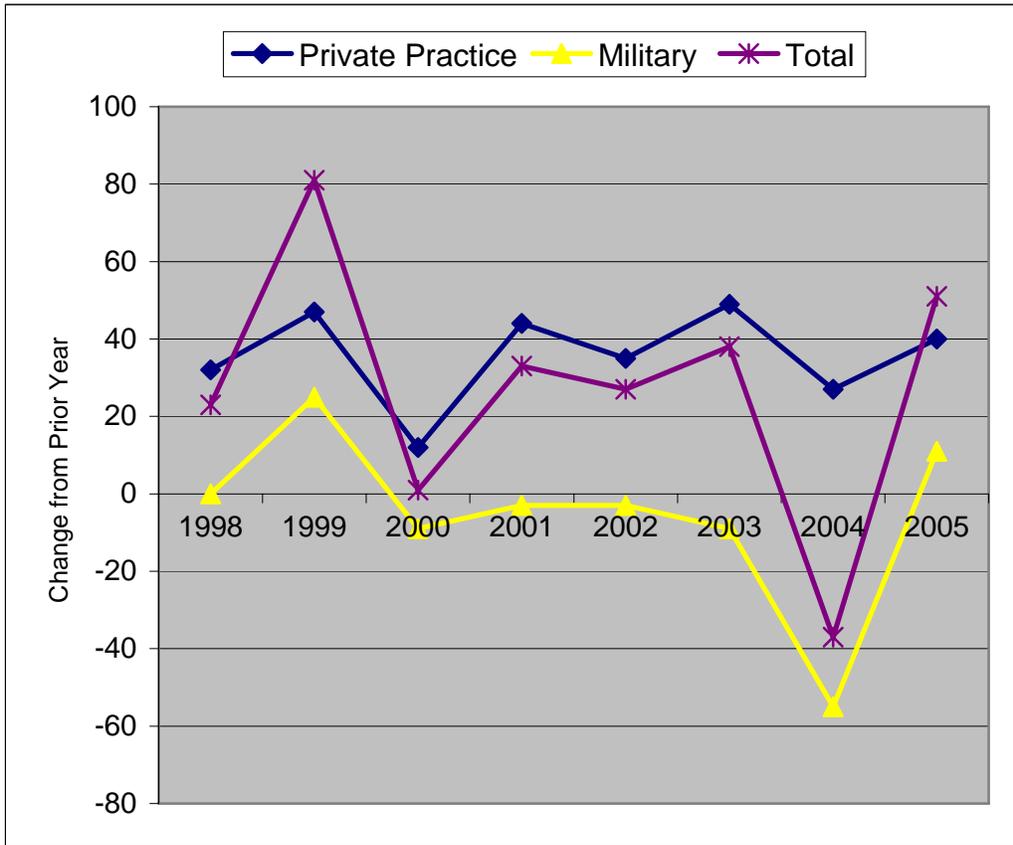
Source: Merged ASMA Directory listing and Alaska Occupational Licensing database (AKDHSS HPSD 2006)

It should be noted that Anchorage has a higher percent of the state's physicians for their population because it is Alaska's largest city and is a specialty referral center. Many patients come to Anchorage from other parts of the state for medical care. Fairbanks, Juneau, Sitka, Kenai/Soldotna and Ketchikan each have several specialties represented among the physicians.

Fluctuations in physician supply. The Task Force has examined the data on licensing of new physicians in the state and loss of resident physicians, measured by expiration of licenses or moves out of state. Losses are attributable to retirement, migration, and mortality. Detailed findings are described below in analysis of trends.

The ASMA Directory showed a drop in listed physicians in 2004, prompting discussion and concern. (See Figure 3.) The decline was explained by a sudden drop in the listed members of the military services, related to the base closings and deployments to Iraq.

**Figure 3. Change from Prior Year in Total Physicians, by Practice Type
Alaska 1997-2005**



Source: ASMA Directories 1997-2005

A critical finding of the Task Force has been that since 1998 new MD licenses have averaged 78 per year, and on average 40 licenses have expired each year.⁶

Physician recruitment in Alaska appears to have declined since a high point in 2002 (there were 108 new MD licenses for physicians with Alaskan addresses in 2002 and only 73 in 2005). Licenses of new DOs have been increasing (from six in 1998 to nine in 2005), and numbers of advanced nurse practitioners and physician assistants being licensed annually have increased as well (see Figure 4).

⁶ The number of both new and expired licenses has varied from year to year (see Figure 4), with new licensees ranging from a high of 108 in 2002 to 61 in 2004. The timing of losses to the state's physician supply is more difficult to pinpoint than entry since out-movers or retirees may not report changes in address or activity to the Alaska State Medical Board immediately. When they do report, the information is entered as "comments" with the status change noted, but the details about the date and specific reasons for change would need to be analyzed through a study of the Board's detailed file "comment" entries. These are not part of the publicly available electronic files.

**Figure 4. New Licensees Annually 1996-2005 by Type
(Active Licenses, Alaska Addresses, in practice in January 2006)**

	MD	DO	NP	PA
1996	68	1	18	15
1997	65	7	26	14
1998	86	6	28	19
1999	92	8	18	9
2000	67	5	32	13
2001	71	4	25	11
2002	108	8	25	22
2003	90	7	30	12
2004	61	11	32	39
2005	73	9	30	29

Note: From comparative data for 1998 it is evident that some of the earlier licensees have left Alaska or left practice. To do a precise and complete analysis would require analysis of the “comments” files kept by Occupational Licensing, which was not feasible during this project.

Source: Alaska Division of Occupational Licensure

If the number of Alaska physicians retiring increases, or out-migration or “lapsing” of licenses increases, Alaska could lose more physicians than it gains, adding to the burden of boosting the current supply. The Status of Recruitment Resources and Strategies report indicated rapidly escalating costs of recruitment for rural physicians, and increased dependence on *locum tenens* physicians to handle patient care (DHSS/ACRH, 2006).

Two trends could intensify the need for new physician recruits in Alaska. One trend is that the physician workforce is aging, so the rate of retirement is likely to increase, thus increasing the loss of physicians. The second trend is the growing national shortage, which is already making recruitment to Alaska more difficult.

B. Forecasting the Need for Physicians in the next Two Decades

According to the Task Force projections of need (elaborated in Section IV below), at this time Alaska needs a net gain of about 59 new physicians each year to offset the number of physicians who leave or retire. Annual losses are currently 40 per year, but are expected to increase as a higher proportion of physicians age and retire. One “linear” scenario for replacing physicians as they leave practice, and building the total supply, is illustrated in Figure 5. A net gain of 59 physicians per year would be a 50% increase over the recent average net gain of 38 per year. This increment could be accomplished by increasing the number of new licensees to average between 100 and 105 per year.

Figure 5. A Linear Growth Scenario for Physician Supply

Year	Projected Physicians in Practice			Needed Annual Increment	Estimated Loss due to Migration/Retirement	Recruitment Needed to Achieve Needed Increment
	MDs in Practice	DOs Active	Total			
2004	1347	109	1456	59	40	99
2005	1399	115	1515	59	40	99
2006	1451	122	1573	59	41	100
2007	1504	128	1632	59	41	100
2008	1556	135	1690	59	42	101
2009	1608	141	1749	59	42	101
2010	1660	147	1808	59	43	102
2011	1712	154	1866	59	43	102
2012	1765	160	1925	59	44	103
2013	1817	167	1983	59	44	103
2014	1869	173	2042	59	45	104
2015	1921	179	2101	59	45	104
2016	1973	186	2159	59	46	105
2017	2026	192	2218	59	46	105
2018	2078	199	2276	59	47	106
2019	2130	205	2335	59	47	106
2020	2182	211	2394	59	48	107
2021	2234	218	2452	59	48	107
2022	2287	224	2511	59	49	108
2023	2339	231	2569	59	49	108
2024	2391	237	2628	59	50	109
2025	2444	244	2688	59	50	109

More physicians are needed for the following reasons: to correct the current deficit, to keep up with population growth, to address increased demand and need associated with aging of the population, and to compensate for changing practice patterns that are resulting in less time available for patient care on the part of the physicians in practice. Nationally the practice pattern changes are adding to the need for higher numbers of physicians in practice per 1,000 population, even where the number of “full time equivalents” might be relatively stable (HRSA, 2005; Bureau of Labor Statistics, 2006). Such practice patterns include:

- physician preferences for salaried positions with fewer hours in patient care and “on call;”
- reduced hours for older physicians (nationally it has been noted that older physicians reduce their average hours, whether by shortening office hours, reducing patient rosters, bringing on partners, or taking more vacations);

- more “job sharing” by physicians;
- longer office visits and/or more time devoted to group sessions with patients as part of efforts to improve clinical prevention counseling;
- more time devoted to consults and supervision and training of other health workers; and
- other changes that may improve productivity of the system as a whole but not increase patient care productivity of the physician workforce, itself.

Alaska’s rural physicians face additional challenges. Approximately 75 percent of Alaskan communities are not connected by road to another community with a hospital. Geography and climate together limit transportation options for providers and patients. Health care services for the rural population have evolved with a regional model where physicians and hospitals are located mostly in regional centers. A number of mid-level providers work in sub-regional centers, generally the largest “villages” in their areas, or serve villages on an itinerant basis from the regional or sub-regional clinics. In most villages populated by Alaska Natives, a community health aide or practitioner serves immediate behavioral and physical health needs, referring patients to higher level providers or using telehealth consults as needed.

These arrangements result in physicians serving more of their time in a consultative and oversight role than in typical settings in the nation. In addition to such differences in practice responsibilities, rural physicians (almost all family practitioners rather than specialists) have to handle the entire spectrum of needs. They must often decide on and arrange for referrals to specialists located in distant cities. The poverty and hazardous occupations of Alaska’s remote areas also contribute to high levels of need. These circumstances must be considered in determining a reasonable expectation for physician to population ratios.

C. Reasons for Taking Action to Assure an Adequate Physician Supply

In Alaska as well as throughout the nation, there are mounting concerns about patients facing dangerously long wait times even for primary care physicians. Wait times for specialty care doctors are even longer and reflect the emerging strain. A system unable to provide timely medical care is certain to have a deleterious impact on health outcomes and further erode long term population health goals.

Many patients, especially elderly patients on Medicare, are having difficulty finding a primary care physician. Most Internal Medicine physicians cannot afford to take on new Medicare patients because Medicare payment rates are so low. In addition, salaries of sub-specialists are much higher and discourage physicians from going into Internal Medicine. Generalists are being starved out.

*--Richard Neubauer, MD, Internal Medicine,
Anchorage. American College of Physicians, Board
of Regents.*

Increasing access to comprehensive high quality health care services is a key goal of the Healthy Alaskans 2010 plan. Reaching that goal depends upon having an adequate supply of doctors practicing in Alaska, having an appropriate distribution of physicians geographically to support the systems in place including mid-level providers and community health aides and practitioners in remote communities, and having an appropriate distribution of specialists to provide the continuum of services needed. Specific shortages of internists, psychiatrists (for adults and children), and certain medical sub-specialties have been reported to the Task Force. Comparisons of specialists per 1000 population confirmed the large differences in availability of these providers in Alaska compared with the United States as a whole.

Key factors that will exacerbate the Alaska deficit include:

- aging of the population. Alaska's population over age 65 is expected to nearly triple by 2025 (Williams, 2005);
- aging physician workforce;
- increased competition among states to recruit from a limited supply of physicians;
- practice changes (such as preferences for fixed hours and limited number of hours) that further increase the number of physicians needed to meet adequately the health care needs of the state's population; and
- patients' increasing expectations for diagnosis and treatment.

Availability of health services in an area affects demographics of communities and of Alaska as a whole. Historically, the percentage of Alaskan residents over age 65 has been lower than in most states (six percent in Alaska in 2005 compared with 12 percent nationwide). Although much of this difference has been related to high mortality rates of Alaska Natives and the in-migration of adults in the 1980-1985 oil boom who are just now reaching retirement age, another explanation has been that many older Alaskans have moved either to the cities or out of state because they were unable to have their health care needs met in their home communities. Improved availability of physicians

including internists and specialists in the diseases that affect older people is likely to affect the rate of out-migration of senior citizens.

National workforce projections indicate that the shortage of physicians is escalating, although the gap could be held close to constant if medical schools and residencies expand.⁷ Since the lead-time for preparing a college graduate to practice medicine is seven years, policymakers need to consider promptly any indication of an emerging shortage of physicians.

⁷ The shortage hypothesis is not universally accepted. Starfield, Salsberg, Blumenthal, Elison and others have pointed out that health status is not directly correlated with physician to population ratios (many countries with lower ratios have better health status than the US, for example) but in some instances a higher ratio of primary care to specialists is associated with better health status; they point to systems changes including broader roles for ANPs and PAs, electronic health records, more effective health promotion and clinical prevention approaches, holding down the need for higher physician to population ratios even if physicians practice shorter hours and retire earlier and at higher rates.

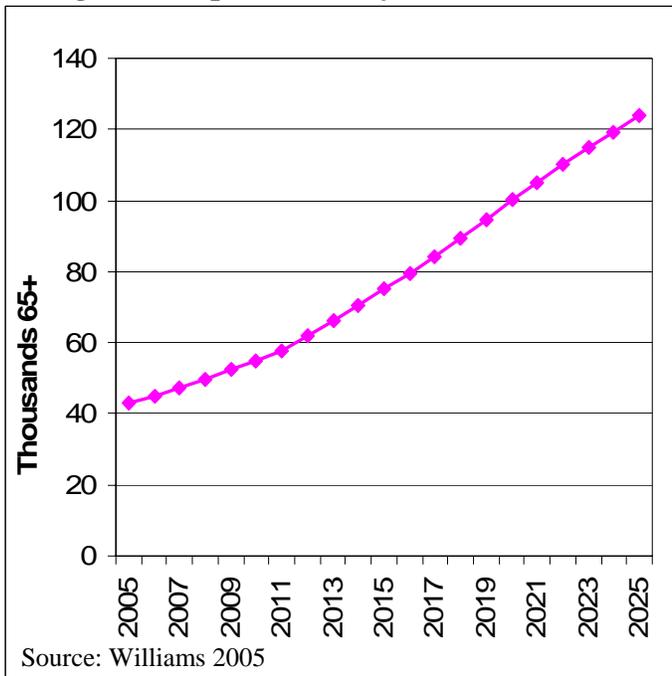
Section IV. Findings and Methods for Forecasting Supply and Demand to 2025 in Alaska

A. Demographic Profile of Alaska through 2025

Alaska’s 664,000 population in 2005 included about 37,000 new residents since 2000, or a six percent increase in five years. The most recent population projections for Alaska indicate an increase to about 788,000 by 2025 – another 124,000 people – about one percent (7,000) increase per year. Population projections are based on patterns of birth, death and migration that are evident or expected based on recent trends and on anticipated economic developments known at the time the projections are made. (To account for some of the uncertainty, Alaska’s demographer provides a “low” and “high” projection series as well. For 2020 the “low” projection is 712,000, the “high” is 823,000.) In addition to its resident population, Alaska hosts over a million tourist visitors a year, and hundreds of thousands of people who come to the state or its waters to work in fishing and fish processing, tourism, extractive industries, and other activities. Alaska also has seasonal residents who are not included in census counts of the resident population.

One quarter of the resident population lives in approximately 321 places that have fewer than 2500 people. Most of these communities are geographically isolated from not only each other but also from the “urban” hub communities that have health care facilities including staff at the mid-level or physician level. The geography and demographic distributions of small populations of these communities as well as some communities on the “road system,” are challenges that underlie the effort to provide access to health care in an extreme frontier state with 1.1 persons per square mile in 353 communities.

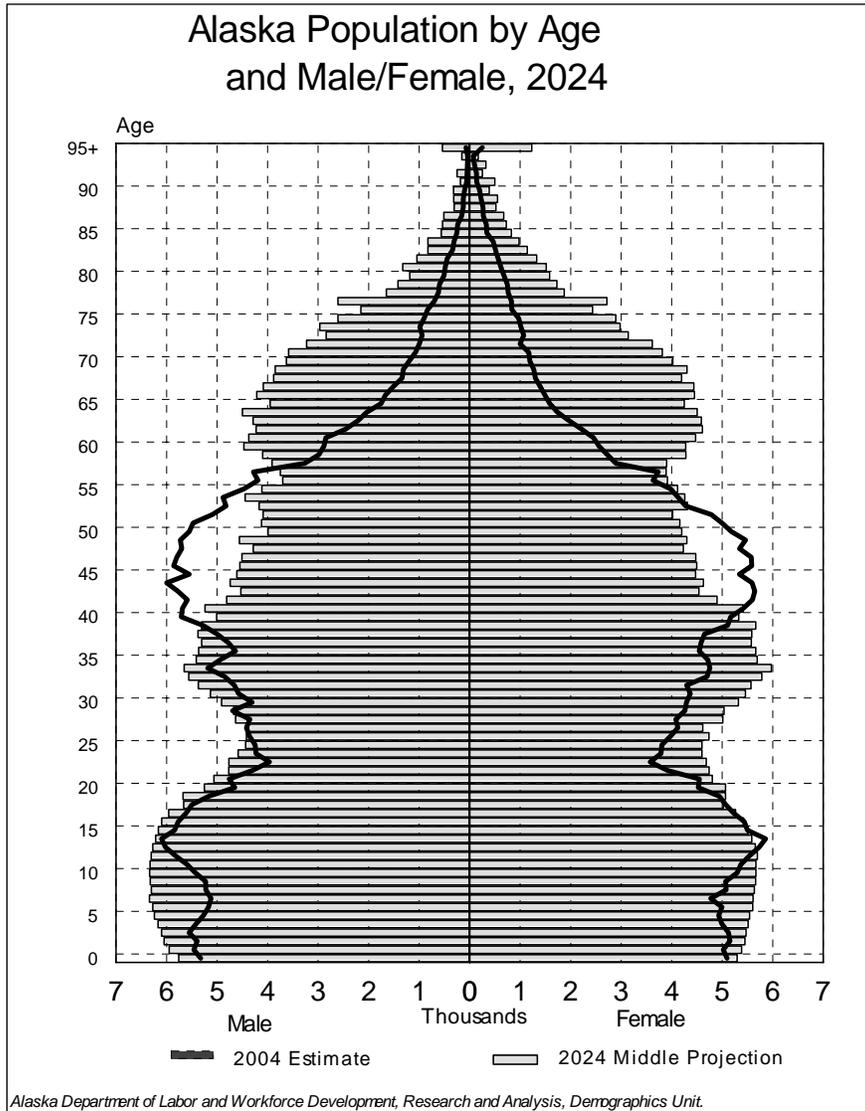
Figure 6. Population Projection for Alaskans Over Age 65



Assuming that age-specific migration and mortality patterns will remain similar to the current (2000-2005) patterns, it is projected that the population aged 65 and older will nearly triple by 2025, from about 43,000 people in 2005 to about 124,000 in 2025. The State Demographer has noted: “Given the lag time necessary to train occupations such as nurses, already in short supply, and to expand home care and assisted living, major efforts to meet what is already becoming a crisis in the state cannot begin too soon. The impact of the rapidly increasing numbers of older residents may be greater than elsewhere,

because Alaska, with its historically younger population and relatively small number of elders, has fewer existing resources to serve the elderly” (Williams, 2005). Aged dependency (currently 10 elders per 100 Alaskans of working age) is expected to nearly triple by 2025, while child dependency will increase from the current level of 46 to about 49 children per 100 working age adults.

Figure 7. Alaska Population Projection by Age and Male/Female, 2024



While the age distribution of the population changes in the next two decades, the health risks associated with both age and occupation may change. Alaska’s economy relies considerably on oil extraction, fisheries, fish processing, tourism and mining, which include seasonally variable work and many occupations with high risk of injury.

A trend to more service sector jobs may reduce the rate of occupational injuries and death, but may also be associated with limited health insurance benefits.

A continuing trend

toward the service sector jobs may contribute to a drop in average median household income, and increases in the percentage uninsured. There may be a higher demand for health care if better health insurance coverage is available in future, for all age groups. Risks for chronic disease have been increasing generally, so the needs for clinical preventive work as well as diagnosis, treatment and therapeutic services are likely to grow considerably.

B. Projected Demand and Supply of Physicians through 2025

Current physician mid-level counts. This report describes, references and summarizes three independent sources of data about physicians in Alaska, including the State of Alaska Occupational Licensing database, ASMA directory listing (includes association members and non-members), and the American Medical Association (AMA) Master File. Strengths and limitations of each source are noted.

According to the State of Alaska Division of Occupational Licensing, 1392 allopathic physicians (MDs), and 109 doctors of osteopathy (DOs) have Alaska addresses and “AA” (active) status, for a total of 1501 physicians, or 2.26 physicians per thousand residents. However, the true supply of Alaskan physicians is actually smaller, as these figures include those not actively providing patient care, as well as those who moved out of state without notifying the Medical Licensing Board since the last license renewal date (December 31, 2004).⁸

A second source of data is the ASMA directory, which lists a total of 1414 MDs and DOs (as of January 2006), of whom 1221 are “active.” This database appears to slightly underestimate the actual supply of Alaskan physicians, despite the fact that it includes both members and non-members of the Association. A comparison of the ASMA database and the State of Alaska Occupational Licensing database indicates that the ASMA list excludes some military physicians as well as a number of physicians working in the Alaska tribal health care system who are licensed in the state.

Both of the ASMA and State of Alaska Occupational Licensing databases specify whether a physician is “active” (ASMA) or “AA” (Occupational Licensing). However, there is no standard definition for active status in either database. Therefore, the databases may include physicians practicing less than 20 hours a week, or active in non-patient care work such as administration, teaching or research.

A third independent source is the AMA Master File of Allopathic Physicians (MDs), which counted 1580 physicians in Alaska in 2004, of whom 1347 are reported to be actively engaged in patient care (20 hours a week or more). This database is the only known source with standardized definitions uniformly applied to physicians throughout the United States. As such, the Physician Supply Task Force uses the physician supply data from this database for purposes of working toward an “Alaska Standard” physician-to-population ratio. The AMA Master File tracks physicians from medical school onward. It counts primary location and primary specialty. Since the AMA also obtains information about practice activity that permits distinguishing providers “active in patient care” for 20 hours a week or more, it provides a more accurate estimate of physicians

⁸ Nearly 1,000 additional physicians (MD and DO) have active licenses to practice in Alaska but do not have Alaska addresses. These include physicians who work periodically as *locum tenens* practitioners, some who visit the state to provide specialty services on an itinerant basis, physicians licensed in Alaska in order to provide telemedicine consults for Alaska patients, others who may not visit on any regular basis, some who have left the state but maintain their license, and some who have obtained a license but decided not to practice in the state.

providing care to the population than the other available sources. The Task Force uses the data based on the 2004 AMA survey for comparisons of “active allopathic physicians in patient care” with other states and with the nation as a whole. Separate data from Occupational Licensing and from the professional associations is provided about doctors of osteopathy and mid-level providers.

Retirement status is reported in all three databases. In Alaska, a physician may let a license “lapse” by not renewing, for example when starting retirement, but may within two years of the license expiration date request reinstatement without penalty. After a two-year lapse, re-licensure must begin as if the individual had never been licensed in Alaska before.

The Task Force recognizes that of the 109 DOs with Alaska addresses, 77% (84) work in primary care (Occupational Licensing database). This is a substantially higher percentage than the 60% reported nationally.⁹ Ninety two (92) active DOs are listed by ASMA. Among the DOs active in Alaska as of early 2006, about five had come into the state each year during the 1990s. That number increased to seven per year for licenses awarded in 2000-2005, or one new DO license for every eleven MD licenses.

Each of the available databases thus provides useful information. Since detailed analysis of the AMA Master File would require a costly purchase, it has not been feasible to use that source for regional or other detailed analysis. It is possible to compare the specialty distributions between the AMA and ASMA databases, and to check for consistency between the age distributions for physicians included in the licensing database as “active” and those in the AMA Master File. The Task Force has been able to analyze the occupational licensing database merged with the ASMA listing of members and non-members known to be practicing in Alaska, as of January 2006. The occupational licensing database has birth date of provider, while the ASMA database has activity type and declared primary specialty. It should be noted that the “counts” might differ slightly (see Figure 8).

⁹ Memo to Alaska Task Force, March 27, 2006 from Byron Perkins, DO, President, AKOMA.

Figure 8. Active Physicians by Degree Type			
Physician Degree Type	Private Practice, Military, Public Health (Excludes retirees, residents, and those who report state and federal rather than PH)	Number of MDs in Patient Care 20+ hours/wk	Active Licensee, No Restrictions
Data Source:	ASMA (2005)	AMA (2004)	Occ Lic-“AA” with AK address (2005)
MD	1221	1347	1392
DO	92	N/A	109
TOTAL	1313	1347	1501
“Per 1000” population for the year	$1000 * 1313/664,000 =$ 1.98	$1000 * 1347/658,000 =$ 2.05	$1000 * 1501/664000 =$ 2.26

The Occupational Licensing and ASMA data indicate that 59 percent of Alaska’s resident active physicians are based in Anchorage Municipality (including Elmendorf), which accounts for about 42 percent of the state’s population. Fifty one (51) percent of the state’s primary care physicians are located in Anchorage. Sixty eight (68) percent of the state’s specialists are in Anchorage.

Physician assistants and advanced nurse practitioners are critical providers of care in Alaska, complementing and extending physician coverage for primary care, for supervision and training of community health aides and practitioners, and in some settings for serving as specialists in surgery, emergency medicine, and other areas. As of the end of 2005, there were 284 active physician assistants with Alaska addresses and “AA” status; 29 percent were in Anchorage. Of 486 advanced nurse practitioners with active licenses and Alaska addresses, 51 percent were in Municipality of Anchorage.

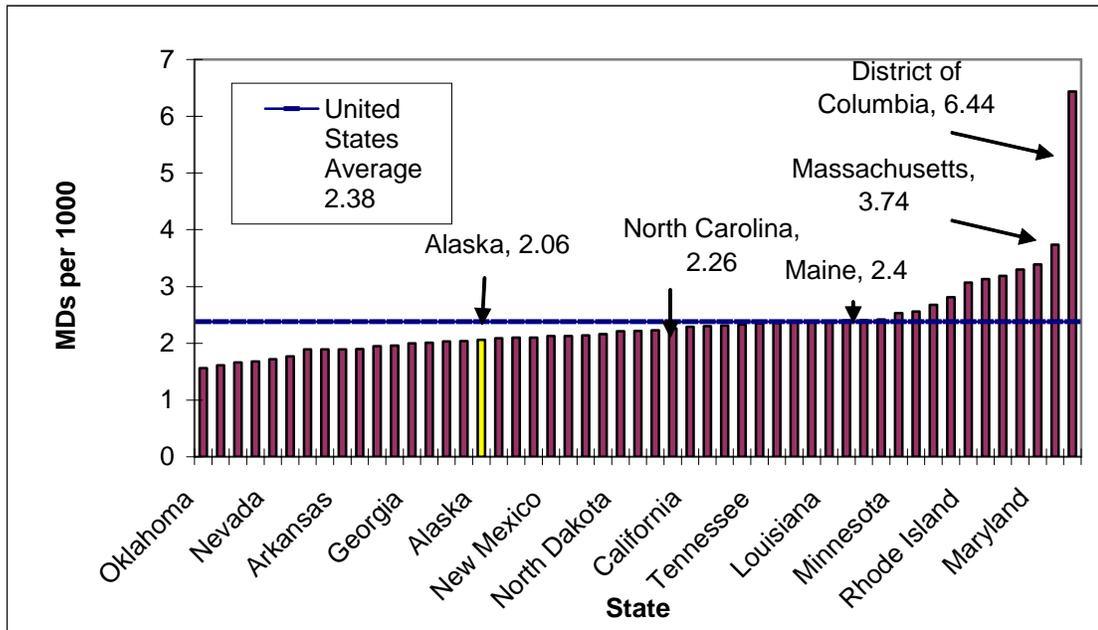
The Task Force used the AMA listing for “physicians in practice” (excluding academics, retirees and others) by specialty, although this is for MDs only. One can be reasonably sure of the validity of comparing Alaska to the US physician to population ratio using this standardized approach. This is the most reliable basis for selecting an “Alaska Standard” for target ratio of physicians (MDs) to population.¹⁰ The physician to population ratio using the AMA count of MDs in patient care 20 hours or more per week is 2.05 physicians per 1000 population for Alaska for 2004, compared with 2.38 for the US as a whole. If Alaska had the same number per 1000 as the US, there would be 1569,

¹⁰ UW Center for Health Workforce Studies Working Paper #98 used the Master File of the AMA to examine age and county distribution of physicians so purchase of the Master File or request to the CHWS could provide for another analysis but this will still be limited to MD degree holders. The licensure and ASMA data sets provide a more complete accounting of Alaska based physicians including Doctors of Osteopathy and physicians not licensed in Alaska but serving in the Public Health Service Commissioned Corps or the Military.

or 16% (218) more physicians in Alaska providing patient care 20 hours per week or more. The current level of 2.05 physicians per 1000 population puts Alaska 17th lowest among the states.

Keeping in mind the differences among the data sets, and the strengths and limitations of each, summary information is presented from each of the data set as appropriate, to show relevant information about Alaska’s physician and mid-level providers. Each data set is useful for specific analyses and comparisons. The data permit examination and consideration of the factors that are likely to influence future demand and supply to 2025.

Figure 9. Alaska’s National Ranking in MDs per 1000 Residents



Source: AMA 2006

In state rankings of physicians per 1000 population, Alaska’s ranking in recent years has varied from sixth lowest to thirty second lowest, depending on whether or not the count includes only non-federal physicians, or whether the ranking focuses on physicians in patient care at least 20 hours per week. Figure 9 shows one method of “ranking” states based on ratios for 2004 counting physicians in patient care.

Alaska has proportionally more “federal” physicians than most states because of the presence of military physicians, IHS physicians, and Public Health Service Commissioned Corps who serve in several agencies in Alaska. Methods that exclude “federal” physicians rank Alaska lower in comparisons of “physician to population ratios” because they exclude federal providers from the numerator, but retain the populations served (military and Alaska Native) in the denominator. (For example, the Kaiser Family Foundation “state health facts” website uses the non-federal physician count only.)

Figure 10 shows the numbers of physicians, physician assistants, podiatrists and paramedics licensed by the Alaska State Medical Board. Other data provided below allow for analysis of physicians and mid-level provider counts (including advanced nurse practitioners) in more detail.

Figure 10. Physicians, podiatrists, physician assistants, and paramedics by fiscal year (licensed regardless of state of residence or practice).											
	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
MD/DO Active	1419	1593	1603	1826	1810	2034	1850	2080	2099	2321	2309
MD/DO Inactive	262	262	277	266	300	289	285	268	249	242	240
Podiatrists Active & Inactive	13	14	14	15	15	16	16	17	18	17	20
Physician Assistants Active & Inactive	200	231	221	255	244	266	245	284	266	297	307
Paramedics- Active	134	158	151	191	195	230	233	255	245	283	280
TOTAL	2028	2258	2266	2553	2564	2835	2629	2904	2877	3160	3156

Source: Alaska State Medical Board

Characteristics of the physician workforce in Alaska. The annual directories from the Alaska State Medical Association and the biennial versions of the Occupational Licensing database both provide trend information on the following characteristics of physicians:¹¹

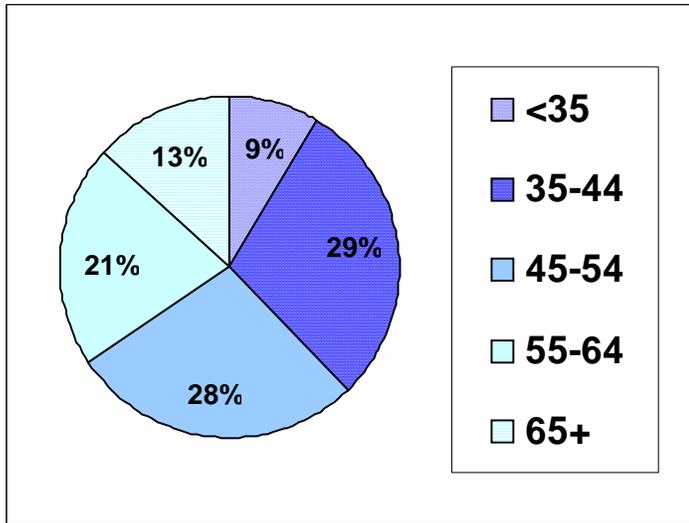
- demographic characteristics;
- practice characteristics;
- specialty distribution; and
- geographic distribution.

¹¹ State files:

- are more current (by a year) than the AMA report (especially useful for military);
- contain geographic location listed in license application and ASMA membership application;
- include DOs as well as MDs;
- provide specialty (ASMA) linked to other characteristics (licensing);
- allow examination of length of licensure, timing of license applications and license lapses; and
- allow comparison of licensed providers at different points in time (about every two years) to determine approximate age at time of move from Alaska, by specialty; likewise changes in status (locums to regular license, for instance).

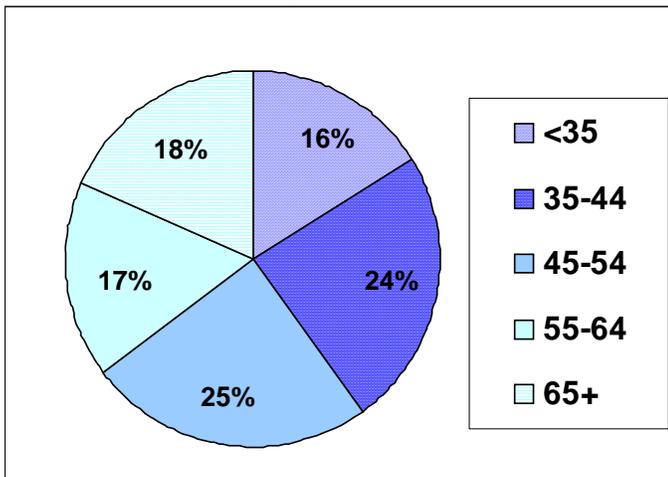
Alaska physicians are younger than the national physician supply, and younger than those in other WWAMI states (average age 48.4 vs. 49.2) according to Chen et al. (Chen, 2005); however as in other states, the physician population is aging.

Figure 11. Alaska Physicians' Age Distribution (MDs)
(N=1580, includes physicians not in practice)



Source: AMA 2006 (from Master File Report for 2004)

Figure 12. US Physicians' Age Distribution (MDs)
(N=884,974, includes physicians not in practice)

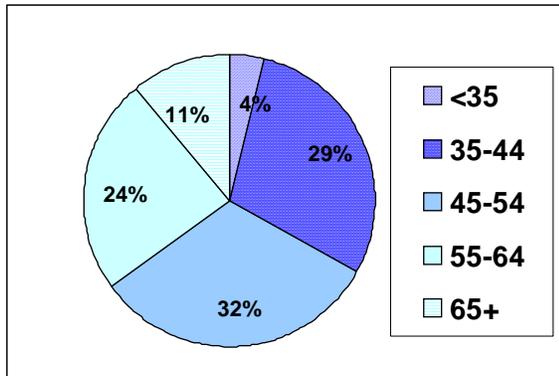


Source: AMA 2006 (from Master File Report for 2004)

Since 1998, the percentages of all physicians who were under age 35, and between 35 and 44 have decreased while the percentages 55 to 64 and 65 and over have increased. However by comparing the ages of those who left Alaska during the 1998-2006 period with those who stayed, one can see that departure rates are similar across age rather than being higher for older physicians.

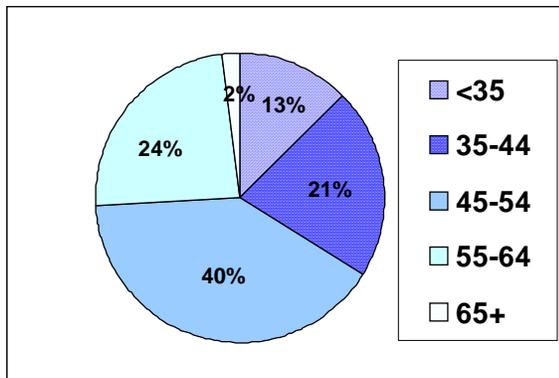
Age distribution of physicians (MD and DO), physician assistants and advanced nurse practitioners. As shown in Figures 13 to 15, very few (two or three percent) of advanced nurse practitioners and physician assistants (mid-level providers) are in the age group 65 and older. This compares with 11% of physicians being 65 years or older. A proportionally larger number of mid-level practitioners are aged 45-54 – about 42% compared with 32% of physicians.

**Figure 13. Age Distribution of Physicians (MDs and DOs) in Alaska
N=1501**



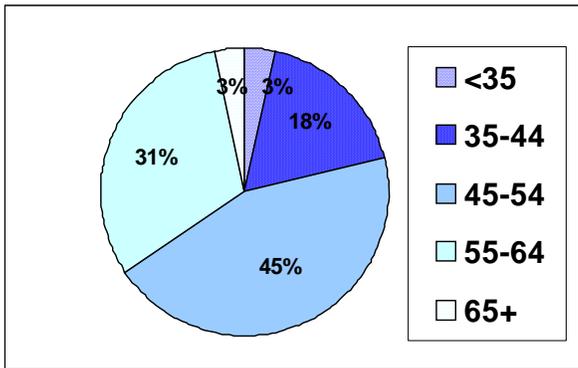
Source: 2006 Alaska Occupational Licensing Database

**Figure 14. Age Distribution of Physician’s Assistants in Alaska
N=294**



Source 2006 Alaska Occupational Licensing Database

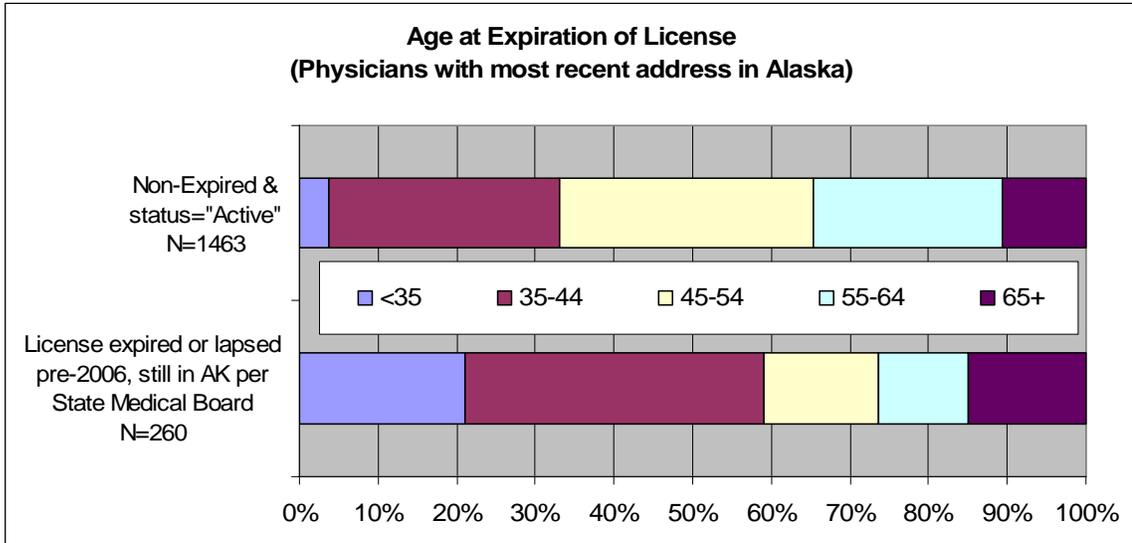
**Figure 15. Age Distribution of Advanced Nurse Practitioners in Alaska
N= 424**



Source: 2006 Alaska Occupational Licensing Database

Figure 16 shows age distribution of both the active physicians in Alaska and the age distribution of those who have let their licenses expire, whose last known address was in Alaska. Some of these individuals may be working in positions that do not require maintenance of an active license, or they may have left the state without informing the State Medical Board. They have two years to re-activate their licenses – after that time they need to re-apply for a license.

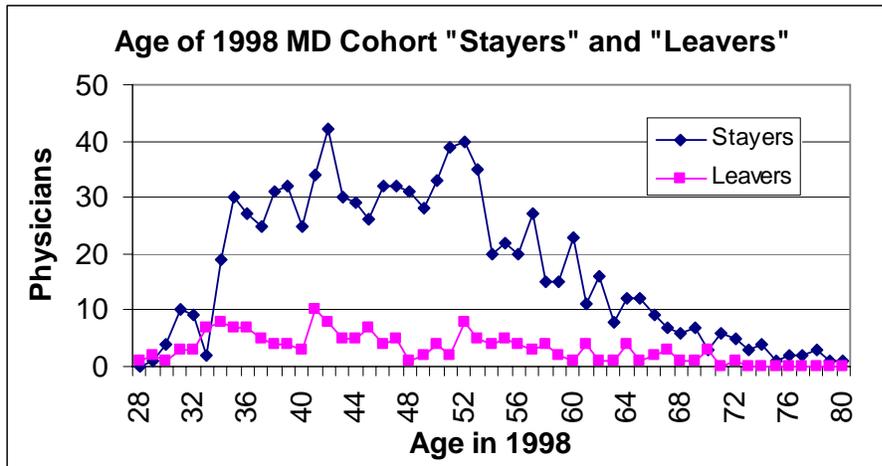
**Figure 16. Age at Expiration of License
(Physicians with Most Recent Address in Alaska)**



Source: Alaska Occupational Licensing Database analyzed by AKDHSS HPSD

Cohort analysis of the active licensed MDs in 1998 and those who were still active in Alaska as of January 2006 shows a similar age distribution for those who stayed and those who left practice over eight years (see Figure 17). This suggests that departures from Alaska practice are not predominantly associated with aging and retirement, but occur about equally at any age.

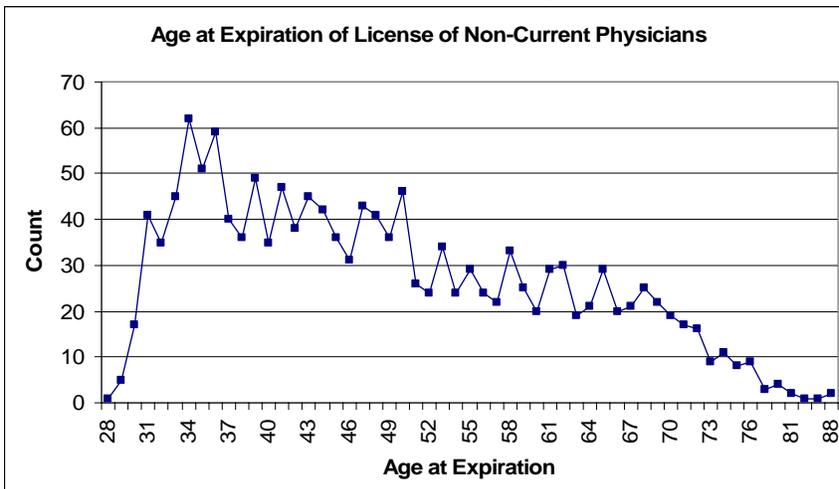
Figure 17. Age of 1998 Cohort “Stayers” and “Leavers”



Source: Alaska Occupational Licensing Database analyzed by AKDHSS HPSD

Figure 18 compares the age of all physicians who have ever been licensed in Alaska with the number of those who have left the state and no longer hold Alaska licenses. This data again indicates that departures are distributed across all ages, rather than occurring mostly at “retirement” age.

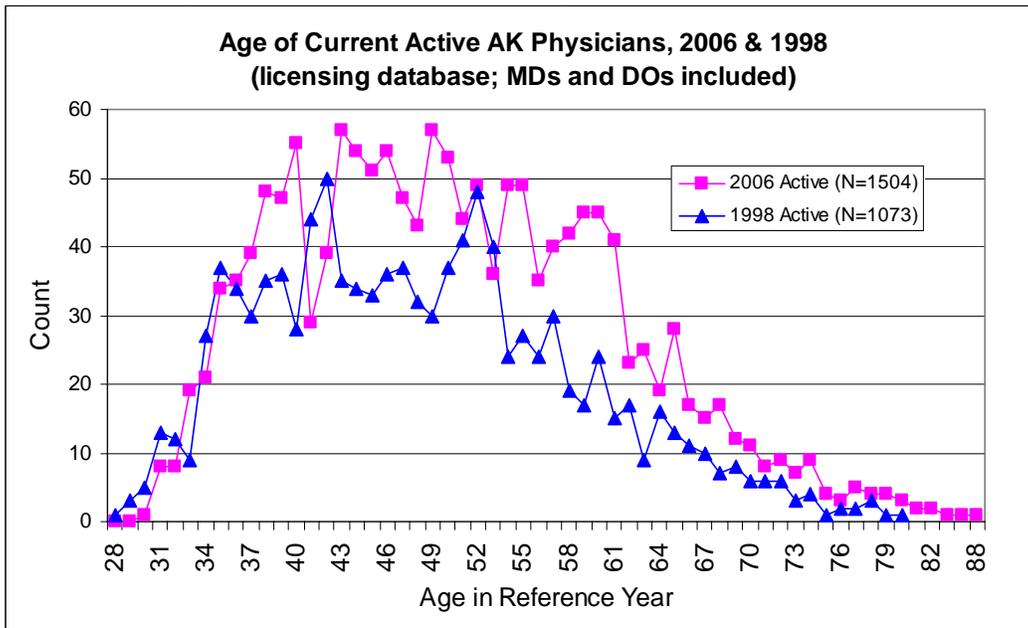
Figure 18. Age at Expiration of License for Non-Current Physicians (Includes out of state and in-state no longer licensed)



Source: Alaska Occupational Licensing Database analyzed by AKDHSS HPSD

A comparison of active physicians located in Alaska in 2006 and 1998 shows similar age distributions in both groups although the total number of physicians in 2006 is larger (Figure 19, below). It is notable that the number of physicians under age 33 was smaller in 2006 than in 1998, which might suggest failure to recruit recent graduates to the state. With students tending to enter medical school at older ages and taking more years of graduate training, it is likely that this may be true in other states as well, although it appears that only about 9% of Alaska’s physicians are under age 35, while about 16% are under age 35 nationwide. (Figures 11 and 12 above).

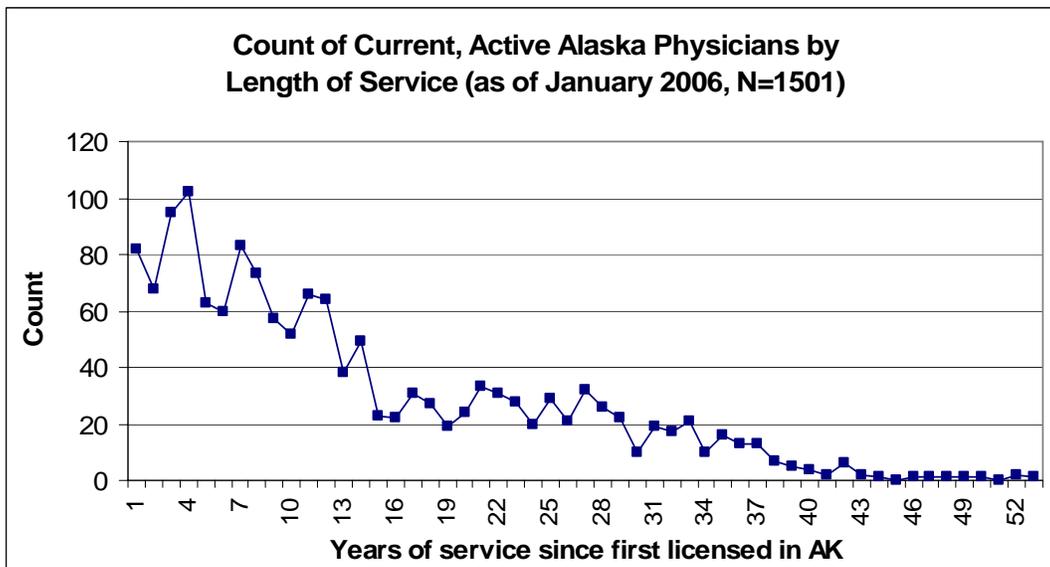
Figure 19. Age of Current Active AK Physicians, 2006 & 1998



Source: Alaska Occupational Licensing Database analyzed by AKDHSS HPSD

Figure 20 shows length of service for current active physicians living in Alaska, indicating that a very large number and proportion have been in the state for ten years or less. Retaining current physicians for additional years is a priority for assuring adequate physician supply into the next two decades.

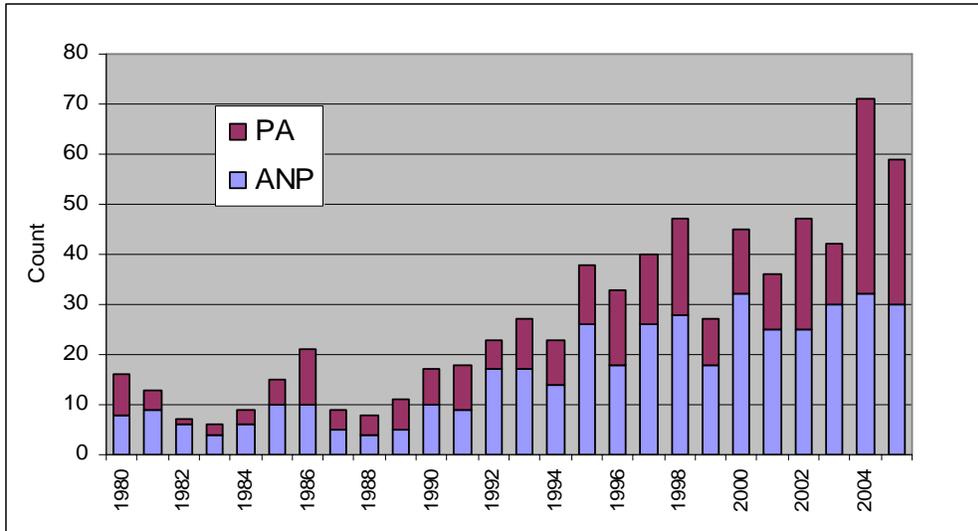
Figure 20. Count of Current, Active AK Physicians by Length of Service (as of January 2006)



Source: Alaska Occupational Licensing Database analyzed by AKDHSS HPSD

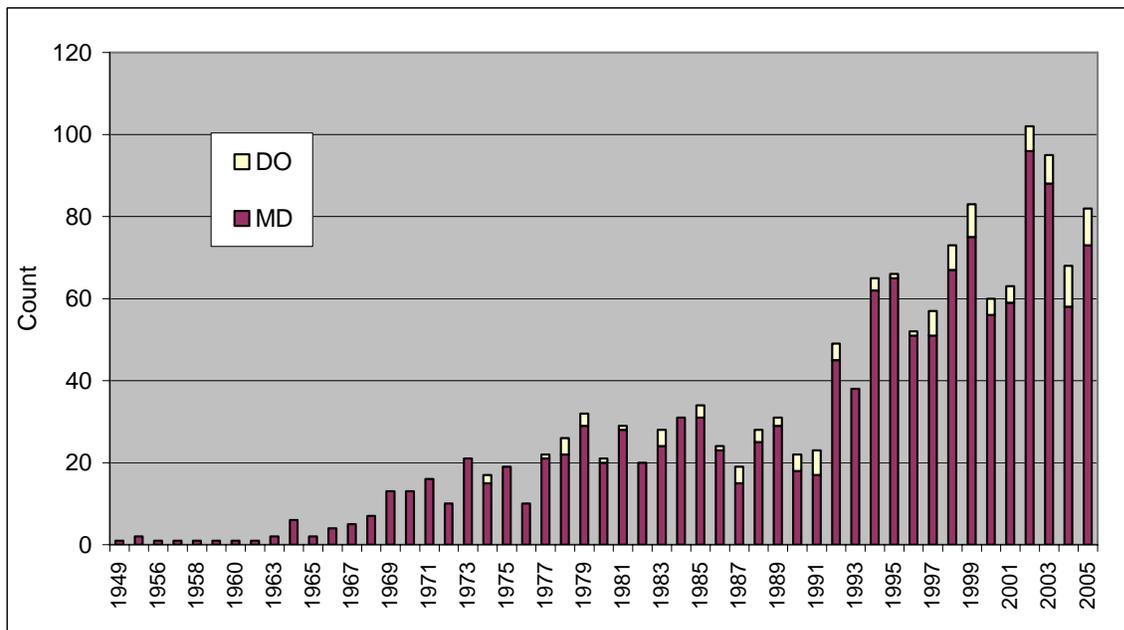
New mid-level and physician licensees in Alaska. Graphs of year of entry (year licensed) for current mid-levels and physicians shows that physician assistants are now exceeding advanced nurse practitioners as new licensees, although this is a recent development. Mid-level providers were first licensed in Alaska in 1980. The total of 60 to 70 mid-levels each of the last two years approaches the number of new physicians in each of those years (68 and 80), as shown in Figures 21 and 22.

Figure 21. Alaska Mid-Levels by Type and Year Licensed as of January 1, 2006 (424 NPs & 284 PAs, Total 708, "AA" status, AK residence)



Source: Alaska Occupational Licensing Database analyzed by AKDHSS HPSD

Figure 22. MDs and DOs by Year Licensed, with License as of January 1, 2006 (1395 MDs, 109 DOs, "AA" status, AK residence)



Source: Alaska Occupational Licensing Database analyzed by AKDHSS HPSD

Figure 23 shows the distribution by specialty for allopathic physicians active in patient care (20 hours or more per week), according to the AMA’s master file, based on an annual survey. The counts by specialty show that nearly 53% of Alaska’s allopathic physicians are in primary care, compared with about 50% of US physicians being in primary care. Half of Alaska’s primary care physicians are family practitioners (366 of 709 primary care physicians), compared with only a third of the nation’s primary care physicians being in family medicine. Nationally, doctors in internal medicine outnumber family practitioners two to one (see Appendix A), while in Alaska the ratio is reversed – there are twice as many family practitioners as internists. For additional data comparing specialty distributions in Alaska and the US, see Appendix A.

“Internal Medicine private practice is part of a dying breed unless something is done. There are many more specialists and sub-specialists than general Internal Medicine physicians in Anchorage now. If our trend continues, there will be few or no general Internal Medicine private physicians in Anchorage due to high student debts and low Medicare payment rates.”

--Richard Neubauer, MD, Internal Medicine, Anchorage.
American College of Physicians, Board of Regents

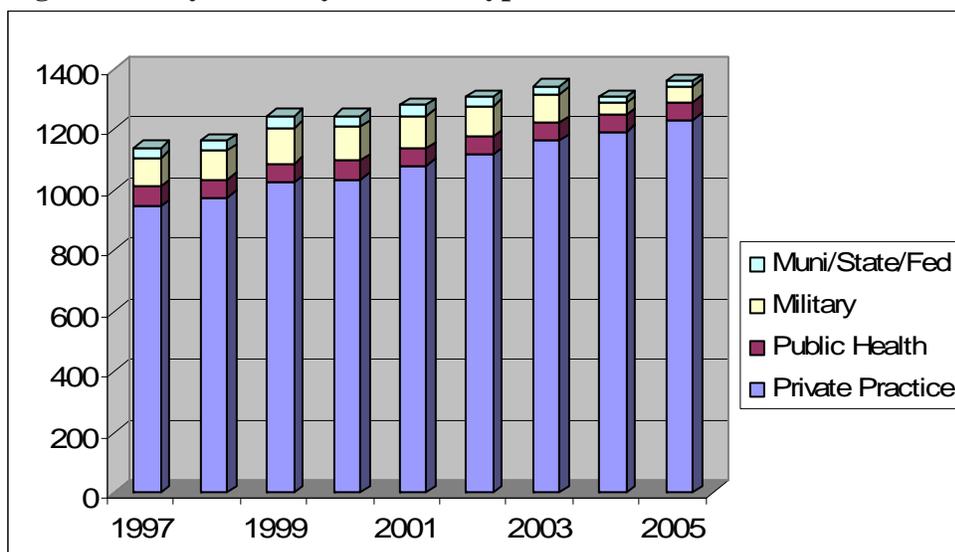
Figure 23. Alaska 2004 Patient Care Physicians (MDs) by Specialty			
Specialty	Total Patient Care Physicians 2004 (MDs, per AMA)	Patient Care Physicians per 1000 population	% of Total by Specialty or Group (2004)
Total Physicians	1347	2.05	100%
Primary Care	709	1.08	52.6%
Family Medicine (& GP)	366	0.56	27.2%
Internal Medicine	157	0.24	11.7%
Pediatrics	108	0.16	8.0%
Ob/Gyn	78	0.12	5.8%
Medical Specialties	55	0.08	4.1%
Surgical Specialties	237	0.36	17.6%
Psychiatry	69	0.10	4.9%
Emergency Medicine	72	0.11	5.3%
Other Specialties	205	0.31	15.2%

Source: AMA Master File

Besides focusing on differing specialties, physicians work in differing practice settings, such as private practice, state or municipal or federal public health activities, and military service. The Alaska State Medical Association surveys its members regarding their

practice settings. Private practice accounts for the vast majority of practice settings (nearly 1200 physicians). The number of military physicians who have let ASMA know about their presence has shrunk in recent years, accounting even for a shrinkage in the absolute number of physicians listed in 2004, but the licensing list indicates there was in fact not a decline in active licensed physicians. A review of the ASMA listing and occupational licensure found that some physicians working in the Alaska tribal health care systems do not list their names with ASMA. Certain physicians in federal service may work in the state without an Alaska license. See Figure 24 for the distribution by practice type of physicians in the ASMA databases for 1997 through 2005.

Figure 24. Physicians by Practice Type in Alaska



Source: ASMA Directories 1997-2005

Typically some portion of the military physicians have worked part time in the private sector. Both military and public health service staff detailed to Alaska have served as a rich resource for recruitment into the private and public sector resident physician workforce, according to anecdotal reports.

Forecasting Assumptions. The Physician Supply Task Force agreed on general principles for forecasting need for physicians.

1. Assume that the proportion of physicians whose area of practice is primary care will remain close to the 2004-5 level (53%). This proportion is expected to drop up to three points, to 50 percent, as the number of physicians practicing in medical subspecialties such as cardiology and pulmonology, and in psychiatric specialties, which are far below national norms, are brought more into alignment with population needs.
2. Assume that the ratio of DOs to MDs, and the ratios of physician assistants and advanced nurse practitioners licensed to practice in Alaska, will remain the same as the 2004-2005 levels. In practice the ratio of DOs to MDs has increased

gradually over time to 1:11, while the number of mid-level providers has increased more rapidly than the number of physicians of both types since 1980. The increase may level off unless training programs for mid-levels expand faster than expected.

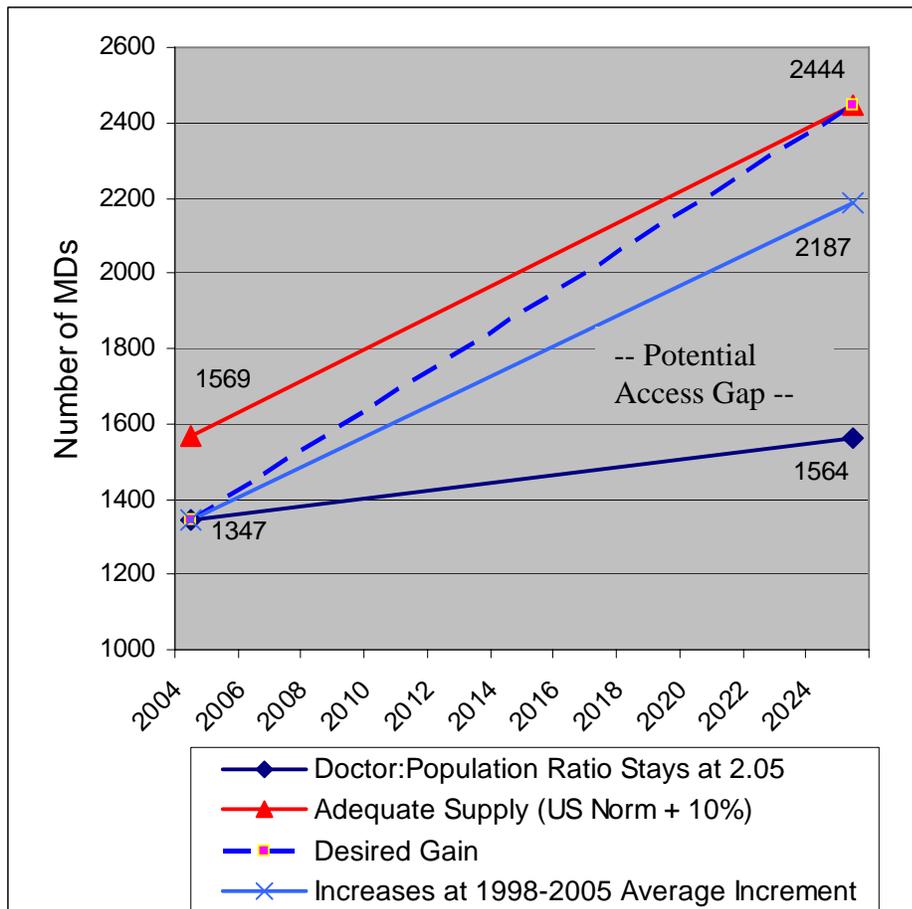
3. The rationale for estimating “need” for physicians at 110% of the national norm is based on several considerations.
 - a. Rural Alaska communities require a regionalized system. This is operationalized by the Alaska tribal health corporations, which generally staff the smallest village clinics with community health aides and practitioners who will continue to be the primary day-to-day health workforce in those clinics. In the tribal health care system, mid-levels provide care and train and supervise community health aides and practitioners, but physician back up is required for complex and severe cases and for oversight of other providers’ services and training. The system requires physician travel and office time for handling phone and telehealth consults, supervision, training, and direct patient care.
 - b. To attain Continuing Education Units (CEUs) and continuing education for professional development and maintaining licensure, physicians in Alaska require more time for the travel involved than physicians in the “Lower 48.” Even if additional full time equivalents (FTE) in patient care are not needed, more individuals may be needed to provide the FTE equivalents.
 - c. In rural and frontier areas, part time staff cannot be available on short notice as easily as in urban areas. There is thus a structural “inefficiency” in that a community that may need 1.2 physicians according to national norms will require two physicians, and communities that would be expected to need a fraction of a physician FTE will need to be served either by a mid-level provider, a community health aide or practitioner, or by transporting patients or providers.
 - d. Although Alaskans are younger than the population of the US as a whole, Alaskans engage in more high-risk occupational and subsistence activities. Thus Alaska’s typical case mix results in higher than average needs of the population.
 - e. High poverty segments of the population tend to have additional risks associated with both environmental hazards and lifestyle behaviors. Since much of the low income population is in the most remote parts of the state, this adds to the burden of illness and injury to be addressed in the areas hardest to reach with physician services.

Figure 25. Physician Need Forecasts for 2025

Physicians (MDs) in patient care practice, 2004:	1347	2.05 per 1,000 population
2004 MD count if at US norm (2.38)	1565	2.38 per 1,000 population
Current shortage using US Norm:	(218)	
Current shortage using 110% US Norm:	(375)	
2025 MD Need Forecasts:		
US Forecast need for 2025 $2.82/1000 * 1.1 = 3.1$ per 1000	2444	3.1 per 1,000 population
Additional Physicians Needed:	1097	
Average Annual “gain” needed, 21 years:	52	

Figure 26 compares several possible patterns of increase in physician (MD) supply and the “desired gain” linear increase that is based on Alaska reaching the target of 110% of the US norm of physicians per 1000 people by 2025. The “potential access gap” suggests the widening gap between the anticipated need forecast by the Task Force and supply if supply fails to increase. Strategies recommended below aim to ensure that the gap does not widen, and the need for adequate physician supply is met over the next two decades.

Figure 26. Gain in Alaskan Physicians (MDs): Static Doctor to Population Ratio vs. Desired Growth



Section V. Overview of Alaska’s Current Health Care Workforce Development and Training Activities

A. Medical School Opportunities for Alaskans

“I was first on the waiting list for University of Washington. They only had space for 10 Alaskans and I was 11th, so I went to OHSU in Portland, Oregon. OHSU is not part of the WWAMI program. I paid out of state tuition, roughly four times more expensive than the WWAMI program. My intention from the time of my medical school application was to become a family practice physician in Alaska. OHSU was an excellent school, but I had to arrange my own training experiences in Alaska with my elective rotations, one of which was in Dillingham where I now work.”

-- Leif Thompson, MD. Bristol Bay Area Health Corporation.

Wyoming, Washington, Alaska, Montana and Idaho (WWAMI). For the past 35 years Alaska has participated in a unique collaborative medical education program known as the WWAMI Program. In 1971 Alaska was the first state to join with the University of Washington School of Medicine in an initiative designed to provide medical school opportunities in northwest rural states that did not have their own four-year medical schools. WWAMI decentralizes medical education, allowing medical students to receive training in their home states and in rural settings. This approach encourages students to return to their home states or WWAMI states to practice medicine. WWAMI remains the only in-state medical education opportunity available to Alaskans.

Each year since 1971 there have been ten medical student slots available for Alaskans in WWAMI. Admission to Alaska WWAMI has become extremely competitive. In 2005-2006 there were about eight Alaskan applicants for each slot.

The applicants selected for admission to WWAMI pay in-state tuition rates, about \$20,000 less than out-of-state tuition. This \$20,000 difference is subject to a payback provision, but is forgiven if the recipient practices in Alaska after medical school. Twenty percent of the total amount is forgiven for each year of practice. The payback provision was enacted in 1999. Its impact cannot yet be assessed, but it is likely to increase the rate of return.

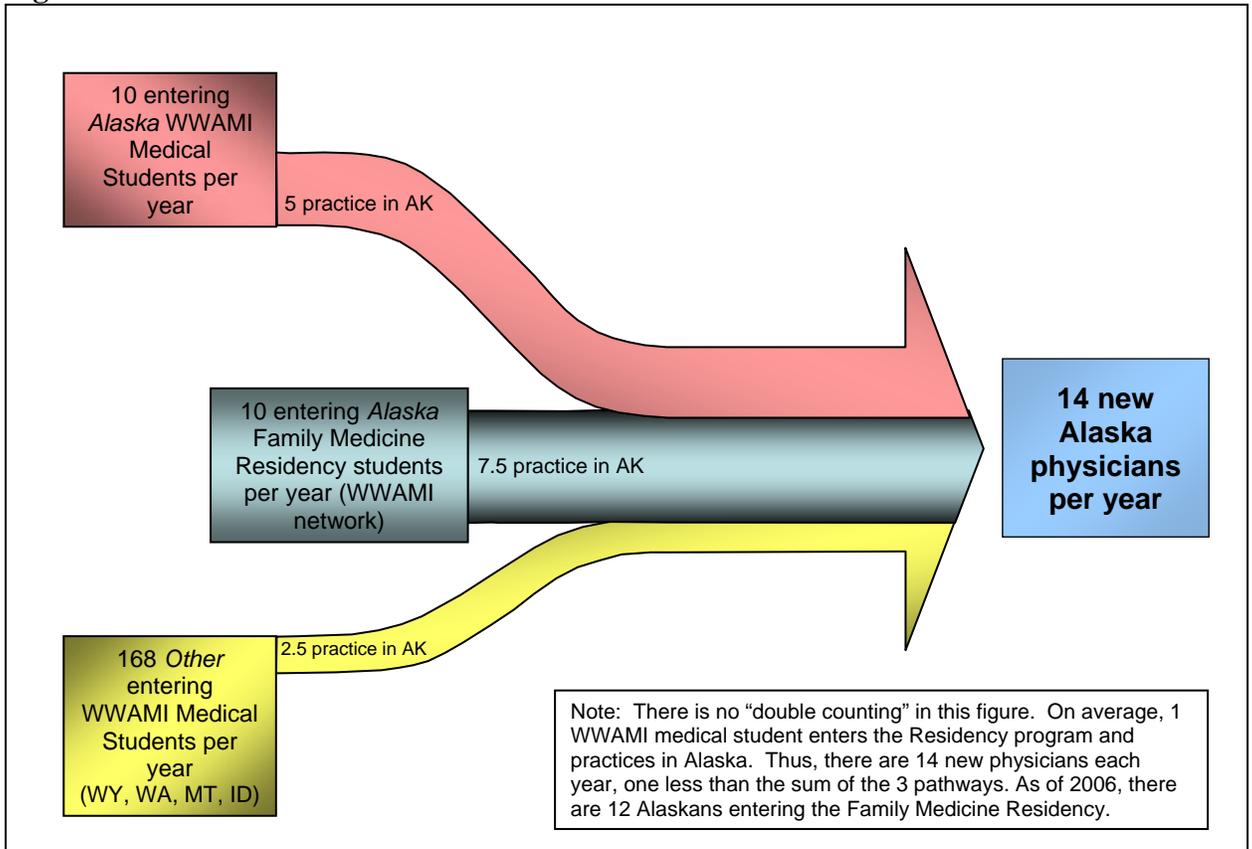
Alaskans who are admitted to WWAMI now complete their first year of medical school at the University of Alaska Anchorage, their second year at the University of Washington, and their third and fourth years in clerkships and rotations in Alaska or other WWAMI locations. Signing up for clerkships and rotations in Alaska is the mechanism that allows for completion of nearly three years of the four-year curriculum in Alaska.

Such clerkships and rotations are partially supported by the Alaska Department of Health and Social Services, the University of Alaska Anchorage, and the University of Washington, most often using federally funded grant programs, so that the students' costs are minimized.

An average of seven to eight WWAMI medical students begins practice in Alaska each year. Five of those students are from the cadre of 10 per year in Alaska WWAMI. The other two or three come from one of the other WWAMI states and are students who usually completed a third or fourth year medical school clerkship experience in Alaska as part of their WWAMI medical education. Figure 27 depicts the effectiveness of the WWAMI affiliations in producing doctors for Alaska. The 50% rate of return on Alaska's investments in 10 Alaska medical students ranks it as #5 among all US states (AAMC, 2006)

The WWAMI program as part of the University of Washington School of Medicine is consistently ranked among the very best medical school programs in the US. The University of Washington is ranked as the #1 primary care medical school in the nation, for the fourteenth consecutive year (The US News and World Report, 2006). It was also ranked first in family medicine and rural medicine, and in the top ten in every category that was ranked. Thus, WWAMI offers a superior medical education to Alaskans while providing that education largely in-state, encouraging students to return to practice and helping to build in-state capacity.

Figure 27. WWAMI Outcomes Flow Chart



Source: D. Valenzano, personal communication

“We have such an exceptional applicant pool for our ten Alaska WWAMI slots. Last year, all applicants had very strong grade point averages and MCAT scores. The number of slots that we have in WWAMI has not increased to reflect the needs of our growing and aging population.”

--Peter Marshall, MD. Private practice, North Pole.

Western Interstate Commission on Higher Education (WICHE). In the past, the WICHE program has provided access to medical education (including osteopathy) and other fields of graduate or professional study for the residents of member states. The WICHE PSEP provided preferential admissions consideration (above other nonresident applicants) in participating institutions in the participating states, and in doing so agreed to charge admitted PSEP students either the resident tuition rate, or, for those private institutions participating, a reduced rate of tuition. In return, the state “sending” the participant agreed to pay a support fee associated with each of its residents in the program. However, the program for students of medicine and osteopathy ended in 1997, after supporting 528 student years of study for medical students, 82 of whom were in osteopathic medicine between 1982 and 1997, at a cost of \$5,700,000. The unduplicated student count was 176

(Barrans Memo, 2006). The “return rate” for WICHE-supported students is reported to be 18 percent, which means the program supported about 35 physicians who have served in Alaska.

B. Graduate Medical Education in Alaska – the Alaska Family Medicine Residency

Alaska’s only in-state GME program is the AFMR. Alaska was the last state in the United States to have a residency program. The AFMR was developed in the 1990s by a consortium of state health leaders with the intent to train family physicians for the unique aspects of practice in the most remote parts of the state. AFMR residents receive extra training in emergency medicine, orthopedics, obstetrics, pediatrics, neonatal intensive care, and trans-cultural medicine to prepare them for the exigencies of bush practice.

The AFMR program started in 1997 with eight residents per class, and expanded to ten residents per year in 2004 and twelve in 2006. Since AFMR’s first graduating class in 2000, the program has graduated a total of 55 physicians. Of these graduates 70 percent remain in Alaska to practice after graduation. This gives Alaska the highest rate of return for GME in the US (AAMC, 2006). Fifty-five percent of them practice in rural communities and one-third practice in tribal health corporation facilities.¹²

The AFMR residents are drawn from the Alaska WWAMI program and other medical schools throughout the United States and other countries. They all arrive with the expressed interest in practicing in rural settings and most of them have a commitment to Alaska from the start of their training.

AFMR program faculty members are family physicians with rural experience in Alaska and other parts of the US. The program’s affiliation with the University of Washington WWAMI program provides for faculty development and access to academic resources which otherwise would not be available in Alaska.

The Providence Family Medicine Center is the outpatient clinic where residents in the program receive much of their training. The faculty and residents there provide comprehensive primary care including outpatient visits, disease management, health maintenance, hospital care, obstetrical care and delivery, and surgical procedures for all comers in the Anchorage community. The program has provided 30,000 patient visits per year with over fifteen percent of its population from low-income uninsured.

The AFMR has operated at a deficit since its inception because of several factors unique to Alaska.

1. Most funding for resident training is provided by Medicare through the GME funding authority, and this revenue is 25% to 50% lower than in other states due

¹² This is an exceptional result compared to residencies in other states. Even the best rural training programs consider themselves very successful if they can place forty percent of their graduates in rural communities.

to a smaller proportion of Medicare business at AFMR's sponsoring hospital, Providence Alaska Medical Center.

2. The average reimbursement per visit is below what many other residencies experience.
3. Unlike most states, the State of Alaska does not does not appropriate state general funds for direct support of the residency program. The State of Alaska does support the Residency through Medicaid, as do most states, by reimbursing the hospital for Medicaid's share of the costs of the program, (about \$875,000 per year) and by paying full-Medicaid-rate professional fees for the medical care rendered by the program to Medicaid patients in the Providence Family Medicine Center and the hospital (about \$668,000 per year).

C. State, Federal and Tribal Efforts to Support Health Care Workforce Development

State, federal and tribal funds support an array of health care workforce development and training activities that are critical to improved access and quality of care in Alaska. There are programs for health career development, pre-med programs, loan repayment programs, placement programs for medical student rotations, and recruitment and retention programs that encourage health workforce growth. Alaska placements and sites are not, however, always available to interested applicants.

Health career development. Although not focused strictly on preparing and guiding qualified students into the practice of medicine, new curriculum offerings not available a decade ago provide more educational choices to Alaskan students, and these can lead to heightened interest in medical careers. The University of Alaska has expanded its nursing program and added courses in basic sciences, nutrition, public health, behavioral health, biology, and other health-related subjects, as well as a health sciences major for undergraduates and Masters in Public Health program for graduate students, all of which provide opportunities for preparation for health careers.

In 2005, the University of Alaska Anchorage's School of Nursing received funds from HRSA to establish a basic AHEC program. Nationwide, the AHEC program creates formal relationships between universities and community partners to strengthen the health workforce in underserved communities. For Alaska, community partners developed in the first three years of funding are the Yukon Kuskokwim Health Corporation AHEC Center (serving YK Delta region) and Fairbanks Memorial Hospital AHEC Center (serving Fairbanks and the Interior) and the Alaska Family Practice Residency AHEC Center (serving the Anchorage and the Mat-Su Borough). The Alaska AHEC network achieves its collective purpose by encouraging Alaska's youth to pursue careers in health care, facilitating clinical rotation opportunities in underserved sites, and improving access to continuing education for health professionals in underserved areas.

The University of Alaska WWAMI Program offers a high school summer enrichment program called the Della Keats/U-DOC Summer Enrichment Program. The goal of this program is to foster, affirm, and encourage high school students' interest in the medical professions by allowing them to explore health careers and to obtain a valuable introduction to college life. Applicants must be Alaska residents with a strong interest in the health professions. Underrepresented minority, rural-area, first-generation, and/or economically disadvantaged students are encouraged to apply. Stipends may be available to help with the costs of participating in this program.

As well as the University of Alaska, the ANTHC administers several programs that focus on health career development. The ANTHC Education and Development Department awards five scholarships of \$5,000 per academic year in health care-related fields to full-time undergraduate students and five scholarships of \$5,000 per academic year in health care-related fields to full-time graduate students who are Alaska Native or American Indian permanent Alaska residents. ANTHC grants these scholarships as an integral part of its long-term strategy of providing the highest quality health care services to all Alaska Natives and American Indians. ANTHC graduate scholarships provide supplemental funds for graduate education for students with the greatest demonstrated need.

ANTHC works with the IHS to administer a scholarship program. The IHS Scholarship provides selected scholarship recipients who are Alaska Native or American Indian permanent Alaska residents with paid tuition, related fees, a small amount for travel and books, and a monthly stipend for living expenses. IHS currently funds several health career and allied health career scholarship programs.

The ANTHC runs a summer internship program that awards nine-week paid internships to approximately 25 high school and undergraduate students and five graduate students who are Alaska Native or American Indian permanent Alaska residents. ANTHC grants these internships as part of its long-term strategy of providing the highest quality health services to all Alaska Natives and American Indians and providing work experience in a range of medical professions and support services.

“I completed my undergraduate studies at Cornell and came out of college with no debt. I went to medical school at Yale and fell in love with Internal Medicine. I took an IHS scholarship for medical school, which led to my two-year position in Wyoming. I completed my residency in Michigan. I worked in Juneau for six months and am now in private practice in Anchorage. The amount of debt that medical students now accrue is problematic. Since I had not incurred significant student debts, it never occurred to me to consider going into a high pay specialty.”

--Richard Neubauer, MD. Internal Medicine,
Anchorage. American College of Physicians, Board of Regents

Medical student clinical experiences. Medical students have the opportunity to have clinical experience in Alaska’s clinical sites at the end of the first year of medical school. Most of the programs discussed here focus on rural sites. All of these programs give priority to students that are either residents of Alaska or have some ties to the state. This approach is based on evidence that students who are trained in rural areas tend to work in rural areas and that they tend to work near their training sites. Thus, it is anticipated that they are more likely to return to the state to attend the AFMR or to serve as physicians after graduation.

Alaska has at least three programs that provide clinical experiences or medical student clinical rotations in the state. The Department of Health and Social Services (Alaska Primary Care Office) administers the NHSC Student/Resident Experiences and Rotations in Community Health (NHSC SEARCH) program, also called the Alaskan Exposure program. The ANTHC places students and residents in rotations in tribal sites. The Alaska Center for Rural Health (ACRH) manages the Rural/Underserved Opportunities Program (R/UOP) summer clinical experience for WWAMI students in Alaska.

The NHSC SEARCH: Alaskan Exposure program supports rotations for an average of 40 health professions students each year in underserved sites. Of these 40 health professions students, about 20 per year are medical students and residents. This program gives priority to Alaska residents and NHSC scholarship recipients, and also places interested medical students and residents from throughout the US. It also partners with the AFMR, the R/UOP program, and the ANTHC to support rotations for medical students and residents.

The ANTHC supports several rotations in IHS sites each year for fourth-year medical students and medical residents who apply and are accepted from schools throughout the US. The Rural/Underserved Opportunities Program, administered by the ACRH, supports rotations each year for students who have just completed their first year at the University of Washington School of Medicine (WWAMI program).

Scholarship and loan repayment programs. Some physicians take positions in Alaska through a federal scholarship or loan repayment program with a service obligation. Such programs in Alaska include the NHSC and the IHS. NHSC scholars can meet their scholarship obligation by working at underserved sites with high federally designated Health Professional Shortage Area (HPSA) scores. Since most Alaskan sites with high enough HPSA scores are too small to support physicians, the placement opportunities are very limited, resulting in only a few physician recruits for Alaska through this program.

The Alaska Primary Care Office (APCO) works with Alaska sites and the federal government to conduct research for federally designated HPSAs and, with other state PCOs, seeks to make the HPSA process more effective in identifying areas experiencing difficulty in filling positions, where the need for additional health professionals may be acute but not reflected in physician to population ratios. The APCO also serves as HRSA's designated lead contact to link interested NHSC physicians with Alaska sites, thereby supporting the recruitment of these physicians.

Placement at Alaska sites through the NHSC loan repayment program is more extensive than through NHSC scholarship obligations because NHSC has not required such high HPSA scores for loan repayment. Under the loan repayment program a physician works for two years at a qualified HPSA site in exchange for up to \$25,000 of loan repayment, tax-free, with the option to renew year by year for up to \$35,000 per year. Currently there are eight NHSC physician loan repayers working in Alaska. Physician specialties eligible for NHSC support are family medicine, general pediatrics, general internal medicine, general psychiatry, and obstetrics/gynecology.

Alaska is one of 13 states that does not participate in the HRSA Bureau of Health Professions State Loan Repayment Program. Funding for this program is matched 50/50 by NHSC. The APCO and others have researched and coordinated efforts to organize one of these programs for Alaska and gain the required 50% state match, but funds have not been identified. In this program NHSC grants matching funds directly to states to operate their own loan repayment programs. Primary care health professionals who are providing full-time clinical services in a public or non-profit facility located in a federally designated Health Professional Shortage Area are eligible for this program. Eligibility requirements and benefits vary from state to state.

The IHS has several scholarship programs to support health education. Some require a service obligation at a qualified IHS site. Under the IHS loan repayment program, applicants sign contractual agreements for two years and fulfill their agreements through full-time clinical practice at an IHS facility or approved Alaska Native tribal health program. In return, the loan repayment program will repay all or a portion of the applicant's eligible health professionals educational loans (undergraduate and graduate) for tuition expenses. Applicants are eligible to have their educational loans repaid in amounts up to \$20,000 per year for each year of service, tax-free. Eligible specialties are family medicine, internal medicine, pediatrics, geriatric medicine, obstetrics and primarily gynecology, and podiatric medicine. Currently there are 18 IHS physician loan repayers working in Alaska.

“As far as scholarships, there is very little available. I couldn’t find any scholarships while in medical school. I was able to find enough funding in loans to cover my tuition and living expenses, roughly \$50,000/year, but most of these were unsubsidized loans. In general the more you have to borrow, the less attractive the loans, and the greater the loan fees. I considered National Health Service Corps, however there were very few sites for service in Alaska. I didn’t want to risk having to work outside of Alaska to fulfill a commitment.”

--Leif Thompson, MD. Bristol Bay Area Health Corporation.

Recruitment and retention. Several organizations provide some support for the recruitment of physicians in Alaska. These organizations focus primarily on their own mandates and specific grant requirements. The ANTHC provides recruitment and referral service and support to tribally managed hospitals and clinics throughout Alaska. The Alaska Primary Care Association (APCA) maintains an updated list of *locum tenens* providers and a clearinghouse of candidates looking for permanent opportunities in Alaska’s Community Health Centers. The Northwest Regional Primary Care Association has instituted a fee-for-service recruitment service to Alaska sites. The Alaska Department of Labor has a job bank for vacancies in health care settings.

The APCO coordinates some placement efforts, provides recruitment and retention training, researches Health Professional Shortage Areas, and analyzes workforce need. The APCO also serves as a focal point for NHSC activities, providing technical assistance to monitor and increase the number of sites and individuals qualified for NHSC.

The Alaska Office of Rural Health in DHSS supports recruitment and retention by strengthening Alaska’s rural health system, facilitating network development and administering Alaska’s state web page on the Rural Recruitment and Retention Network (3RNET) website, where clinical sites can advertise positions and health care workers can seek jobs. There is no charge to sites or job seekers for this service. The posting of positions on 3RNet does not include in-depth candidate screening, this function is the responsibility of the site recruiting the provider.

Many of Alaska’s medicine-related professional associations and membership organizations provide workforce and/or recruitment assistance to their members. As examples, the Alaska State Medical Association, the ASHNA, and the APCA provide guidance and recruitment assistance to their members.

The APCA is a non-profit membership organization founded in 1995 to promote, expand, and optimize access to primary care in Alaska, particularly for the underserved. The APCA works with the private and public sectors to support and connect the organizations and people who provide that care. The APCA promotes workforce development by enhancing internship and rotation opportunities in Alaskan health centers; marketing health center opportunities to students, faculty and alumni; and focusing on retention efforts. With state and federal partners, the APCA maintains an updated list of *locum tenens* providers and a clearinghouse of candidates looking for permanent opportunities in Alaska.

Alaska recruits some international medical graduates through the J-1 Visa program, which provides incentives to those from other countries to receive their medical education and work as physicians with underserved populations in the U.S. The Alaska Primary Care Office coordinates communication for those seeking J-1 visa placements through the U.S. Department of State Conrad 30 program. Currently five J-1 physicians serve in Alaska under this program; all are specialists. There were concerns among Task Force members that the J-1 program disadvantages health care delivery in developing countries. More stringent J-1 Visa policies are likely to be enacted which will decrease the physician supply from this source.

According to Task Force members' observations, many physicians have been recruited through the Public Health Service Commissioned Corps and the military. Both entities have undergone system-wide reorganizations and enacted changes to their physician placement policies resulting in reductions to the number of doctors now available to practice medicine in Alaska, and smaller cohorts from which to recruit former military physicians.

The Alaska Department of Health and Social Services contracted with the University of Alaska, ACRH, for a report called the *Status of Recruitment Resources and Strategies*. This report documents that Alaska relies heavily on recruitment to meet its physician workforce needs. Competition for the supply of physicians is dramatically increasing recruitment costs and decreasing return on investment. Between 2004 and 2006, physician recruitment costs in rural Alaska increased nearly 30%, from \$2,400,000 to \$3,400,000. In spite of the scope and cost of these efforts, positions are difficult to fill and physician turnover is high. Physician locum spending nearly tripled between 2004 (\$871,000) and 2006 (over \$2,300,000) (DHSS/ACRH, 2006).

Workforce development research and infrastructure. The Alaska Primary Care Office (APCO) in the Department of Health and Social Services (DHSS) addresses health care access and workforce disparities that exist in Alaska through the expansion of new access points and the support of existing health centers. The APCO's goals include: assessment of needs; sharing data; workforce development; safety net/health center growth initiative; designation applications for HPSA and Medically Underserved Areas (MUA); and community development. The APCO is the major point of contact in Alaska for the NHSC, HPSA designations, site development, and students' community-based rotations through the NHSC SEARCH: Alaskan Exposure program.

Between 2000 and 2005, \$148,000,000 in Federal funding has been made available through the Denali Commission to support rural health care infrastructure development. As a result, a combined total of 55 clinics have been either built or remodeled and outfitted with quality medical equipment to date. These efforts have improved the physician practice environment, which has aided recruitment efforts. Federal Section 330 funds for community health centers' operations have also supported the rural health care delivery system, resulting in opportunities to staff the clinics. Thus more health centers now offer physician-level staffing to complement mid-levels and community health aides and practitioners.

Alaska has a history that demonstrates its commitment to reducing workforce deficits by establishing innovative programs and leveraging resources. For over 35 years, community health aides and community health practitioners have been providing primary health care in rural Alaska Native villages as the first link in the Alaska tribal health care system. In addition, Alaska has a well-established effective patient care model using mid-levels throughout the state. Utilization of advanced nurse practitioners, physician assistants and community health aides has been a critical component of delivering primary care health care service in Alaska, especially in the most rural regions of the state.

D. Lessons from Other States and from National Studies

Information from other states and national studies point to three types of interventions as being effective in improving physician supply: medical education strategies to address the training experiences of physicians; applicant pool strategies to target the types of students who enter medical school; and practice-environment strategies to make practice more attractive (Grumbach, et al., 1999). Examples of each of these three types of intervention are discussed in several state and national reports as described below. These reports mostly focus on shortages in rural areas. It should be noted that physician shortages also adversely affect access to primary care in urban settings.

Medical education strategies. Kentucky's short term strategies for addressing physician shortages include increasing state support of Kentucky's residency programs, maintaining or increasing federal support of rural GME through Medicare and Title VII of the Public Health Service Act. Long term strategies include expanding rural residency programs to graduate more residents, opening new schools, creating a new residency program in a rural area that needs it most, increasing class size in existing medical schools, and taking steps to increase the "rural pipeline" (Casey, et. al, 2004).

Policies that alter the composition of the classes entering medical school have the most delayed effects on service in shortage areas, but are critical elements of a comprehensive plan for addressing the physician shortage because they increase the number of physicians who could practice in medically underserved communities. In California it was recommended to increase resources for science enrichment programs targeted toward K-12 student and college-level educational enrichment programs that focus on promoting interest in the health professions among disadvantaged students. Characteristics that

students bring to medical school, such as rural upbringing, racial and ethnic identity, or values of public service, are probably the greatest influences on their decision to practice in an underserved community. Minority physicians are much more likely to practice in underserved communities, and physicians who grew up in rural areas are much more likely to practice in rural communities (Grumbach, et al., 1999).

A Utah study discussed the steps to alleviate physician shortage that included continuing to expand residency training programs as the population grows, to increase rural training, rotations and tracks during residency training, and to increase GME funding this study recommended targeting students most likely to remain in practice and recruiting to increase retention (Taylor, p. 2).

Utah's GME planning initiative may be a model for other states, especially those with only one or two medical schools and a small number of teaching hospitals. Nevada and Hawaii have begun to emulate the model. The goal of the demonstration is to use a portion of the GME monies to increase the number of physicians who choose to practice in rural areas. This funding arrangement has helped increase the number of generalist physicians, particularly in rural and inner city communities (Taylor, p. 2-3).

Increasing medical school capacity, graduate medical training capacity, and medical education and training in shortage areas are key strategies to address California's projected physician shortage (Center for Health Workforce Studies, December, 2004). The supply of rural physicians is largely dependent on the production of family physicians, both allopathic and osteopathic physicians. Although many factors such as rural upbringing, medical school attended and special educational service experiences are important, the final common pathway for the largest number of rural physicians is a family medicine residency (Council on Graduate Medical Education, 1998. p. 23).

The Physician Shortage Area Program (PSAP) at Jefferson Medical College in Philadelphia selectively admits students from rural areas. According to the Director of the PSAP since 1976, graduates of PSAP were eight times more likely to choose rural practice (Wisconsin Hospital Association and the Wisconsin Medical Society, 2004).

Hands-on experiences in underserved communities stimulate and reinforce interest in caring for underserved populations (Grumbach, et al., 1999). The following are examples of clinical rotation programs at state universities. These programs aim to support recruitment and retention of rural physicians. Eight Michigan State University medical students are selected each year for the Rural Physician Program that provides rich clinical experiences and community service opportunities in small towns in order to boost recruitment of rural physicians. University of Illinois College of Medicine Rural Medical Education Program is designed to prepare students for unique challenges that face rural physicians, with a 30-month ambulatory primary care experience at rural primary care centers. Fourth year students participate in a 16-week rural preceptorship in small, rural communities (Wisconsin Hospital Association and the Wisconsin Medical Society, 2004).

Many other states fund GME in part with Medicaid dollars. Federal law allows Medicaid to fund GME through a number of different models, including paying hospitals for direct and indirect GME costs and by increasing the Medicaid payment rate for patient services rendered by teaching physicians and teaching centers, such as the Family Medicine Center. The amount allowed is limited by the federal Medicare payment amounts. The advantage of maximizing funding through Medicaid is that state appropriations for GME are matched by federal funds at the Medicaid match rate of at least 1:1.

In addition to supporting Medicaid GME for residencies, many states also appropriate funds directly for their support. An excellent example is the State of Washington program, which supports each of its family medicine programs with about \$250,000 per residency per year.

Recruitment strategies. A national study assessed all state programs that provided financial support to medical students, residents and practicing physicians in exchange for a period of service in underserved areas. Compared to younger nonobligated physicians, physicians serving obligations to state programs were more satisfied and remained in their practices longer, half of them staying over eight years. Retention rates were highest for loan repayment, direct incentive, and loan programs. An advantage of these programs is that they target physicians at the end of their training, when they know more about their career interests, job options, and family needs (Pathman, et al., 2004).

A report on Kentucky's physician shortage identified a number of barriers to physician recruitment and retention, including medical education costs, workload and demands, and decreased opportunity for professional contacts in medically underserved areas. Economic concerns that affected recruitment and retention included publicly supported insurance programs Medicaid and Medicare that reimburse rural providers at a lower rate than urban providers for the same medical procedures; rise in insurance payments; relief coverage and assurance of a reasonable amount of time off from work is the most important factor in decisions to stay or leave. Other issues include quality of public schools and ability to become a part of the local community, which was scored as more important than income. Having an unhealthy population with high rates of disease including heart disease, hypertension, asthma, diabetes and cancer can adversely affect the ability to recruit and retain physicians. Kentucky's short term strategies for addressing physician workforce shortages include creating waivers for physician placement in rural areas, allowing alternative loan repayment matching funds, using coal severance tax returns for state match for the SLRP, using physician placement services, and continuing support of J-1 visa waivers (Casey, et al., 2004).

A study about California's physician shortage recommended increasing the diversity of the physician workforce, and providing incentives to encourage physicians to migrate to the state as well as incentives to retain physicians currently practicing in the state (Center for Health Workforce Studies, December, 2004).

Physicians whose spouses are from urban areas stay in practice as long as those whose spouses are from rural areas. Length of stay in rural practice is not associated with attending a public vs. private medical school or with training in a community-based vs. medical school-based residency. Physicians involved in teaching remain in rural practice longer than those who are not involved. For obligated NHSC scholars, students from private schools are more likely to stay in a rural payback site after they have fulfilled their obligation period than are those from public medical schools. Although many urban physicians assume otherwise, rural physicians do not necessarily view professional isolation and an inability to access medical information as drawbacks to rural practice. Lack of quality of rural school systems, perceived or real, is related to length of stay for physicians in a rural practice (American Academy of Family Physicians, 2006.)

The location of a physician's training influences his or her future choices of practice location. Students with rural origins are more likely to train in primary care and return to rural areas; however, they are no more likely to stay in rural practice than are those who were raised in urban areas. Residents who have their training in rural areas are more likely to choose to practice in rural areas. Family medicine is the key discipline of rural health care. Residents practice close to where they train (Council on Graduate Medical Education, 1998).

Community and health care leaders must acknowledge that their communities may not have the economic capacity to support physicians or maintain state of the art equipment and facilities. This situation can be caused by low population of the community, high poverty status of the community, or because the community is too geographically isolated or disadvantaged to financially support physicians. Continuous subsidies would be required to sustain a physician in such areas (Wright, et al., 2001).

Practice environment strategies. Strategies offered to meet California's physician shortage included the following: increase the productivity and capacity of the existing physician workforce through expansion of the supply and use of non-physician clinicians, investment in new technologies, increasing the use of treatment protocols and utilization review. Promoting physician loan repayment and placement programs are key strategies noted in a study addressing California's shortages (Center for Health Workforce Studies, December, 2004).

Regarding practice environment, it was recommended that California: (1) resurrect its Shortage Area Medical Matching Program which matched graduating residents with practice opportunities in underserved areas; (2) match federal funding for the NHSC SLRP; (3) support pilot programs that encourage innovative public health-oriented prevention activities for physicians participating in the above programs; and (4) support the Rural/Underserved Provider Opportunity Program's *locum tenens* network in rural California (Grumbach, et al., 1999).

In addition to examples from California that address the physician practice environment, a Kentucky study recommended reforming medical liability as a means of improving the practice environment (Casey, et al., 2004).

Workforce planning. A workforce report focused on California recommended promoting a more effective environment for physician workforce planning and policies through increasing data collection and monitoring around physician requirements, developing systems to track physician supply and requirements, comprehensive re-assessment of physician supply and requirements every five years, and establishing an overall statewide process for physician workforce planning (Center for Health Workforce Studies, December, 2004).

Strategies included in a Utah report were developing a Comprehensive State Health Care Workforce Plan to coordinate the training of various health professions and maximize limited state resources, i.e. funding, faculty and infrastructure, prioritizing statewide needs by specialty, and improving data collection methods for ongoing collection of physician data (Taylor, p. 2-3). A national shortage affects the supply of physicians in Utah; they can no longer rely on the national pool to cover local deficits (Taylor, p. 2-3).

“Steps should be taken to build stronger rural health communities that mobilize all types of human resources (e.g. patients and family care givers) and institutions (e.g., educational, social, and faith-based) to both augment and support the contributions of health professionals.” (Committee on the Future of Rural Health Care, 2005, Chapter 4).

Key strategies to address California’s projected physician shortages include promoting programs and policies to address physician mal-distribution by region and specialty, offering targeted site development grants, and increasing reimbursement rates in shortage areas (Center for Health Workforce Studies, December, 2004).

The NHSC Site Development Manual includes a chapter on “Involving the Community” (US DHHS, 2006). This manual recommends the formation of Community Primary Health Care Councils that will be involved in making decisions related to the community’s health care system, including developing sites that can tap into NHSC resources and providers who are NHSC Scholars or are eligible for NHSC Loan Repayment.

Section VI. Closing the Gap: Strategies for “Growing Our Own” - Training, Recruiting, and Retaining Physicians for Alaska

A. Context and Process for Selection of Strategy Recommendations

One of the two primary charges to the Alaska Physician Task Force was to identify strategies that could address the need for physicians in Alaska over the next 25 years. In order to formulate its response to this charge, the Task Force collected its findings regarding the need for physicians and the nature of physician supply, along with previous strategies in both Alaska and other states.

From March 2006 through July 2006, the Task Force and staff undertook a detailed investigation of various strategies that have been in place in Alaska and other states. The Task Force engaged experts in Alaska, the University of Washington, and others outside the state, and reviewed literature from national and professional organizations. Also considered were physician supply data and trends, Alaska population demographic predictions, physician recruitment and retention experience in Alaska and other states, current physician practice environment, and the professional experience of those consulted during the deliberations.

Beginning with about forty potential strategies gleaned from their research, the Task Force reviewed and rated each strategy according to feasibility, cost, desirability, effectiveness, and length of time that the strategy would take to affect Alaska’s physician supply, and then concluded with a shorter list of recommended strategies and action steps for this report. The list of the original strategies and their ratings is in Appendix B.

The Task Force’s selections of strategies are 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 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.

The Task Force recognized that forecasting physician supply and need is a daunting task. Some factors that will significantly impact needs have not yet emerged. Conversely, some factors that have been forecast may turn out differently than predicted. These unknown dynamics will influence the number and type of physicians needed in Alaska. Given the limitations of all predictions, the Task Force advises that the strategies recommended for achieving an adequate physician supply in Alaska be reviewed and updated regularly to insure that they are guided by current information.

B. Goals and Strategy Recommendations

Four goals encompass the strategies needed to address the physician supply in Alaska over the next 25 years.

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.

These goals and the related strategies are summarized below. Short-term strategies are those that require less than 5 years to impact the physician supply, medium-term strategies require 5-20 years and long-term strategies are expected to have an effect in more than 20 years. In the subsequent sections, each strategy is discussed in depth, including an explanation of the problem, related action steps, timeframe, benefit, cost, responsible party(ies), impact, and rationale. Further discussion including a review of the literature is included for each strategy.

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	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

residency positions in Alaska and for Alaskans.	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 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	
	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

Goal 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

Strategy 1A. Increase the number of state-subsidized medical school positions (WWAMI) from 10 to 30 per year

Problem. Alaska currently ranks 46th among US states in terms of the number of state-supported medical school positions. Alaska ranks 49th among US states in terms of the success of its applicants to US medical schools, despite applicant qualifications equal to or better than the national average. Long-range planning, even if it includes a 4-year medical school in Alaska, will not address current physician needs in a timely fashion, so interim measures are needed.

Action Steps.

1. WWAMI - Increase WWAMI positions to 20 per year and then potentially to 30 per year over a period of several years.
2. WICHE - Fund 10 additional seats per year via WICHE. Such funding should include a payback provision.
3. Monitor the rate of return and cost to benefit ratio.
4. Adjust the number of program seats available to reflect program objectives and outcomes, and to maximize accrual of physicians to Alaska from these programs.

Timeframe. Medium Term.

Benefit. An increase of WWAMI positions by 10 per year will result in five additional physicians for Alaska each year. Providing 10 WICHE positions per year will result in two additional physicians for Alaska each year. Building in-state capacity for medical education supports long-term actions that will help to make Alaska more self-sufficient and less susceptible to outside factors that could negatively impact the health of Alaskans.

Cost. \$400,000 per physician practicing in Alaska trained through WWAMI (\$200,000/0.50); \$600,000 per physician practicing in Alaska trained through WICHE (\$110,000/0.18).

Responsibility. University of Washington, University of Alaska, Alaska State Legislature.

Impact. Training; Recruitment.

Rationale. A major determinant of the eventual practice location of physicians is where they went to medical school; so educating Alaskans in Alaska is likely to produce physicians for the state (COGME, 1998). 50% of Alaskans who enter WWAMI practice

in Alaska. Rate of return data for the Alaska WICHE physician programs suggest that 18% return to practice in the state.

Further Discussion. Increasing the number of WWAMI seats to 30 students would require a significant increase in resources at UAA to add capacity to serve the additional students. UAA would need to design and build additional facilities and to significantly increase the number of faculty in the program. It is difficult to accurately predict the amount of funding needed for the expansion. It has been suggested that enrollment be doubled to 20 in the medium term with the allocation of adequate funding, then re-examine the possibility of increasing to 30.

The cost to the state of a medical school position through WWAMI would be about \$50,000 per student per year, or about \$200,000 for the 4-year education of one student. With a 50% rate of return, each practicing Alaska physician costs \$400,000. Increasing the class size from 10 to 20 students increases the total cost from about \$2,000,000 to \$4,000,000 per year. An additional increase to 30 students will add another \$2,000,000 per year to the total.

Alaska can increase the number of state-subsidized medical school positions to 30 per year by either immediately increasing WWAMI positions to 20 per year and then building to 30 over a period of several years, and/or funding 10 additional seats per year via WICHE (with a payback provision). Over a period of several years these additional seats may be converted to WWAMI seats, depending on rate-of-return data.

WWAMI educates Alaskans in the state for as many as three of the four years of medical school. The program is recognized as one of the best medical school education programs in the country, especially for rural and primary care. Alaska's membership in the WICHE PSEP could be utilized to revise and re-establish the student loan program with a service obligation. Providing 10 WICHE positions per year will result in two additional physicians for Alaska each year. A payback provision may increase the number, but so many states now offer to pay off physician debt as a recruiting tool, the effect may not be large.

Since its inception in 1971, 50% of WWAMI graduates have returned to practice in Alaska. That percentage increases to 75% when WWAMI graduates from other WWAMI states are counted as "returned" WWAMI physicians. None of the graduates to date have been subject to the payback clause instituted in 1999, because it takes a minimum of seven years before medical students are qualified for independent practice. Thus, the percentage returning to practice in Alaska may increase as those affected by the clause begin to enter practice, starting this year.

The Alaska Legislature has taken the first step in implementing this recommendation by appropriating \$475,000 toward the one-time costs of doubling the WWAMI class size. This perceptive appropriation, anticipating an important state need, represents half of the required one-time costs and is an important first step to increase physician supply.

Under the WICHE program Alaskans can select from a variety of medical schools in western states. They apply independently and must be accepted in order to be eligible for their tuition to be subsidized by the state. The cost to the state of a medical school position through WICHE is about \$26,000 per student per year (\$25,600 for 2006-07, \$26,500 projected for 2007-08 and \$27,400 projected for 2008-09). Thus, the annual cost for 10 WICHE students in each of the 4-year medical school curriculum would be about \$1,100,000. With an 18% rate of return, each practicing Alaska physician costs \$610,000.

Increasing state-subsidized medical positions is a medium-term action that will provide a long-range payoff. Thus, it is part of an overall strategy to increase the number of physicians practicing in Alaska. However, it is an interim measure that is required until Alaska develops an in-state four-year medical school.

“We need to ‘grow our own’. Physicians tend to practice in the geographic area where they have completed their training or go back to where they have family. These factors mean that we need to expand both the Family Medicine Residency in Anchorage and the number of positions we have in WWAMI.”

--Peter Marshall, MD. Private practice, North Pole.
Chairman, Alaska WWAMI Admissions Committee.

Strategy 1B. Ensure financial viability of Alaska Family Medicine Residency through state support, including Medicaid support

Problem. The AFMR operates at an annual loss of over \$2,000,000. The sponsoring institution, Providence Alaska Medical Center, has been funding the deficit since the program's inception in 1997. The program's quality and viability are jeopardized by this dependence on private support, which could be withdrawn. Without such ongoing support the program would be forced to close, ending the only in-state GME program in Alaska.

Action Steps.

1. Work with state legislature to maximize Medicaid support of the AFMR.
2. Work with multiple state partners to revise Medicare policies that currently disfavor states with younger populations, such as Alaska.
3. Investigate ways to maximize Medicaid support for developing other GME programs in Alaska.

Timeframe. Short

Benefit. Directly places eight to nine family physicians per year in Alaska, a rate of placement that needs to be maintained.

Cost. \$60,000 state cost per practicing physician. There would also be a cost for staff time to investigate additional Medicaid support of GME.

Responsible Entity. Alaska State Legislature with support of Alaska State Hospital and Nursing Association, Alaska State Medical Association, Department of Health and Social Services.

Impact. Training; Recruitment; Retention.

Rationale. 70% of AFMR's graduates remain in Alaska to practice. With 70% placed in Alaska, this gives Alaska the highest rate of return for GME in the U.S. (AAMC, 2006). Residency programs are one of the best ways to increase the number of physicians in a state (COGME, 1998). The AFMR is Alaska's only GME program, training 12 physicians per year. All states support their residency programs through a variety of funding mechanisms, including direct appropriation of funds. Currently Alaska has not maximized the amount of support for GME allowed under federal law. By increasing the funding through Medicaid, Alaska would take advantage of the federal Medicaid match, reducing the total state funds necessary. It is estimated that the AFMR is eligible for approximately \$800,000 in additional Medicaid funds, under federal law, which would require only an additional \$400,000 of state appropriations.

Working with the state's federal congressional delegation, changes in Medicare regulations can result in an additional payment of approximately \$900,000 for the costs of rural training of residents in the program. Combined with increased Medicaid payments, this total of \$1,700,000 brings the required program subsidy within \$400,000. Other strategies to eliminate this deficit could include direct state appropriations, or further increases in the Medicaid payment rates for physician services (both are strategies used by other states). The final effect of achieving full funding will be to eliminate the program's financial vulnerability to cessation of private support.

Further Discussion. The AFMR is Alaska's only GME program. The program recruits and trains 12 doctors each year from Alaska and the US. These doctors undergo a rigorous internship and residency program for three years, to become family physicians. The training emphasizes practice in rural and bush communities in Alaska and is very successful, placing over 70% of graduates in Alaska, over 50% in rural areas, and over 30% in tribal health practices, a performance achieved by very few, if any, other programs.

The total budget for the AFMR program is about \$7,000,000 per year. The program operates at a deficit of over \$2,000,000 per year. This is because the Medicare program, which funds most of GME nationwide, disfavors a young population like Alaska's. Consequently the sponsoring institution, Providence, receives only about half the reimbursement from Medicare that a similar hospital in the lower 48 would receive.

Other states support their family medicine residency programs with a combination of direct state appropriations, Medicaid payments for GME to hospitals, and increased Medicaid payment rates for the physician services provided by the residents and faculty. Alaska's Medicaid program provides \$875,000 per year in support of the residency costs to Providence, and pays the regular physician rate for professional services to Medicaid patients. This rate is above the minimum rate Medicaid is required to pay for resident services, but not above the rate paid to non-academic physicians in private practice. There is no direct state appropriation.

Action by Alaska's congressional delegation may result in additional federal support for the program totaling \$800,000 per year, reducing the deficit to \$1,200,000 annually. State support will be required to make up this deficit, to ensure the ongoing presence of the residency program.

Following trends in other states, Alaska has three obvious opportunities to secure the funding of the AFMR:

- increasing Medicaid GME funds to the sponsoring hospital to the maximum allowable will provide the program with \$800,000, at a cost to the state of only \$400,000;
- further increasing the payment rates for residency services to patients to the comparable private insurance payment rate is also allowable, and would provide

the program an additional estimated \$150,000 per year. (This would cost the state \$75,000, due to the federal matching benefits); and

- a direct state appropriation to support GME of \$250,000 per year (very similar to support provided by other states).

Assuming the congressional efforts are successful, the state can ensure the viability of the AFMR by adopting these three measures. These measures will also create the environment where additional growth of residency programs and positions is possible in Alaska.

Funding needs breakdown:

Funding source	Amount	Deficit
Current funding	\$7,000,000	\$2,000,000
Medicare rule changes	\$ 800,000	\$1,200,000
Maximize Medicaid for GME	\$ 800,000	\$ 400,000
Maximize Medicaid fees	\$ 150,000	\$ 250,000
Direct State support	\$ 250,000	\$ 0

The supply of rural physicians depends largely on the production of family physicians. Although many factors contribute to the choice to practice in rural areas—rural upbringing, medical school attended, and special educational service experiences—the final common pathway for the largest number of rural physicians is a family medicine residency (Council on Graduate Medical Education, 1998). Some of the residents are recruited from the state’s population, after they graduate from medical school. Typically, however, a majority of the residents are recruited from other medical schools, bringing new doctors into the state. Doctors, especially in family medicine, tend to stay and practice in the state where they finish their residencies, the last stage of training. All states in the US have residency programs. Alaska was the last state to start a residency, and since Alaska has far fewer physicians per population than any other state in the Western US, it is very important to keep a residency viable.

“I am from Fairbanks, Alaska. I chose the Alaska Family Practice residency primarily because it was in Alaska, where I wanted to be. It also helped that it was gaining a reputation for being an excellent residency.”

-- Leif Thompson, MD. Bristol Bay Area Health Corporation

One of the major obstacles to expanding GME in Alaska is the lack of funding. All the GME expansion strategies are unlikely to succeed if they cannot be operated at a “break even” level for the sponsoring institutions. The existing AFMR operates at a deficit, which jeopardizes its long-term viability. All states support their GME programs. By maximizing the use of Medicaid, the state leverages its investment through the federal matching funds, thereby minimizing the cost to the state and maximizing support for the programs.

Alaska has not yet investigated thoroughly the ways to maximize Medicaid support for GME. Doing so would require staff time to research the issue and discuss with colleagues in other states. Most of the necessary changes can be done administratively within Alaska’s Medicaid program. Within a year, new GME funds could be made available, provided the analysis reveals opportunity. Once funds are available, hospitals statewide will be in a position to explore starting GME programs.

Strategy 1C. Increase number of residency positions in Alaska, both in family medicine and appropriate additional specialties

Problem. Currently Alaska ranks last among west coast states in the number of medical residents in training per capita. Limited number of residency training opportunities contributes to the statewide physician shortage.

Action Steps. Increase the number of residency positions in Alaska by the following mechanisms.

1. Increase the number of short-term resident rotations in Alaska by coordination and marketing.
2. Develop “Alaska Tracks” in collaboration with established residencies in other states to provide significant parts of training in Alaska.
3. Develop additional full-fledged residencies in Alaska, as conditions permit.
4. Establish a central agency to coordinate, track and develop additional residency experiences.

Timeframe. Short term. Two to six years.

Benefit. Residencies in Alaska or sponsored for Alaskans in other states impact the number of physicians who choose to practice in Alaska. Increasing the number of residency options and implementing an “Alaska Tracks” program would result in net gains to Alaska’s physician supply each year.

Cost. \$100,000 per year. “Alaska Tracks” could gain funding from Medicare, if located in rural areas under certain conditions that need to be explored to determine feasibility. This funding could cover half or more of the cost of the programs. The state portion would depend on the number and length of the programs.

Planning for additional residencies would cost approximately \$30,000 per year for one to two years. Operational costs for new residencies would depend greatly on the size, location and specialty. The current budget for the AFMR is over \$7,000,000 per year.

Responsibility. For appropriations, Alaska State Legislature. For operations, AFMR.

Impact. Training; Recruitment.

Rationale. Local resident training is a very effective way of increasing doctors in a state. Up to 70% of residents ultimately enter practice in the state where they train (Council on Graduate Medical Education, 1998). Since residencies are major determinants of practice location of physicians, it is important that Alaska maximize its opportunities to offer residency positions in state. Alaska could offer residency tracks as an adjunct to programs

in other states, and/or Alaska could be more efficient in supporting residencies for Alaskans completing residencies in other states.

Further Discussion. Currently, Alaska can maximize the number of short-term, one-to-two-month rural experiences associated with residencies in other states. A number of these are coordinated by DHSS (NHSC SEARCH: Alaskan Exposure program) and ANTHC's tribal sites. Many of these experiences are currently arranged based on the interest of the resident and availability of sites. There is some coordination across these programs but no mechanism exists for centralized coordination. A central coordinating agency should be established to coordinate, track and develop these experiences.

Opportunities for increasing the number of resident rotations in Alaska may exist in psychiatry in Juneau, in surgery in Fairbanks, in a variety of specialties in Anchorage and the Mat-Su Valley, and in many Alaska Native tribal health care system hospitals in rural areas. Residents frequently seek opportunities in Alaska, and a better system of marketing and coordination could increase the number of residents coming to the state.

Development of additional full residencies in Alaska may be difficult, but adding "Alaska Tracks" as part of existing residencies in other states may be more feasible. Currently, the Alaska Native Medical Center (ANMC) has a three-to six-month track for surgical residents from a program in Arizona; all the practicing surgeons at ANMC came from this program. Fairbanks Memorial Hospital is working to develop a similar program with the University of Washington. In Boise, the VA hospital has a one-year (of three total) track for internists from the UW. Such tracks are much more effective in recruiting doctors than short one or two month rotations, but less effective than a full residency program. "Alaska Tracks" could be available in many specialties in many parts of the state. There are many barriers to this approach, most importantly the ability and willingness of residencies in other states to send their trainees to Alaska. There may be significant loss of funding to the home programs when residents leave.

The feasibility of establishing residencies in Alaska in addition to the AFMR should be carefully and critically evaluated. Current Medicare law does not allow new residencies to be funded, except in rural areas. However, rural parts of the state lack the physician specialists and patient types and volumes to support residencies in most specialties. Even in Anchorage the same issues limit the possible programs to pediatrics, internal medicine, psychiatry, and perhaps a few others. But, again, Medicare funding would not be available. The AHEC and the AFMR should study this option and work with existing institutions to develop plans for implementation.

Additional one-to-two-month rural rotations would have a net recruitment rate of 10-15%. Assuming as many as 30 additional rotations would become available; this would net Alaska an additional three to five doctors per year. These recruits would begin practicing as soon as two years after the program started.

The recruitment rate from "Alaska Tracks" would be higher, probably in the 20-30% range, depending on the specialty and the length of the track. A longer track would have a

higher recruitment rate, but could accommodate fewer doctors per year. If three different tracks were developed, exposing 10 residents per year, the net would be two to three doctors, starting two years after inception.

The AHEC could prepare a report on the feasibility of new residencies in one to two years. If a new program were planned, a minimum of two years would be required to develop it, achieve accreditation and start training. The production of the program would begin three to four years later. The output would be four to six doctors per year, of whom three to five would remain in state, beginning in 2012.

“Alaska Tracks” could gain funding from Medicare, if located in rural areas and not in Alaska Native tribal health care system hospitals. This funding could cover half or more of the cost of the programs. The state portion would depend on the number and length of the programs.

A professional estimate is that planning for additional residencies would cost approximately \$30,000 per year for one to two years. Actually operating a residency would depend greatly on the size and location and specialty. The current budget for the AFMR is over \$7,000,000 per year.

The supply of rural physicians is largely dependent on the production of family physicians. Although many factors contribute to the choice to practice in rural areas, including rural upbringing, medical school attended, and special educational service experiences. The final common pathway for the largest number of rural physicians is a family medicine residency (Council on Graduate Medical Education, 1998. p. 23).

Strategy 1D. Assist Alaskan students to attend medical school by: i) reactivating and funding the use of WICHE PSEP 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 Sciences

Problem. Alaska lacks adequate state-funded financial supports for Alaskan students in medical school, and the state lacks state-subsidized positions at an osteopathic school.

Action Steps.

1. Utilize Alaska's membership in the WICHE Professional Student Exchange Program to revise and re-establish the student loan program with a service obligation.
2. Explore the possibility with the Pacific Northwest University of Health Sciences, in Yakima, Washington of seats for Alaskans in the new osteopathic school upon its completion, which is scheduled for Fall, 2008.

Timeframe. Mid term. Five to 10 years.

Benefit. This strategy helps state residents afford medical education while simultaneously providing the state/community with a quantifiable pool of future medical professionals. Loan repayment and other direct financial incentives have the benefit of insuring that any funds expended are associated with an individual practitioner providing a service. Alaskan student slots in the osteopathic school would boost the number of Alaskans attending medical school and impact the number of physicians who choose to practice in the state.

Cost. The cost of the WICHE PSEP action step is projected to be \$550,000 per practicing physician. The cost of guaranteed slots in the osteopathic school in Yakima is unknown at time of this report.

Responsible Entities. For federal appropriations, Alaska Congressional Delegation. For appropriation of operational funds, Alaska State Legislature.

An operational entity, such as a board or task force, needs to be established that can set policy regarding the level of subsidies, the manner in which the subsidies are to be deployed, and other financial strategies to best meet health care workforce needs. The proposed Medical Provider Workforce Assessment Office would investigate these strategies and provide information to the entity making the policy decisions. The Alaska Commission on Postsecondary Education would be the most likely organization to administer the financial support programs. For the medical school seats, discussions would be needed with Pacific Northwest University of the Health Sciences

Impact. Training; Recruitment; Retention.

Rationale. Loan repayment, direct incentive, and loan programs have been found to be effective for recruitment and retention (Pathman, et al., 2004). Past WICHE students with service requirements account for a number of physicians who have stayed in Alaska after the service pay-back that was required previously. However, state funds were cut to the WICHE program in 1995. The Task Force determined that the state student aid program with a service obligation should be funded again by the state. Additionally, educating Alaskans with seats at the DO school is likely to build the pipeline and produce physicians for the state.

Further Discussion. The WICHE PSEP provided loans to medical students in participating schools, with an obligation to return to the state to practice, but Alaska has not participated in the medical school component for ten years.

Increases in financial supports for medical education are needed to build the number of Alaskans in the physician supply pipeline, and to strengthen recruitment and retention strategies. Through their deliberations, the members of the Physician Supply Task Force considered the five recognized types of incentives to encourage physicians to practice in underserved areas: scholarships, service-option loans, loan repayment, direct financial incentives, and resident support.

Loan repayment and other direct financial incentives have the benefit of insuring that any funds expended are associated with an individual practitioner providing a service (in contrast to the contingent loans, which must be administered for either the life of the service commitment or for the entire repayment period). Additionally, the benefit can be made available to draw residents of other states to Alaska. These options would also have relatively low administrative costs.

A national study assessed all state programs that provided financial support to medical students, residents and practicing physicians in exchange for a period of service in underserved areas. Compared to young non-obligated physicians, physicians serving obligations to state programs were more satisfied and remained in their practices longer, half of them staying over eight years. Retention rates were highest for loan repayment, direct incentive, and loan programs. These state programs target physicians at the end of their training, when they know more about their career interests, job options, and family needs (Pathman, et al., 2004).

The current PSEP support fees for each medical student beginning their GME in 2007 would be a total of \$111,400 over four years. The cost of loan repayment/direct financial incentives currently is undetermined. Alaska would need to identify what other states are doing and figure out what a reasonable “tipping point” is to insure the repayment cap is high enough and/or financial incentive substantial enough to be effective.

Strategy 1E. Investigate mechanisms for increasing Alaska-based experiences and education for WWAMI students

Problem. Currently, medical students in Alaska’s sole medical education program, WWAMI, complete their first year in Anchorage. They have the option to complete nearly all of the third year and large parts of the fourth year in Alaska. Second year classes for all WWAMI students are held in Seattle.

Action Step. Work with University of Washington WWAMI, the University of Alaska and the Alaska medical profession to investigate the feasibility and cost of providing all WWAMI first and second year classes and third and fourth year clerkships in Alaska.

Timeframe. Medium term.

Benefit. Providing rotations in all four years of medical school in Alaska will make the state more independent, able to negotiate economies of scale and more independent in setting class size according to state needs.

Cost. Undetermined at time of Task Force Report.

Responsibility. University of Alaska, University of Washington

Impact. Training; Recruitment.

Rationale. Medical students who experience increased exposure to Alaska through in-state training, rotations, clerkships and other experiences in Alaska are more likely to practice in the state (COGME, 2004).

“We need to offer more support for the Alaska students who attend medical school in other states. They should be considered part of our ‘family’. They should be offered some type of financial deal and/or electives in Alaska that may encourage them to return to the state to practice. The physicians in Fairbanks and Fairbanks Memorial Hospital have purchased diagnostic kits to give to the students who are accepted into the WWAMI Program. We also have a few kits that we will be awarding to some of the students who are going to medical school elsewhere.”

--Peter Marshall, MD. Private practice, North Pole.
Chairman, Alaska WWAMI Admissions Committee.

Strategy 1F. Maximize Medicare payments to teaching hospitals in Alaska

Problem. Current levels of Medicare support for GME in Alaska are inadequate to cover teaching hospital expenses. The current payment formulas are biased against states with young populations such as Alaska, because the formulas are driven by the number of Medicare patients in the teaching hospital. Alaska-based GME is jeopardized by this funding deficit.

Action Steps.

1. Continue to maximize existing opportunities for Medicare coverage for GME.
2. Identify and advocate for specific areas where additional Medicare coverage would be beneficial to GME in Alaska.

Timeframe. Short term. Within five years.

Benefits. Changes to Medicare payment formulas to reflect GME expenses would stabilize GME programs in states with younger populations by providing a long term funding stream. These changes will need to be led by the federal delegation.

Cost. Zero cost to the state, as this is a federal funding stream. The total federal cost would depend on the formula changes and the number of programs that subsequently develop.

Responsibility. Alaska Federal Congressional Delegation supported by Alaska State Medical Association, Alaska State Hospital and Nursing Association, statewide health care partners.

Impact. Training; Recruitment.

Rationale. Medicare is the primary funder of GME nationwide. Establishing new formulas specific to rural or frontier states would allow a more even distribution of Medicare funds. Changes in Medicare statutes/regulations are needed to help stabilize GME in Alaska.

Further Discussion. Current levels of federal support for GME in Alaska are inadequate. The federal laws establishing and regulating GME payments through the Medicare program are designed to provide marginally adequate funding for large teaching hospitals on the east coast. The number of Medicare patients in the teaching hospital drives the formulas. Alaska, having a young population, has a much smaller proportion of Medicare patients than other states. The funding that is marginal in New York is completely inadequate in Alaska. Improving the payment rates for Alaska will require new formulas specific to rural or frontier states, and/or alteration in Medicare regulations. These changes will need to be led by the federal delegation.

If it becomes possible to alter federal law, programs would develop in the state alone or in concert with GME programs from other states. Alteration of the formulas to more evenly distribute the funds would give Alaska a long-term recurring stream of funds.

Strategy 1G. Empanel a group to assess medical education in Alaska, including the viability of establishing an Alaska-based medical school

Problem. Alaska does not have an independent four-year medical school nor does it have a sufficient number of slots in other state programs for qualified Alaskans to pursue medical education. This deficit in training capacity contributes to the shortage of physicians in Alaska. Currently, no entity exists to explore options and strategically plan for medical education in Alaska. There is no strategic plan for medical education in Alaska that allows for rational reassessment and planning to accommodate continually changing state needs.

Action Step. Empanel a group or charge an existing group to develop a strategic plan for medical education in Alaska that will define the requirements (including cost estimates) and the potential benefits (including economic impact) of a four-year medical school in Alaska and ensure continued adherence to this recommendation as needs change.

Timeframe. Long term.

Benefit. This recommendation develops options for the State of Alaska. A rational strategic planning process will ensure that medical education in Alaska will develop in a way that will maximize the state's return on its investment, producing the largest number of physicians, as needed. A four-year medical school in the state would provide significant economic benefit and an enhanced practice environment to encourage physician recruitment, and would provide increased opportunity to develop one of Alaska's most precious resources, young Alaskans seeking professional medical education.

If continuing collaborative medical education with other WWAMI participants is in the state's best interest, that partnership can be maintained. If a more independent medical school is more appropriate, then the program is positioned to take that next sequential step.

Based on the current number of medical school applications by Alaskans, their qualifications and reasonable projections, implementing this strategy could provide 30 physicians per year by 2020, about 23 more than the current WWAMI program.

Cost. Undetermined at time of Task Force Report.

Responsibility. New empanelled group to investigate state medical education.

Impact. Training; Recruitment.

Rationale. Alaska lacks the benefits enjoyed by states with four-year medical schools. These benefits include: a significant boost to regional economy, stimulation of associated businesses, a more attractive recruiting environment for physicians, an improved medical practice environment, and better health status in the state. A rational strategic plan is

needed to insure that Alaska has an adequate physician supply through 2025. The creation of an Alaska medical school would allow more of the state's resources to remain in the state, developing capacity and infrastructure in Alaska.

Further Discussion. Rational planning for medical education requires that there be regular, critical evaluation of the potential for future development. This task should be charged to an appropriate planning group. The alternative is a crisis management approach that often leads to sudden, wholesale changes that challenge the maintenance of a quality educational program.

While medical education in Alaska has the greatest potential to supply future Alaskan physicians, the current class size in WWAMI relegates it to a miniscule role in physician supply. Currently, class size cannot be changed easily. Agreement is needed by the University of Alaska Anchorage, the University of Washington School of Medicine, statewide offices of the University of Alaska and the Alaska Legislature to change the class size. Alaska currently participates in a very successful medical education program, WWAMI, but there are minimal economies of scale as class size increases.

There is little doubt that Alaska will have a medical school in the future. There are many examples of small states with their own medical schools, including states with far less resources. Until that time, Alaska should work to nurture and develop its current medical education program (WWAMI) in ways that support the development of a more complete in-state program, or a freestanding medical school. Sequential development within the existing medical education program will maintain the high quality of the program currently in place.

Implementing these provisions could provide 30 physicians per year by 2020, about 23 more than the current program. This number assumes a medical school class of about 50, selected from an anticipated applicant pool of more than 100 applicants. There are between 70 and 80 Alaska applicants per year. About half of all applicants are qualified for admission. Other applicants could be drawn from outside Alaska.

The medical education program in Alaska can be responsive to changing state needs by readily accommodating changes in the number of students admitted and allowing economies of scale to be realized when class size increases.

Goal 2. Increase the recruitment of physicians to Alaska by assessing needs and coordinating recruitment efforts

Strategy 2A. Create a medical provider workforce assessment office to monitor physician supply and facilitate physician recruitment efforts

Problem. Currently there is no statewide entity with sufficient resources to adequately coordinate and address medical provider workforce issues. Effective planning for future physician supply is hindered because there is no office with an ongoing responsibility to regularly assess physician supply and need, and research and report on medical provider data. Alaska's medical provider recruitment efforts are disjointed, resulting in higher recruitment costs and duplicate efforts by various organizations.

Action Steps.

1. Establish a centralized, statewide Medical Provider Workforce Assessment Office.
2. Develop performance standards and measures for the Medical Provider Workforce Assessment Office.
3. Implement scope of work and tasks of the Medical Provider Workforce Assessment Office.

Timeframe. Short term. 12-18 months.

Benefit. A Medical Provider Workforce Assessment Office would result in ongoing assessment of the status of medical provider supply, support long term planning efforts, directly contribute to net gains in physician supply, and improve the cost efficiency of Alaska's medical provider workforce recruitment.

Cost estimate. \$250,000 per year. Costs should be shared between the organizations concerned with physician and other medical provider workforce and the state of Alaska. The office could establish fees for its services in addition to this core appropriation.

Responsibility. The Medical Provider Workforce Assessment Office should be located in the State of Alaska, Department of Health and Social Services.

Impact. Recruitment; Retention

Rationale. Assuring access to health care is a state public health function. A key component of access to health care is an adequate medical workforce. Assessment of the status of the health care workforce, including physicians, and the impact on health status is a critical activity and warrants a focused and coordinated response by a Medical Provider Workforce Assessment Office.

As well as assessing and reporting the adequacy of the medical provider workforce, the Medical Provider Workforce Assessment Office would play a critical role in responding to provider shortages by facilitating and marketing recruiting activities statewide among all potential employers and practices in the state.

Further Discussion. The two primary areas of focus for the proposed Medical Provider Workforce Assessment Office include the study and analysis of the medical provider workforce, including physicians; and the facilitation and support of recruitment activities.

Alaska needs a centralized office in order to identify and track physician supply, trends, and practice. The Alaska Physician Supply Task Force report is the first report to determine the supply and need for physicians and to identify action steps to affect the supply. Ongoing assessment is needed of the multiple data sets from national, state, regional and local sources that were used by the Task Force.

Other states have created an office similar to the proposed Medical Provider Workforce Assessment Office, with good results. The envisioned program would be run from a state office, most likely from the Department of Health and Social Services. A precedent for such an office is the Alaska Seafood Marketing Institute. The Medical Provider Workforce Assessment Office would document the status of the medical provider workforce, assess the market, and work with multiple stakeholders to plan a recruitment strategy that would assist where needed and avoid interference where appropriate.

The Medical Provider Workforce Assessment Office would share information about physician supply and recruitment “best practices” across sites to help minimize costs and reduce duplication in recruitment efforts and to promote ongoing policy discussions regarding physician availability. The Task Force recognized that hospitals and other entities will want to continue their own specific recruitment activities.

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.

Strategy 2B. Research and test a physician re-location incentive pay program

Problem. The ability to attract and retain physicians to care for medically underserved populations is compromised due to the high expense of establishing a practice in Alaska as compared to other states.

Action Steps.

1. Research relocation incentive pay programs in other states.
2. Research federal laws related to provision of relocation incentive pay.
3. Design and implement a relocation incentive pay pilot program.

Timeframe. Short term. Six to twelve months.

Benefit. If successful, this strategy would give Alaska another method to attract physicians to medically underserved areas. It would contribute to a more favorable practice climate resulting in a net gain of physicians willing to provide care for medically underserved populations.

Cost. Estimated cost of \$65,000 one-time funds to secure one physician. This includes approximately \$15,000 for travel related expenses plus up to \$50,000 for a financial incentive payment depending on specialty of physician selected. Research and design efforts would be funded through the proposed Medical Provider Workforce Assessment Office (Strategy 2A).

Responsibility. ASMA, Alaska State Hospital and Nursing Association, proposed Medical Provider Workforce Assessment Office.

Impact. Recruitment; Retention.

Rationale. Many states have established programs that offer a signing bonus to compete effectively for the limited number of physicians, especially in medically underserved areas. This pilot program would provide an opportunity to determine the efficacy of a relocation bonus in securing physicians for medically underserved populations in Alaska. This strategy and related action steps will need to address requirements of Stark regulations that prohibit hospitals from providing direct financial incentives to physicians.

Further Discussion. There are challenges in attracting physicians to Alaska to establish a practice, or to remain in practice if already in the state. One of those is the expense of establishing a practice in Alaska compared to other states due to higher salaries, office expenses, and uncompensated care burden. Other factors include affordable housing, malpractice expense, cost to periodically visit family out of state, and generally higher family expenses at a time when many new physicians are burdened with medical school

debt that must be repaid. Newly established physicians do not have the financial flexibility to cover all of these higher costs of living in Alaska, which may cause them to consider more economically advantageous locations around the US.

Alaska must identify creative ways to reduce the financial gap between establishing a practice in Alaska versus other states. A number of states have created programs that offer a signing bonus to attract physicians in return for a set commitment in years to stay in that state.

Alaska should test the feasibility of a physician relocation incentive pilot program. The pilot program should be based on:

- a review of design and effectiveness of other states' programs, looking at overall return on investment for the bonuses awarded;
- the estimated amount of signing bonus needed to effectively impact a physician's decision to establish a practice in Alaska;
- the estimated cost to administer the program and most appropriate agency to house the responsibility;
- the scope of specialties that would be eligible for this program;
- areas of the state that would be given priority for award of these bonuses;
- initial discussions included rural and underserved communities that do not have the resources to offer these bonuses on their own;
- an analysis of federal laws impact on this strategy, specifically the federal Stark provisions;
- the estimated cost for administering a full scale program and number of placements that could be supported; and
- the amount of signing bonus needed to effectively impact a physician's decision.

Many states have a program that offers a signing bonus simply to compete effectively for the limited number of physicians looking to start or relocate their practice. These signing bonuses generally come with a three- to five-year practice commitment to avoid repayment of the bonus if the physician leaves the state early. This strategy would target already established physicians who wish to leave their current location as well as physicians completing a residency program and planning to establish their first practice. Members of the Alaska Legislative leadership did not support a request for funding a financial incentive program during the 2006 Session in part because they wanted evidence that this strategy would produce results. This pilot program would provide an opportunity to demonstrate whether Alaska could be successful competing with other

states/organizations. If successful, this strategy could be presented as part of a comprehensive set of recommendations to the Alaska Legislature to create statutory authority and financing to fund a full-scale program to recruit physicians.

Alaskans for Access to Health Care (AAHC) has been actively involved this Legislative session to bring attention to the need to invest funding to attract physicians to Alaska. AAHC is made up of ASHNHA, ASMA, Alaska Physicians and Surgeons, and Providence Alaska Health Systems. AAHC is informally referred to as 'ACCESS'. It would be helpful for ACCESS members and Alaska DHSS to continue exploring financing a pilot effort to travel to physician conferences, medical school campuses, large residency settings and other opportune locations to promote the benefits of an Alaska practice and to offer financial incentives to choose Alaska for their practice.

If successful, this strategy would give Alaska another effective selling point along with the other strategies in this document to attract physicians. Clearly this would not be the primary ingredient in each physician's decision when choosing a practice location, but it would perhaps tip the scale in enough cases to warrant funding a program of this type on a permanent basis.

Strategy 2C. Expand loan repayment assistance programs and funding for physicians practicing in Alaska

Problem. The main loan repayment programs available to physicians in Alaska are provided through IHS and NSHC. Limitations of these programs are that funding is restricted and subject to annual cutbacks that threaten their stability, and that only certain practice locations and specialties are eligible for loan repayment through these programs.

In order to gain more physicians Alaska could participate in the HRSA Bureau of Health Professions (BHP) State Loan Repayment Program which has a 50/50 state and federal match, but Alaska is one of 13 states that do not participate. In addition, Alaska does not have its own SLRP for physicians committing to practice in Alaska in specialties or areas not allowed in the federal programs (including the SLRP).

Action Steps.

1. Identify opportunities to apply for the HRSA Bureau of Health Professions SLRP and a supplemental state loan repayment program.
2. Work with DHSS, Governor, State Legislature, and/or local communities to secure the 50% state match required for the HRSA BHP SLRP.
3. Research the structure of physician loan repayment programs in other states.
4. Fund a state loan repayment program to supplement the federal loan repayment programs, for physicians serving in shortage areas designated by the state.
5. Identify and work with an agency to administer the HRSA BHP SLRP and/or the supplemental state loan repayment program.
6. Continue informing Alaska's national delegates of the need to maintain or increase annual federal allocations for NHSC loan repayment program and IHS loan repayment program.

Timeframe. Short term. One to two years.

Benefit. Improved federal funding will enable the IHS and NHSC loan repayment programs to be stabilized and will allow more clinical sites to recruit physicians. This will support rural placements including tribal facilities and community health centers. Alaska's participation in the HRSA SLRP would allow more physicians in the general specialties to work in underserved areas. With an Alaska state loan repayment program not tied to HRSA BHP, the state could more easily recruit not only general specialists but also other physician specialists that are needed and could use state-designated shortage areas so that many additional sites would be eligible.

Cost. Undetermined at time of Task Force Report

Responsibility. For federal appropriations, Alaska Congressional Delegation. For state loan repayment program, State of Alaska and Alaska Legislature.

Impact. Recruitment; Retention.

Rationale. Loan repayment is a proven strategy for recruiting physicians, and the federal loan repayment programs currently available to Alaska physicians (NHSC and IHS) need to be stabilized financially and supplemented with Alaska-based programs. Alaska's participation in the HRSA SLRP would allow more physicians in the general specialties to work in qualified underserved sites. In addition, a supplemental state loan repayment program could enable participation by more specialties and sites, boosting Alaska's recruitment of physicians.

Further Discussion. In national studies, loan repayment has been found to be a successful strategy to recruit and retain physicians (Pathman, et al., 2004). Alaska's clinics and hospitals receive inquiries from physicians about the availability of loan forgiveness often.

NHSC sites are restricted to federally designated HPSA's that have certain HPSA scores, and this minimum score is set each year by HRSA. Depending on federal policy, the minimum HPSA score required can eliminate many sites needing physicians. Physician specialties eligible for NHSC support are restricted to family medicine, general pediatrics, general internal medicine, general psychiatry, and obstetrics/gynecology.

Currently, 37 states participate in the HRSA SLRP. NHSC provides matching funds directly to states to operate their own loan repayment programs; a 50% match from states is required. Primary care health professionals who are providing full-time clinical services in a public or non-profit facility located in a federally designated HPSA are eligible for this program. Eligibility requirements and benefits vary from state to state.

Under the NHSC loan repayment program a physician works for two years at a qualified site in exchange for up to \$25,000 of loan repayment, tax-free, with the option to renew year by year for up to \$35,000 per year. Currently there are eight NHSC physician loan repayers working in Alaska.

The Alaska DHSS APCO and others have researched and coordinated efforts to organize a HRSA SLRP for Alaska and gain the required 50% match from the Alaska Legislature but funding has not been approved. Some states require local communities to produce the 50% matching funds.

Although the SLRP would enable the state to administer its own program, sites would still be restricted to those meeting NHSC specifications and eligible physicians would need to be practicing in family medicine, general pediatrics, general internal medicine, general psychiatry, or obstetrics/gynecology. Eligible sites would be HPSA sites that accept all patients regardless of ability to pay, have a sliding fee schedule, and accept Medicare and Medicaid.

With an Alaska state loan repayment program not tied to HRSA BHP, the state could more easily recruit not only general specialists but other physician specialists that are needed, and many additional sites could be eligible for loan repayment.

Under the IHS loan repayment program, applicants sign contractual agreements for two years and fulfill their agreements through full-time clinical practice at an IHS facility or Alaskan Native tribal health program. In return, the LRP will repay all or a portion of the applicant's eligible health professional educational loans (undergraduate and graduate) for tuition expenses. Applicants are eligible to have their educational loans repaid in amounts up to \$20,000 per year for each year of service, tax-free. Eligible specialties are family medicine, internal medicine, pediatrics, geriatric medicine, obstetrics and gynecology, and podiatric medicine. Currently there are 18 physicians working in Alaska with IHS loan repayment.

“Physicians carry a heavy burden of debt coming out of training and are attracted to areas where a healthy share of that burden can be taken away.”

--John Bringhurst, CEO, Petersburg Medical Center

Goal 3. Expand and support programs that prepare Alaskans for medical careers

Strategy 3A. Expand and coordinate programs that prepare Alaskans for careers in medicine

Problem. Too few Alaskan high school students choose to pursue a career in medicine. Opportunities that would motivate a greater number of middle and high school students to pursue medicine as a career path are lost due to lack of medical career counseling, insufficient academic preparedness in math and science, and insufficient exposure to careers in medicine made available through school programs. Alaska ranks 49th among US states in terms of the success of its applicants to US medical schools, despite applicant qualifications at, or better than, the national average.

Action Steps.

1. Expand and coordinate programs which prepare students for careers in medicine.
2. Provide financial support to effective programs that provide in school and summer experiences, internships and job shadowing.
3. Provide support to programs that make math and science available to K-12 students.
4. Facilitate clinical rotations to rural and underserved areas.
5. Provide state support for an industry/university partnership geared to encourage youth into health careers.
6. Support current programs to attract students to health careers.
7. Create a web site and clearinghouse for opportunities and experiences in health careers.
8. Strengthen the Alaska AHEC by providing state support and by increasing number of regional AHEC centers required to accomplish above stated goals.

Timeframe. Medium term of 10 – 15 years for impact.

Benefits. The benefits of implementing this strategy and action steps are that students will be more academically prepared for medical school. The long-term benefit of this strategy will be an increased number of Alaskan students who select medicine as their career.

Cost. Provide up to \$1,000,000 in state matching funds for federal pipeline programs.

Responsibility. University of Alaska, Alaska AHEC, State of Alaska, Alaska State Legislature.

Impact. Training

Rationale. Alaska must grow its own pool of academic talent to prepare for careers in medical education. To support this growth and adequately prepare Alaskan students for a career in medicine, more attention needs to be directed to preparing and exposing students to related careers in a meaningful way within their community. Today there are too few opportunities to expose students to the realities and the excitement of these careers. The opportunities that do exist are not well known.

Further Discussion. Alaska has a variety of programs that address specific components of the health workforce and the training curriculum. Coordination between programs is sporadic at best, resulting in gaps and redundancies. A communication venue and tracking database, which facilitates coordination between and among the various Alaskan agencies supporting the development of Alaska's health workforce is needed.

Most programs supporting the health workforce curriculum do not receive sufficient funding to support long-term tracking, let alone the development of intermediate impact measures. This compromises their ability to advocate for future funding. An on-line database with a self-administering format and protected access reduces barriers to both tracking students and coordinating student participation across programs.

Based on interviews conducted across Alaska in 2004, and corroborated by national data, a primary reason for youth not to select careers in medicine is lack of exposure to those opportunities (Elder, 1997; Alexander, 2003; Bumgarner, 2003; Gill, 1996; Ramsey, 2001; Magzoub, 2000 and Weiler, 1997).

In Alaska, attrition and recruitment costs are the highest in remote, underserved regions (DHSS/ACRH, 2006). Research shows that tangible, positive clinical experience in a setting prior to graduation is a factor in encouraging graduates to select that setting for employment (Boulger, 2000; Jones, 2000; Neill, 2002; Ramsey, 2001; Bacon, 2000; and Rabinowitz, 1999).

It is important to provide regionally tailored activities with measurable outcomes to expose youth to information about careers in medicine and a tangible connection to those opportunities. These would include speaker's bureaus to high schools, summer immersion programs and job shadowing in local health facilities. Additionally, efforts must be made to reach out to all those who are currently applying to medical school to give them coaching for applications and interviews.

Goal 4. Increase retention of physicians by improving the practice environment in Alaska

Strategy 4A. Develop a physician practice environment index for Alaska

Problem. Alaska lacks an objective and reliable method to compare its physician practice environment to that in other states.

Action Step. Develop a practice environment assessment and comparison tool. Similar tools currently exist for other states and can be modified for Alaska.

Timeframe. Short term. Within 2 to 3 years.

Benefit. This strategy would provide an objective basis to measure Alaska's physician practice environment relative to other states and the national average. The index would identify elements that cause Alaska's practice environment to be relatively better or worse than other states. This would provide indications for strategies that could better the environment. Also, it would identify those elements that are strong, relative to other states, and therefore should be stressed in the recruiting process.

Cost. \$100,000 to develop the physician practice environment index. \$20,000 annually to update.

Responsibility. Medical Provider Workforce Assessment Office and health care partners.

Impact. Recruitment; Retention.

Rationale. The various elements that together constitute the practice environment need to be identified and quantified in a manner that allows comparison to the entire United States as well as to other states. It can serve as a mechanism that would suggest the specific element or elements that cause Alaska to rank either higher or lower. Such objective measures can provide the basis for strategies to strengthen or improve a particular element as well as an objective way to market the elements in which it has relatively higher strengths.

Further Discussion. An important part of the index would be the relative weightings among the various elements in the practice environment. For example, one expected element could be the medical-legal climate. One measure that could be used for this element would be physician professional liability premium rates. This element, for example, could receive a higher relative weighting. In a 2003 survey, 62% of medical residents stated that the most important aspect in practice environment was the medical liability environment (Merit, 2003).

At least one other state has developed such an index. The Massachusetts Medical Society

(MMS) developed an index 5 years ago based on nine elements that are weighted based on their importance to the overall practice environment. The base year is 1992, and MMS has developed the index for each year from 1992 through 2005 for the US and Massachusetts. It hires an economic consulting firm to do the statistical analysis. The MMS index could provide a starting point for developing an Alaskan Physician Practice Index.

Cost would probably depend on who will conduct the analysis given that template exists in Massachusetts and that the medical community could be tapped for volunteer, expert input, \$100,000 would probably be sufficient funding for the initial development. Annual index development and re-calculation would probably not exceed \$20,000 per year.

The Task Force identified the University of Alaska, Institute for Social and Economic Research as an organization that potentially could coordinate development and implementation of the index.

Strategy 4B. Develop tools that promote community-based approaches to physician recruitment and retention

Problem. Practice sites and communities engaged in physician recruitment efforts are often less successful because they are unaware of factors that influence physician practice location and effective strategies to improve recruitment outcomes.

Action Steps.

1. Provide tools for technical assistance and training on physician shortage and the impact of site development efforts.
2. Provide tools to form community-based organizations, such as community health councils, to address local site development (US DHHS, 2006).
3. Develop promotional materials that highlight community resources and economy as a component of the physician recruitment efforts (Commonwealth, 2005. p. 30).
4. Increase the partnerships among health care sites and organizations, such as Chambers of Commerce and Economic Development Councils that can help promote the community as a desirable practice location.

Timeframe. Short term. Twelve to eighteen months.

Benefits. This strategy would result in more appropriate matches between communities and physicians. As a result, physicians seeking employment would find Alaska practice sites and communities to be more desirable. The anticipated benefits are shorter length of vacancies, increased number of hires, and increased length of retention.

Cost. \$50,000 per year

Responsibility. Proposed Medical Provider Workforce Assessment Office and health care partners.

Impact. Recruitment; Retention.

Rationale. Numerous factors influence where a physician chooses to practice. Some of the factors are characteristics of the practice site or the community, such as schools or employment opportunities for a spouse (American Academy of Family Practice, 2006; Rosenblatt, et al., 2006; Casey, et al., 2005; DHSS/ACRH, 2006). Other critical factors include the population and economic base of the community that can support a physician's practice (Wright, et al., 2001). Communities that do not address such factors in their site and in their recruitment and retention efforts are less effective in securing and retaining physicians for their community. Providing tools and technical assistance to communities that tap into their unique strengths, identify weaknesses and help them

strategize ways to make their community more attractive to physicians will contribute to successful outcomes.

Further Discussion. The physician shortage affects not only the quality of life of a community's citizens, but also a community's economic health. Often, the health care sector is one of the largest employers in the community. The adequacy of the health care system influences communities' ability to attract and retain business. Physician supply is correlated with economic development, expressed as real per capita gross domestic product (GDP) (Cooper, et al., 2003).

Community leaders may be unfamiliar with the nature of the physician shortage, how it could affect them locally, and the mechanisms that can increase the ability to attract and retain providers. Such mechanisms include local internships and residency training, teaching opportunities for the physicians, loan repayment and scholarships, marketing strategies, and community friendliness toward the physician and their family. Community leaders need to address elements that impede physician searches, such as the perception (whether accurate or not) that rural schools, housing or spousal employment opportunities are inadequate (American Academy of Family Practice Physicians, 2006). Major perceived barriers to recruitment include low salaries and, in rural community health centers (CHCs), cultural isolation, poor-quality schools and housing, and lack of spousal job opportunities (Rosenblatt, et al., 2006). Successful recruitment is often attributed to effectively communicating the high quality of life available in a rural community and addressing the needs of the physician's family (DHSS/ACRH, 2006).

Communities need to play an active role in assuring that there are an adequate number of providers in their communities. Since small communities often lack recruitment staff, they may benefit from training on effective recruitment strategies. Also a clear, concise description of the shortage facing Alaska can stimulate local problem solving.

Community characteristics, economic expansion and physician supply are interrelated. Major factors cited by graduating family practice residents as important ones in choosing their first medical practice site, include: significant other's wishes; medical community friendly to family physicians; recreation/culture; proximity to family/friends; significant other's employment; schools for children; size of community; initial income guarantee; benefits plan; proximity to spouse's family/friends (American Academy of Family Physicians, 2006).

Marketing strategies that highlight community resources as a component of the physician recruitment efforts need to be developed. Such marketing strategies should address factors cited by physicians such as their perceptions of community inadequacies related to schools, housing or spousal employment. Marketing the Alaska lifestyle to outside doctors is another effective strategy. (Commonwealth, 2005. p. 30).

“Just as we have marketed Alaskan king crab and Copper River salmon, we can market the variety of exciting opportunities available for physicians in this area.”

John Bringham, CEO, Petersburg Medical Center

It is important for community leaders to be aware of the challenges to recruitment and to tailor strategies to address these concerns. Community leaders can influence provider housing; hiring packages (leave, work schedules and continuing education); teaching responsibilities; and service opportunities (i.e. serving on local, regional, state, national committees).

Community and health care leaders must acknowledge that their communities may not have the economic capacity to support physicians or maintain state of the art equipment and facilities. This situation can be caused by low population of the community, high poverty status of the community, or because the community is too geographically isolated or disadvantaged to financially support physicians. Continuous subsidies would be required to sustain a physician in such areas (Wright, et al., 2001).

A report on Kentucky's physician shortage identified a number of barriers to physician recruitment and retention. Such barriers included: medical education costs, workload and demands; and decreased opportunity for professional contacts in medically underserved areas. Economic concerns that affected recruitment and retention included: publicly supported insurance programs (Medicaid and Medicare) that reimburse rural providers at a lower rate than urban providers for the same medical procedures; rise in insurance payments; relief coverage and assurance of a reasonable amount of time off from work is the most important factor in decisions to stay or leave. Other issues include quality of public schools and ability to become a part of the local community, which was scored as more important than income. Having an unhealthy population with high rates of disease including heart disease, hypertension, asthma, diabetes and cancer can affect the ability to recruit and retain physicians (Casey, et al., 2005).

Physicians involved in teaching remain in rural practice longer than those who are not involved. Although many urban physicians assume otherwise, rural physicians do not necessarily view professional isolation and an inability to access medical information as drawbacks to rural practice. Lack of quality of rural school systems, perceived or real, is related to length of stay for physicians in a rural practice. (American Academy of Family Physicians, 2006.)

The Medical Provider Workforce Assessment Office would coordinate this strategy's activities and support existing organizations that work on physician supply and recruitment, e.g. State Office of Rural Health and Primary Care Office in DHSS; Primary Care Association, Alaska AHEC, ACRH, ANTHC, University of Alaska, ASHNA and professional associations such as ASMA. Linkages among health care sites that recruit and employ physicians, mayors, city/borough managers, tribal health corporation leadership, economic development organizations, Chambers of Commerce, the AFMR, and other training institutions need to be strengthened. Contracts with statewide organizations that address health care issues would be needed to support training events and technical assistance.

The NHSC Site Development Manual recommends the formation of a Community Primary Health Care Council that would be involved in making decisions related to the community's health care system, including developing sites that can tap into NHSC resources and providers who are NHSC Scholars or are eligible for NHSC Loan Repayment (US DHHS, 2006).

Strategy 4C. Support federal tax credit legislation initiative for physicians that meet frontier practice requirements

Problem. There are insufficient financial incentives to attract and retain physicians in rural/frontier practices. Financial-related recruitment strategies often create non-cash income that is subject to federal income tax.

Action Step. Engage statewide health care partners in efforts to pass physician tax credit legislation at the federal level.

Timeframe. Short term. 12 months.

Benefit. A tax credit will help offset the taxes on the non-cash taxable income created by a loan forgiveness program and thus maintain the recruitment benefit of such programs. Additionally, when a tax liability is not a factor, a tax credit, in effect, increases the income of a physician practicing in a frontier area which influences practice location decisions.

Cost. Zero cost to the state.

Responsibility. The Alaska Congressional Delegation with support of the Alaska State Hospital and Nursing Association, ASMA, and health care partners.

Impact. Recruitment; Retention.

Rationale. Financial-related recruitment strategies that are commonly used, such as loan repayment programs, create non-cash income that is often subject to federal income tax. A tax credit approach made available to physicians who practice in frontier areas or who treat patients from frontier areas would help maintain the recruiting benefit of a loan forgiveness program.

Further Discussion. A tax credit will help offset the taxes on the non-cash taxable income created by a loan forgiveness program and thus maintain the recruitment benefit of such programs. Additionally, when a tax liability is not a factor, a tax credit, in effect, increases the income of a physician practicing in a frontier area.

The loan forgiveness program that is currently in place for WWAMI students forgives the loan at a rate of 20% per year of Alaskan practice. For example, a WWAMI graduate, with \$150,000 in loan repayment obligation who practices in Alaska for five years, has \$30,000 per year in taxable income created.

S.2789 introduced on May 11, 2006 by Senator Conrad Burns (Montana) and Senator Lisa Murkowski is an example of legislation that provides for tax credits for physicians who practice in frontier areas or treat patients from frontier areas. The tax credit is \$1000 a month for a maximum 60 months. (This bill amends the Internal Revenue Code of 1986).

A short-term timeframe for adoption of such legislation is important. The WWAMI loan forgiveness element (for practice in Alaska) is impacting the first WWAMI students completing their GME this year.

This is a strategy that would not have impact on the Alaska state budget. The cost will depend on the extent of financial incentive strategies that create non-cash taxable income and the extent to which they are used. The cost is in “soft dollars” of federal income tax not collected.

Section VII. Areas that Warrant Further Consideration

Some areas related to Alaska's physician supply warrant further consideration but could not be discussed in depth in this report, due to limits of the Task Force's directive and time constraints. Such areas include:

- patterns and effect of physician turnover on the physician supply;
- the need for specialists and sub-specialists;
- the impact of physician assistants and advanced nurse practitioners on the need for physicians;
- the impact of community health aides on medical care in Alaska;
- the opportunities offered by the developing Doctor of Osteopathy program in Yakima, Washington;
- the factors within the Alaska practice environment that influence decisions to practice in the state;
- the relationship of the needs of subpopulations such as the elderly and those in urban as well as rural locations, on physician supply;
- the role of emerging technologies including electronic health records and telehealth in physician supply and practice; and
- the relationship between physician supply and health care access.

The Task Force determined that while many of these topics would be appropriate duties of the proposed Medical Provider Workforce Assessment Office, some of the areas would fall under the responsibilities of other organizations.

Section VIII. Appendices

- A. Data Details
 - 1. Matriculants in Medical Schools by State
 - 2. Specialty Distribution Comparison (2004) Alaska and US
- B. Strategies Preferences Scoresheet
- C. Physician Study Annotated Reference List
- D. Resource List
- E. Individual Contributors, Persons Consulted, Commentors, Reviewers, and Persons who attended Task Force Meetings
- F. Acronym List

Appendix A. Data Details

1. Matriculants in Medical Schools by State

Applicants		Applicants' Matriculation Status					
		Matriculated In State		Matriculated Out of State		NOT Matriculated	
		N	Percent	N	Percent	N	Percent
Region							
Northeast	7,867	2,072	26.3	1,773	22.5	4,022	51.1
Central	8,580	2,884	33.6	1,125	13.1	4,571	53.3
South	12,089	4,287	35.5	1,284	10.6	6,518	53.9
West	8,069	1,439	17.8	2,041	25.3	4,589	56.9
US Total	37,364	10,682	28.6	6,322	16.9	20,360	54.5
State of Legal Residence, Western States:							
Alaska	73	.	.	29	39.7	44	60.3
Arizona	602	109	18.1	98	16.3	395	65.6
California	4,288	812	18.9	1,167	27.2	2,309	53.8
Colorado	609	108	17.7	125	20.5	376	61.7
Hawaii	208	51	24.5	39	18.8	118	56.7
Idaho	161	.	.	61	37.9	100	62.1
Montana	108	.	.	53	49.1	55	50.9
Nevada	167	42	25.1	25	15	100	59.9
NewMexico	245	71	29	24	9.8	150	61.2
Oregon	387	68	17.6	87	22.5	232	59.9
Utah	478	75	15.7	150	31.4	253	52.9
Washington	670	103	15.4	155	23.1	412	61.5
Wyoming	73	.	.	28	38.4	45	61.6

Alaska Applicants to Medical School by Year, 1994-2005

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
72	51	62	59	60	48	59	76	75	69	71	73

Source: AAMC: Data Warehouse: Applicant Matriculant File as of 10/20/2005

2. Specialty Distribution Comparison (2004), Alaska and US

2004						
Alaska Population: 657,755	Alaska	Alaska	Alaska	US	Alaska	Alaska
Specialty	Total Physi- cians	Total Patient Care Physicians	Patient Care Phys/ 1000	Patient Care Phys/ 1000	"Expected # at US rate"	"Actual" minus "Expected at US Rate"*
Total Physicians	1580	1347	2.05	2.38	1569	-222
	2.28/ 1000					
Primary Care	732	709	1.08	1.14	753	-44
Family Medicine	342	333	0.51	0.26	173	160
GP/FM	34	33	0.05	0.04	25	8
Internal Medicine	161	157	0.24	0.48	315	-158
Pediatrics	116	108	0.16	0.23	148	-40
Ob/Gyn	79	78	0.12	0.14	91	-13
Med Spec	57	55	0.08	0.19	126	-71
SurgSpec	243	237	0.36	0.39	259	-22
General Surgery	73	71	0.11	0.12	81	-10
Child & Adol Psych	4	3	0.00	0.02	14	-11
Psychiatry	74	66	0.10	0.13	83	-17
Emergency Medicine	75	72	0.11	0.09	60	12
OthSpec	231	205	0.31	0.40	263	-58
Neurology	12	12	0.02	0.04	28	-16
Anesthesiology	75	74	0.11	0.13	84	-10
Non Pt Care Activities	69					
Inactive	117					
Not classified	47					
Adapted by HPSD/AKDHSS						
*Negative implies potential "need"						

Source: AMA 2006 (Master File database)

Appendix B. Strategies Preferences Scoresheet: Strategies for Increasing Physician Supply in Alaska

Completed by Members of the Physician Supply Task Force (6 Respondents)

Strategy - Short Title	Strategy Description	Preference Scale (circle number reflecting your preferences, keeping in mind cost, feasibility, desirability, effectiveness)						
Short Term (1-5 year impact on supply)		Resp 1	Resp 2	Resp 3	Resp 4	Resp 5	Resp 6	Average Response
Recruitment	Overall Recruitment Effort	3		4	4			3.7
	Targeting ad campaigns (prof. journals, TV)	3	3	3	3	2	3	2.8
	Recruitment at national meetings of the specialty societies	3	5	3	3	5	4	3.8
	Match candidates with local cultural and recreational needs	3	3	3	2	4	3	3.0
	Include spouse/SO and family in recruitment	4	5	3	5	5	3	4.2
	Use recruiters from the local area	3	4	2	4	5	3	3.5
	Explain advantages of work in underserved areas, rural communities	2	4	3	3	3	3	3.0
	Signing bonuses	2	5	4	4	5	5	4.2
	Loan repayment options available	4	3	4	5	5	5	4.3
	Higher salary and benefit offerings (including leave options)	4		4	5	5	3	4.2
	Tax credits	2		5	5	5	5	4.4
Retention	Overall Retention Effort	4		4	4			4.0
	Provide extra support to integrate provider and family into local community	3	4	4	4	3	3	3.5
	Loan repayment options available	4	5	4	5	5	5	4.7
	Improved salary and benefit scales	4	4	4	4	5	4	4.2
	Offer/improve housing		3	4	5	2	3	3.4
	Improved clinical facilities		4	3	3	3	2	3.0
	Good schools/community resources	5	4	4	5	4	4	4.3
Practice environment	Overall Practice Environment Effort	1		3	4			2.7
	Continuing education opportunities			2	4	2	3	2.8

	Good management in work environment			3	4	2	3	3.0
	More opportunity for professional interaction thru videoconferencing & other means			1	4	3	3	2.8
	Welcome provider to community			2	4		2	2.7
	Flexible schedule and call			2	3	3	3	2.8
	Malpractice insurance relief/support			3	4	4	1	3.0
	Adequate staffing			3	5	2	2	3.0
Education / Training	Overall Education/Training Effort	5		5	4			4.7
	Expand residency programs	5	5	5	5	4	5	4.8
	Increase medical school slots	5	5	5	5	5	5	5.0
	Early college conditioning for health careers	4	5	4	4	3	5	4.2
	Pre-college	3	5	3	4	3	3	3.5
	AHEC program expansion	3	5	2	3	3	5	3.5
	Mentor Alaskan high school students to be health providers – talk at local schools	3	5	2	3	3	3	3.2
	Scholarships	4	5	3	5	4	4	4.2
Medium Term (6-20 year planning horizon)								
Education / Training								
	Medical school in Alaska	5	2	4	2	4	2	3.2
	Additional medical school slots	5	5	5	4	5	5	4.8
Practice environment	Additional residency programs	5	5	4	5	4	5	4.7
Retention	New and improved health care facilities	4	4	3	4	3	3	3.5
Financial Incentives	Improved housing and facilities	3	4	3	4	2	2	3.0
	Improved health insurance coverage	2	4	3	3	1	2	2.5
Long Term (>20 years)								
Education / Training								
	Medical school in Alaska	5	5	5	2	4	5	4.3

Appendix C. Physician Study Annotated Reference List

Casey, B.R, Jones, J., Gross, D.A., Dixon, L. (2004). Rural Kentucky's physician shortage: strategies for producing, recruiting and retaining primary care providers within a medically underserved region. Revised for publication in the *Journal of the Kentucky Medical Association*, September 2005. University of Kentucky, Center for Rural Health. <http://www.mc.uky.edu/RuralHealth/Research/WhitePaperJKMArvsd.pdf>

Kentucky has 400 family physicians that are age 60 or above. The state's rural medical residency programs can produce only 16 to 18 new family physicians each year. The number of residency applications has decreased in recent years. Strategies: addition of an osteopathic medical school, rural residency programs, state support for family practice GME, physician placement services, state loan repayment program, J-1 Visa, reform medical liability.

Center for Health Workforce Studies, University at Albany, State University of New York. (2004). *California physician workforce: supply and demand through 2015*. http://www.ucop.edu/healthaffairs/reports/Final%20Report%20-%20California%20Physician%20Workforce_12_20042.pdf

California is likely to face a 5%-16% shortage of physicians by 2015. Some communities are likely to experience more serious shortages than others. Strategies to address projected shortages and mal-distribution include: 1) increasing the supply by increasing medical school capacity, graduate medical training capacity, incentives to encourage migration to the state and to retain physicians currently practicing in the state; 2) increasing the productivity and capacity of the existing physician workforce by expanding the supply and use of non-physician clinicians, new technologies and increasing the use of treatment protocols and utilization review; 3) increasing the diversity of the physician workforce; 4) promoting a more effective environment for physician workforce planning and policies by increasing data collection and monitoring physician requirements, tracking physician supply, comprehensive re-assessment every five years, statewide process for physician workforce planning; 5) promoting programs and policies such as identification and publication of shortage areas by specialty, physician loan-repayment and placement, targeted site development grants, medical education and training in shortage areas, increasing reimbursement rates in shortage areas.

Chen, F.M., Fordyce, M.A, Hart, L.G. (2005). *WWAMI physician workforce 2005*. WWAMI Center for Health Workforce Studies, Working Paper #98. <http://www.fammed.washington.edu/CHWS/reports/CHWSWP98%20Chen.pdf>

The UWSOM currently produces approximately 175 physicians a year and over 60 percent of graduating students stay within the five-state area to practice. Almost 50 percent of graduating students pursue careers in primary care. 20 percent of WWAMI graduates will practice in federally-designated Health Professional Shortage Areas. This analysis utilized the 2005 AMA Master File to determine the population-based supply of

physicians at the state and county level, by discipline of physician and whether they graduated or trained at UWSOM. Currently there are 22,578 physicians in the five-state WWAMI region. Of these, 18,794 are clinically-active. Two-thirds (12,718) are in Washington. Wyoming has the smallest number (830).

Council on Graduate Medical Education. (2005). *Seventeenth report: minorities in medicine: an ethnic and cultural challenge for physician training*.

<http://www.cogme.gov/17thReport/17.htm>

Findings: “Family income” is the most influential factor in determining whether a high school senior will be “very well qualified” for college, based on class rank, grade point average and scores on standardized tests. Parents’ education and income levels affect academic achievement of children. Disproportionate numbers of “underrepresented minority” children live in single-parent and low-income households. Although some programs promote children’s interest, academic achievement, and career choices in science and health, a need exists for organizations to partner with media, advertising and marketing firms to develop and disseminate culturally appropriate messages targeted to minority and disadvantaged youth to encourage academic persistence and achievement and interest in medical careers.

Council on Graduate Medical Education. (2005). *Sixteenth report: physician workforce policy guidelines for the United States, 2000-2020*. <http://www.cogme.gov/pubs.htm>

The supply of practicing physicians is expected to rise 24% from 781,200 to 971,800 between 2000 and 2020. Growth is expected to slow after 2010 due to the aging of the workforce and the relatively level number of new physician entrants since 1980. At the same time the demand for physicians is likely to grow more rapidly than the supply and the need for services is expected to increase. Considering supply and need, a shortage of 96,000 is projected in 2020. Factors, such as changing lifestyles, increase in the use and expected increases in the nation’s wealth, are included in this report. Other factors not included are: potential increase in non-patient care activities, change in practice patterns for physicians over 50, departures due to liability concerns, limiting the number of patients (“boutique medicine”) and individuals with chronic illnesses living longer.

Council on Graduate Medical Education. (1998) *Tenth report: physician distribution and health care challenges in rural and inner-city areas*. <http://www.cogme.gov/rpt10.htm>

Findings include the following: The lack of health insurance presents the greatest barrier to medical care. Safety net programs such as CHCs and the NHSC are essential mechanisms for insuring access to health care for underserved populations. Growth in the number of physicians in the US has not eliminated the problem of geographic maldistribution. The small number of family physicians has contributed to the shortage of rural physicians. PAs and ANPs play an important role in providing medical care in rural underserved areas. CHCs and group practice arrangements may be the most viable model for increasing care in underserved areas.

Grumbach K., Coffman, J.M., Young, J.Q., Vranizan, K., Blick, N. (1998). *Physician supply and medical education in California: a comparison with national trends*. University of California, San Francisco, Medical School, Department of Family and Community Medicine.

<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1304984>

This study concluded that California has an ample supply of physicians in the aggregate, but too many specialists, too few underrepresented racial/ethnic minority physicians, and poor distribution of physicians across the state. These factors will continue to exert inflationary pressures on the health care system without improving access to care. Major policy changes are needed to address the imbalance.

Grumbach, K., Coffman, J., Liu, R., Mertz, E. (1999). Strategies for increasing physician supply in medically underserved communities in California. California Policy Research Center Brief Series, Center for California Health Workforce Studies.

<http://www.ucop.edu/cprc/MDsupply.html>

This report recommends three types of strategies to increase the physician supply in underserved areas: 1) practice-environment to make practice in shortage areas more attractive 2) medical education to address the training experiences of physicians 3) applicant pool to target the types of students who enter medical school. Practice-environment interventions have the quickest “pay off” in improving physician distribution because they target the point when physicians are ready to enter practice. Medical education and applicant-pool strategies are integral to a comprehensive plan but take longer to yield results.

Hart, L.G., Lishner, D.M., Larson, E.H., Chen, C., Andrilla, H. A., Norris, T.E., Schneeweiss, R., Henderson, T. M. and Rosenblatt, R. A. (2005). Pathways to rural practice: a chart book of family medicine residency training locations and characteristics. <http://www.ask.hrsa.gov/detail.cfm?PubID=ORHP00324>

A survey of US family medicine residencies was conducted in January 2000. 453 questionnaires were sent, 435 responded (96 percent). Only 33 of the responding programs (7.6%) were located in rural areas; predominantly in community hospitals. Over one-third of the urban programs listed rural training as an important part of their mission; however, only 2.3 percent of their training took place in rural areas. For the nation as a whole, 7.5 percent of family medicine residency training occurred within rural areas, although 22.3 percent of the US population lives in rural places. The number of rural residencies has declined since the survey was conducted. Unless significant efforts are made to increase rural residency training, rural physician shortages are likely to persist.

Institute of Medicine of the National Academies. (2005). *Quality through collaboration: the future of rural health care*. National Academies Press.

This report discussed improvements in the three broad areas of the pipeline to increase the size of a quality rural workforce: (1) attracting rural students to health careers, (2) providing formal education programs, and (3) recruiting and retaining trained health professionals in rural areas. (p. 89)

Measures to attract rural students to health careers involve enrichment of schooling for pre-collegiate students, ensuring that basic science is part of the curriculum, and ensuring that students have positive exposure to role models and career paths in rural health care delivery. (p. 91)

It is important to create opportunities for members of minority and disadvantaged populations. Programs administered by HRSA and improved admissions processes can assist in this effort. (p. 93)

For physicians, two factors are strongly predictive of a future career in rural health: a rural background and plans to enter family medicine. (Rabinowitz and Taylor, 2004). Medical schools that make a strong commitment to educating physicians for rural practice quite successful track records. (p. 94)

Ricketts, T.C. (2005). Workforce issues in rural areas: a focus on policy equity. *American Journal of Public Health*, 95, 42-48. <http://www.ajph.org/cgi/content/abstract/95/1/42>

Rural communities in the US are served by fewer health care professionals than urban or suburban areas. This review of the geographic distribution of health professionals and policies and programs that influence practice location decisions identifies three categories of policy levers: coercive, normative and utilitarian; and recommends a balanced use of the three approaches.

Southworth, M. (2004). *Alaskan's physician workforce: an overview, a summary of training backgrounds, and the impact of the WWAMI program*. Thesis submitted for degree of Master of Public Health, University of Washington.

Alaska has 1304 physicians with an active Alaska medical license that were reviewed. 93.7% MD degrees, 6.3% DO degrees; 76.6% at least one board certification; 30.2% women; 24.6% addresses in rural communities; osteopaths 1.6% of rural physicians and 4.6% of urban physicians; women 34.3% rural and 28.8% urban; generalists 43.7%; surgical 21.9%; medical specialists 8.0%; other fields 26.4%; 29% fewer generalists per 100,000 population in rural communities. 9.9% of Alaska physicians received degrees at UWSOM; 9.6% from four other schools; 9.4% US military postgraduate training. 52.6% of UWSOM graduates are generalists and 24.1% are in rural communities. Alaska's physician workforce is growing but geographically mal-distributed.

Taylor, P. *Utah links federal funding for graduate medical education to state's physician workforce needs*. Publication produced for US Department of Health and Human Services, Health Resources & Services Administration, Office of Rural Health Policy. <http://ruralhealth.hrsa.gov/pub/UtahGME.asp>

A state-chartered commission in Utah is linking Utah's GME funding and statewide physician workforce needs. The Medicare GME demonstration project gives the Utah Medical Education Council authority to receive and disburse all Utah Medicare Direct Medical Education payments. One goal of the demonstration is to increase the number of graduating physicians who choose to practice in rural areas.

US Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, National Center for Health Workforce Analysis. (Spring 2003). *Changing demographics: implications for physicians, nurses, and other health workers*.

<http://bhpr.hrsa.gov/healthworkforce/reports/changedemo/default.htm>

The findings of the literature and two demand forecasting models: the Physician Aggregate Requirements Model (PARM) and the Nursing Demand Model (NDM) are: aging population will increase the demand for physicians per 1000 from 2.8 in 2000 to 3.1 in 2020. Between 2000 and 2020 the percentage of patient care hours spent with minority patients will rise from 31 to 40 percent. Increases under five scenarios are projected: status quo (33%), baseline (28%), universal coverage (40%), 100 percent HMO (36%) and non-minority rates (37%).

US General Accounting Office (October 2003). *Physician workforce: physician supply increased in metropolitan and non-metropolitan areas but geographic disparities persisted*. Report to the Chairman, Committee on Health, Education, Labor and Pensions, US Senate. GAO-04-124. <http://www.gao.gov/new.items/d04124.pdf>

The GAO analyzed data on physician supply and geographic distribution from 1991 and 2001. The US physician population increased 26 percent, which was twice the rate of total population growth, between 1991 and 2001. The average number of physicians per 100,000 people increased from 214 to 239 and the mix of generalists and specialists in the national physician workforce remained about one-third generalists and two-thirds specialists. Non-metropolitan counties with a large town (10,000 to 49,000 residents) had the biggest increase in physicians per 100,000 people of all county categories but their supplies were still less than large and small metropolitan counties in 1991 and 2001.

Utah Medical Education Council, State of Utah. (2006). *Utah's physician workforce: a study on the supply and distribution of physicians in Utah*.

<http://www.utahmec.org/physicians.htm>

The UMEC conducted a survey of all state licensed physicians. Of 4,484 physicians working in Utah only 3,894 were active patient care providers. The characteristics of the Utah physician workforce mirror the national workforce. Over 55% of the physicians practicing in Utah had had some previous contact with the state. Only 12% of Utah physicians provide services to the 25 rural counties in the state. Utah will need to recruit up to 270 physicians per year to meet the projected demand.

Wisconsin Hospital Association and the Wisconsin Medical Society. (2004). Who will care for our patients? Wisconsin takes action to fight a growing physician shortage. <http://www.wha.org/physicianshortage3-04.pdf>

There is a shortage of primary care physicians in rural Wisconsin and inner city Milwaukee. Non-primary specialty physicians are in demand and are hard to recruit on a statewide basis. General surgeons and radiologists are critically needed in rural areas. The unmet needs are projected to grow. By 2015, demand is expected to increase by 13.5% for primary care physicians and 20% for all other physicians. Action plan: enroll students, develop new care delivery models, attract and retain physicians, enhance funding, create a medical education infrastructure.

Appendix D. Resource List

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Appendix E. Individual Contributors, Persons Consulted, Commenters, Reviewers, and Persons who Attended Task Force Meetings

Diane Barrans, Executive Director, Alaska Commission on Post-Secondary Education
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Paul Davis, MD, Alaska Family Medicine Residency
Gar Elison, Executive Director, and staff, Utah Medical Education Council
Leslie Gallant, Executive Administrator, Alaska State Medical Board
Tim Gilbert, MPH, Alaska Native Tribal Health Consortium
Jan Harris, MA, MSHA, UAA, School of Nursing
Gary Hart, PhD, Fred Chen, MD, Eric Larson, PhD, UW Rural Health Research Center
Tom Hunt, MD, Medical Director, Anchorage Neighborhood Health Center
Marilyn Kasmar, RNC, MBA, Executive Director, Alaska Primary Care Association, and staff members Pat Fedrick and Richard Moore, PA-C
Beth Landon, MBA, MHA, Director, Alaska Center for Rural Health
Peter Marshall, MD, private practice, North Pole. Chairman, Alaska WWAMI Admissions Committee.
Kathy Murray, BA, MLS, AHIP, UAA Health Sciences Library
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Appendix F. Acronym List

3RNET	Rural Recruitment and Retention Network
AA	Active License Status
AAHC	Alaskans for Access to Health Care (ACCESS)
AAMC	Association of American Medical Colleges
ACRH	Alaska Center for Rural Health
AFMR	Alaska Family Medicine Residency
AHEC	Area Health Education Center
AKDHSS	Alaska Department of Health and Social Services
AKOMA	Alaska Osteopathic Medical Association
AMA	American Medical Association
ANMC	Alaska Native Medical Center
ANTHC	Alaska Native Tribal Health Consortium
APCA	Alaska Primary Care Association
APCO	Alaska Primary Care Office
ASHNA	Alaska State Hospital and Nursing Home Association
ASMA	Alaska State Medical Association
AP&S	Alaska Physicians and Surgeons
BHPPr	Bureau of Health Professions
CEO	Chief Executive Officer
CEU	Continuing Education Units
CHC	Community Health Center
COGME	Council of Graduate Medical Education
DHSS	Department of Health and Social Services
DO	Doctor of Osteopathy
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GME	Graduate Medical Education
GMENAC	Graduate Medical Education National Advisory Committee
HMO	Health Maintenance Organization
HPSA	Health Professional Shortage Area
HPSD	Health Planning and Systems Development
HRSA	Health Resources and Services Administration
IHS	Indian Health Service
LRP	Loan Repayment Program
MD	Allopathic Physician
MMS	Massachusetts Medical Society
MNS	Master in Nutritional Science
MPH	Masters in Public Health
MUA	Medically Underserved Areas
NHSC	National Health Service Corps
OHSU	Oregon Health and Science University
PSAP	Physician Shortage Area Program
PSEP	Professional Student Exchange Program
R/UOP	Rural/Underserved Opportunities Program

SEARCH	Student/Resident Experiences and Rotations in Community Health
SLRP	State Loan Repayment Program
UA	University of Alaska
UAA	University of Alaska Anchorage
US DHHS	United States Department of Health and Human Services
WICHE	Western Interstate Commission on Higher Education
WWAMI	Washington, Wyoming, Alaska, Montana, and Idaho (regional school of medicine based at the University of Washington)

For more information on *Securing an Adequate Number of Physicians for Alaska's Needs, a Report of the Alaska Physician Supply Task Force*, contact: Pat Carr, Health Planning and Systems Development, (907) 465-8618, pat_carr@health.state.ak.us.

This report is also available on the Web: <http://www.hss.state.ak.us/commissioner/PhysicianSupply.htm>.