# MEDICAL EDUCATION STUDY FINAL REPORT

Submitted by

MGT OF AMERICA, INC.

November 1, 2007

# MEDICAL EDUCATION STUDY

***FINAL REPORT***

**Submitted to:**

**Medical Education Study Committee**
**Idaho State Board of Education**
**P.O. Box 83720**
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**November 1, 2007**

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# *PREFACE*

# *PREFACE*

The following report is issued in compliance with Senate Bill 1210, which calls for "a comprehensive study of the feasibility and viability of offering a medical degree" to be conducted and submitted to the State Board of Education by November 1, 2007. The report was developed by a team of independent consultants from MGT of America, Inc., a firm with expertise in college and university planning, medical education program development, and medical education accreditation.[1] The report was prepared over a ten-week period between August 23 and November 1, 2007.

The requested scope of work represented a significant undertaking in an extremely limited amount of time. Consequently, the Study Team relied heavily on existing documents, input from numerous stakeholders, and its members' own expertise in developing a summary overview of the need for access to medical education in Idaho, the potential alternatives for responding to identified needs, and the relative advantages and disadvantages of those alternatives. While the time and budget available for the study necessitated a high-level overview, we believe the report provides sufficient information to enlighten the public debate on the future of medical education in Idaho.

The Study Team appreciates the assistance it received from many individuals and organizations during the course of the study. Those individuals included members of the State Board of Education's Project Advisory Committee, the staff of the Office of the State Board of Education, members of the Idaho Legislature and its staff, the presidents and staff of the three state universities and four state colleges, the leaders of the medical schools at the University of Washington and the University of Utah, and leaders in the Idaho healthcare industry. Organizations that provided information in support of the analyses included the American Medical Association, the Association of American Medical Colleges, the Accreditation Council for Graduate Medical Education, and the Western Interstate Commission for Higher Education.

The interpretations of the information and data provided by these individuals and organizations were the responsibility of the Study Team. Due to the complexity of the issues and our limited prior experience in Idaho, others will surely want to share different points of view with the State Board, Governor, and Legislature. We believe most stakeholders, however, will advise the state's leaders that access to medical education is a critical problem that will become even more pressing if appropriate steps are not taken in the near future.

Members of the Study Team appreciate the opportunity to assist the citizens of Idaho in this important endeavor and trust that our efforts will help guide state leaders in improving access to medical education in the state of Idaho.

[1] Information about key members of the Study Team may be found in the Appendix.

# *1.0 BACKGROUND AND PURPOSE OF STUDY*

# 1.0 BACKGROUND AND PURPOSE OF STUDY

In August 2007, MGT of America, Inc., was engaged by the Idaho Board of Education to analyze potential models of medical education for the state. This chapter of the report provides background information that is needed to assess the models and includes an overview of:

- American medical education.
- National trends in medical education and the physician workforce.
- Idaho's interest in medical education and the physician workforce.

## 1.1 Overview of American Medical Education

The Association of American Medical Colleges (AAMC) defines academic medicine as "the combination of medical schools, teaching hospitals, and their faculty members and staff."[1] Three major components of academic medicine are:

- Medical education.
- Research.
- Patient care.

### 1.1.1 Types of Medical Schools

Two types of schools graduate physicians: allopathic and osteopathic. Allopathic medical schools grant the Doctor of Medicine degree (M.D.), and osteopathic schools grant the Doctor of Osteopathic Medicine degree (D.O.). Together, these schools number 151 and enroll approximately 81,000 students each year.

***Allopathic Schools*.** Allopathic schools are accredited by the Liaison Committee on Medical Education (LCME). The AAMC and the American Medical Association (AMA) sponsor LCME. Currently, there are 126 allopathic medical schools in the United States (U.S.). Six states do not have an allopathic medical school: Alaska, Delaware, Idaho, Maine, Montana, and Wyoming. In addition to those in the 44 remaining states, there are LCME-accredited allopathic medical schools in the District of Columbia and Puerto Rico. According to the AAMC, the total enrollment in allopathic colleges in Fall 2006 was 69,167.[2] The 2007 medical school entering class is the largest in U.S. history; 17,759 new students are enrolled in the 126 allopathic medical schools, representing a one year increase of 2.3 percent.[3]

***Osteopathic Schools*.** Osteopathic schools are accredited by the American Osteopathic Association (AOA) Commission on Osteopathic College Accreditation (COCA). There are currently 25 accredited colleges of osteopathic medicine in 28 locations in the U.S. According to the American Association of Colleges of Osteopathic Medicine (AACOM), 13,406 students were enrolled in D.O. programs in 2005-2006, which represented a 7

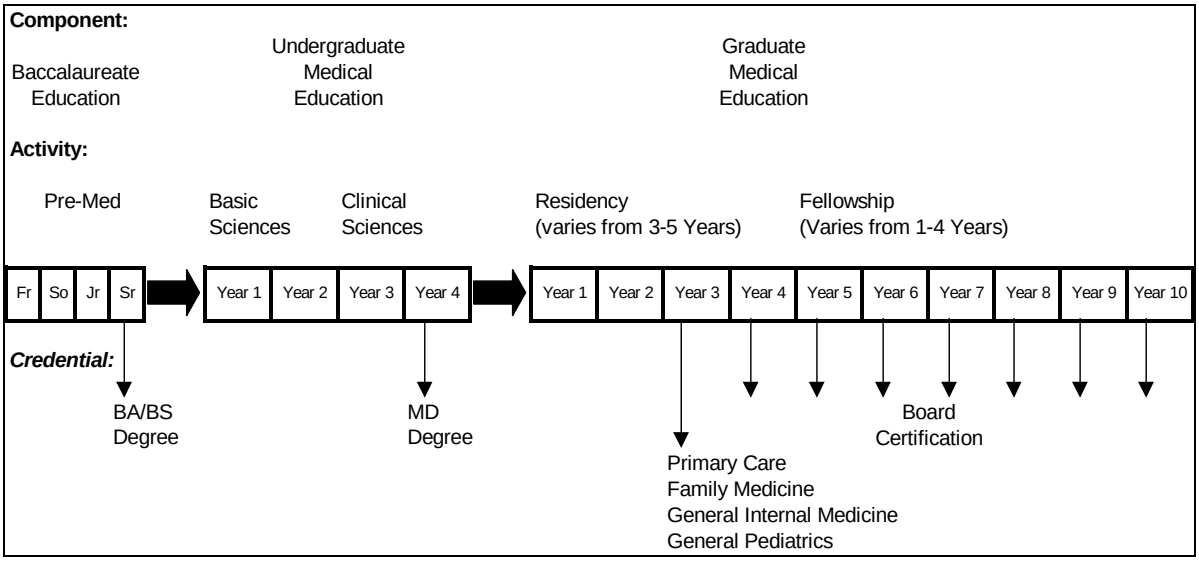
[1] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004.
[2] AAMC. *FACTS – Applicants, Matriculants, and Graduates*. Table 18: Total Enrollment by Sex and School, 2002-2006.
[3] AAMC. October 16, 2007. *2007 U.S. Medical School Entering Class Is Largest Ever*. Press release.

percent increase from the previous academic year.[4] (In direct comparison, 68,008 students were enrolled in allopathic medical schools in Fall 2005, which represented an increase of 1.2 percent from Fall 2004).[5]

### *1.1.2 Stages in the Medical Education Pipeline*

The medical education journey is long; it begins in college, continues in medical school (allopathic or osteopathic), and weaves through graduate medical education (i.e., residencies and fellowships) before physicians can practice independently. **Exhibit 1-1** provides an overview of the medical education sequence. At a minimum, 11 years of formal, post high school training are required before an individual may begin medical practice as an allopathic physician.

**EXHIBIT 1-1**
**OVERVIEW OF TYPICAL SEQUENCE OF ALLOPATHIC MEDICAL EDUCATION**




Source: MGT of America, Inc., 1999.

***Baccalaureate Education.*** Prospective medical students, regardless of their baccalaureate majors, must complete the minimum required science courses in order to gain admission to medical school. Many colleges and universities still offer a pre-medicine major, but frequently campuses offer pre-med programs that allow students to complete the medical school admission requirements while majoring in specific disciplines. Students who apply to medical school often major in the natural sciences (biology, chemistry, physiology, etc.), but doing so is not a requirement for medical school admission, and a wide range of majors are represented among applicants. In fact, many schools of medicine encourage students to be firmly grounded in the liberal arts. Individuals interested in attending medical school usually take the Medical College Admission Test (MCAT) and apply for admission at one or more institutions.

[4] AACOM. *Annual Statistical Report on Osteopathic Medical Education*. 2006.
[5] AAMC. *FACTS – Applicants, Matriculants, and Graduates*. Table 18: Total Enrollment by Sex and School, 2002-2006.

***Undergraduate Medical Education*.** Undergraduate medical education (medical school) is a four year program (not to be confused with undergraduate education leading to the baccalaureate degree). Traditionally, the first two years of medical education have focused on additional mastery of the basic sciences, and the remaining two years on clinical training. In recent years, most medical schools have redesigned their curricula to integrate basic science and clinical education across the entire four year period. In the third year of medical school, students complete six required clinical rotations (clerkships): family medicine, general surgery, internal medicine, obstetrics and gynecology, pediatrics, and psychiatry. In the fourth year, students may explore their interests in elective clinical rotations. They also seek admission to residency training programs. Upon successful completion of undergraduate medical education, the student is awarded the M.D. A similar sequence is followed by those in pursuit of the D.O.

***Graduate Medical Education*.** Medical school graduates (allopathic and osteopathic) must complete graduate medical education training before they can practice medicine without supervision. This type of training is usually offered through major hospitals, medical centers, health clinics, and other ambulatory settings. The years of graduate medical education for M.D.s are known as *residency*. During their residencies, physicians prepare to practice in specialty areas (e.g., family medicine, pediatrics, psychiatry). **Exhibit 1-2** provides a general overview of the length of time required for the residency portion of graduate medical education. In some fields and sub-specialties, further training is required (fellowships).

**EXHIBIT 1-2**
**YEARS OF TRAINING REQUIRED FOR SPECIALTY CERTIFICATION**

<table>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6-7</th></tr>
<tr><td colspan="3">FAMILY PRACTICE</td><td></td><td></td><td></td></tr>
<tr><td colspan="3">EMERGENCY MEDICINE</td><td></td><td></td><td></td></tr>
<tr><td colspan="3">PEDIATRICS</td><td colspan="2">SUBSPECIALTIES</td><td></td></tr>
<tr><td colspan="3">INTERNAL MEDICINE</td><td colspan="2">SUBSPECIALTIES</td><td></td></tr>
<tr><td colspan="4">OBSTETRICS/GYNECOLOGY</td><td></td><td></td></tr>
<tr><td colspan="4">OTOLARYNGOLOGY</td><td></td><td></td></tr>
<tr><td colspan="4">PATHOLOGY</td><td></td><td></td></tr>
<tr><td rowspan="4">GENERAL SURGERY</td><td colspan="3"></td><td colspan="2">SUBSPECIALTIES</td></tr>
<tr><td colspan="4">NEUROLOGICAL SURGERY</td><td></td></tr>
<tr><td colspan="5">ORTHOPAEDIC SURGERY</td></tr>
<tr><td colspan="4">UROLOGY</td><td></td></tr>
<tr><td rowspan="9">TRANSITIONAL or PRELIM MEDICINE or PRELIM SURGERY</td><td colspan="3">ANESTHESIOLOGY</td><td></td><td></td></tr>
<tr><td colspan="3">DERMATOLOGY</td><td></td><td></td></tr>
<tr><td colspan="3">NEUROLOGY</td><td></td><td></td></tr>
<tr><td colspan="3">NUCLEAR MEDICINE</td><td></td><td></td></tr>
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<tr><td colspan="3">PHYSICAL MEDICINE</td><td></td><td></td></tr>
<tr><td colspan="3">PSYCHIATRY</td><td></td><td></td></tr>
<tr><td colspan="3">RADIOLOGY – DIAGNOSTIC</td><td></td><td></td></tr>
<tr><td colspan="3">RADIATION ONCOLOGY</td><td></td><td></td></tr>
</table>

Source: National Resident Matching Program (http://www.nrmp.org/res_match/about_res/index.html)
Note: These are unofficial assignments and are offered for informational purposes only.

### *1.1.3 Medical Research*

Medical research may be characterized by type, funding sources and amounts, and resulting "spin-off" economic development.

***Types of Medical Research*.** Research is a key component of most levels of the higher education enterprise, including undergraduate and graduate medical education. According to the AAMC,[6] the growth of the biomedical research field is traced to the World War II era. The federal government developed partnerships with institutions during the war, and, after the war ended, created a national policy that called for considerable investment in basic science:

[6] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004.

> *Vannevar Bush's landmark report,* Science—The Endless Frontier*, promulgated a "social contract" between the federal government, which would invest in the development of scientific knowledge and training of scientific investigators, and universities, which would be the principal loci of this research and educational activity. The National Institutes of Health (NIH) became the primary federal agency responsible for implementing this social contract for health-related research*.[7]

Medical schools, college and university campuses, and teaching hospitals conduct a significant portion of the basic science research, clinical research, and translational research in this country. Since World War II, the federal government has invested in basic science and health-related research through the National Institutes of Health (NIH), which supports "basic investigations of the structure and function of living systems at cellular, molecular, and organismal levels of inquiry, as well as clinical and behavioral research."[8] The AAMC[9] defines *clinical research* as:

> *a component of medical and health research intended to produce knowledge valuable for understanding disease, preventing and treating illness, and promoting health. Clinical research embraces a continuum of studies involving interaction with patients, diagnostic clinical materials or data, or populations…Clinical research refers to: Hypothesis-driven, patient-oriented studies that are generally peer-reviewed and are commonly, but not exclusively, conducted in medical schools and teaching hospitals. Physician-scientists play a key role in the conception, design, and performance of such research, which often occurs in physicians' offices and clinics.*

Whereas, the mission of translational research is to: [10]

> *translate the basic science discoveries into clinical applications, and to use the clinical observations to generate research foci for basic sciences. Translational research needs to focus on the integration of activities from bench to bedside. The three elements necessary for translational medicine are:*
>
> - *disease-based programs*
> - *access to animal models and proximity to relevant groups of patients*
> - *ease of communications among basic scientists and clinicians*
>
> *Translational research relies upon intermediaries, such as physician-scientists and graduate students, to distribute the information across the disciplines.*

***Funding for Medical Research*.** Grants and contracts for sponsored research provide a major part of the funding for U.S. medical schools. The AAMC reported that in 2004-2005, medical schools received $21.1 billion in research grants and contracts.[11] The

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[7] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004, p. 29.
[8] AAMC. *The Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004.
[9] AAMC. *Promoting Translational and Clinical Science: The Critical Role of Medical Schools and Teaching Hospitals.* 2006, p. 12.
[10] Mount Sinai School of Medicine. *Report of the Translational Facility Workgroup.* n.d. http://www.mssm.edu/forfaculty/publications/translational/report.shtml
[11] AAMC. *AAMC Data Book: Medical Schools and Teaching Hospitals by the Numbers.* April 2007. p. 50.

primary source of support is NIH; the Department of Veterans Affairs (VA) and industry are also significant contributors.

***Economic Development*.** A report commissioned by the AAMC cited the 2005 total economic impact of AAMC members (allopathic medical schools and teaching hospitals) as more than $451 billion.[12] *Total economic impact* is defined as:

> *Both the direct economic impact and the indirect economic impact, generated in the economy as a result of the direct impact. Direct impact includes items such as institutional spending, employee spending, and spending by visitors to the institution. Indirect economic impact, also known as the multiplier effect, includes the re-spending of dollars within the local community.*

Presumably, if non-AAMC members were added to the equation (including osteopathic medical schools), the economic impact would increase. In addition, AAMC members provide more than 3 million full-time jobs and create significant tax revenue for their states and local communities.

### *1.1.4 Clinical Training and Patient Care*

Medical schools and graduate medical education programs use a variety of sites for clinical training, including hospitals and medical centers, clinics, and physicians' offices. The AAMC uses the term *teaching hospital* to refer to "both individual hospitals and to health networks that contain hospitals and other components of the healthcare delivery system committed to educational activities in the health professions."[13] The AAMC Division of Health Care Affairs houses the Council of Teaching Hospitals and Health Systems (COTH) and provides policy analysis on graduate medical education financing and other hospital and physician issues. To be considered a teaching hospital, an institution must meet at least one of the following criteria:

- Reports a medical school affiliation to the AMA.
- Supports a residency program accredited by the Accreditation Council of Graduate Medical Education (ACGME).
- Supports an internship or residency program approved by the AOA.[14]

[12] Tripp Umbach. *The Economic Impact of AAMC-Member Medical Schools and Teaching Hospitals 2005.* AAMC.
[13] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004.
[14] AAMC. *AAMC Data Book: Medical Schools and Teaching Hospitals by the Numbers.* April 2007. p. 85.

Three categories of academic medical center hospitals exist:

***Integrated or University-Owned Teaching Hospitals*.** More than 40 COTH member hospitals are owned by comprehensive or health sciences universities; 19 were formerly owned by universities; and 56 maintain strong ties to universities. Together, these COTH members are considered integrated academic medical center hospitals.[15]

The organizational relationships within academic medicine are complex, as explained by AAMC:[16]

> *At some institutions, these components are arranged in a "single ownership" model, where the parent university has legal and financial control over the medical school, primary teaching hospital, and faculty practice plan. At the other end of the continuum, the medical schools may be a "limited partner" in the clinical delivery system, having no ownership or control over the clinical enterprise. Many variations exist between these two extremes.*

Additional organizational complexities of the academic medicine enterprise are faculty practice plans or "organized arrangements for billing, collecting, and distributing professional fee income generated from the patient care services provided by faculty physicians."[17] These plans vary in terms of legal arrangements; 43 percent are housed within medical schools or universities, and 40 percent are separate not-for-profit organizations.

***Independent or Community-Based Teaching Hospitals*.** Accredited medical schools rely not only on university-owned or -affiliated hospitals for training medical students, but also on more than 1,000 community hospitals. Many patients are served at these community hospitals, often receiving initial diagnostic workup and post-treatment care in ambulatory settings. Medical students may receive clerkship training in community-based hospitals that are separate from the medical school campuses, sometimes at "clinical campuses" that are geographically distant from the main sites. Medical students also may receive clinical training in ambulatory clinics, physicians' offices, nursing homes, community clinics, and/or prison clinics.

***Veterans Administration Hospitals*.** Of the 113 VA hospitals in the nation, 56 are COTH members and another 37 are "other teaching VA" hospitals.[18] Approximately 70 percent of VA physicians have joint faculty appointments at affiliated medical schools. In 2003, the AAMC reported that 85 percent of the nation's medical schools were affiliated with VA hospitals. VA hospitals fund 9 percent of all residents (approximately 8,800 full-time residency positions) and are the nation's largest provider of graduate medical education. Twenty-five percent of all medical students and 30 percent of all residents receive some of their training in VA facilities.[19]

Of the 1,100 hospitals involved in medical education, COTH represents approximately 400 teaching hospitals and health systems. COTH member organizations must be

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[15] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004.
[16] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004. p.9.
[17] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004.
[18] AAMC. *AAMC Data Book: Medical Schools and Teaching Hospitals by the Numbers.* 2007. p. 99.
[19] AAMC. *Handbook of Academic Medicine: How Medical Schools and Teaching Hospitals Work.* 2004. p. 8.

affiliated with LCME-accredited medical schools. They are heavily involved in research and in the training of medical students. In addition, COTH teaching hospitals provide 75 percent of all residency training; the largest COTH providers of graduate medical education are the more than 60 Veterans Affairs member hospitals and medical centers. Furthermore, teaching hospitals fulfill a vital role in our communities by providing approximately 45 percent of the charity care in the U.S.[20]

### *1.1.5 Link Between Medical Education and Practice Location*

In light of the physician shortage in the U.S., there is great interest in identifying factors that will help predict where physicians will decide to practice after they complete medical school and residency. Insight into the relationship between training sites and practice locations can help state officials appreciate how investment in medical education can affect the physician workforce.

***Link Between Medical School and Practice*.** The AAMC reports on the retention of medical students in states where they attended medical schools. On average, 39 percent of those who graduate from M.D./D.O. programs in a given state remain in the state. California leads the states with more than 60 percent retention, and New Hampshire is at the low end of the range at less than 10 percent retention. Utah, South Dakota, and Nevada exceed the average slightly, while North Dakota is approximately five percentage points below the average. Washington ranks twelfth in retention among the states with medical schools.

***Link Between Graduate Medical Education and Practice*.** The AAMC reports that, on average, 47.6 percent of physicians (M.D.s and D.O.s) who completed ACGME (allopathic) training programs in a state are practicing in that state. On the high end of the range, more than 70 percent of active physicians were retained in Alaska following completion of ACGME training; on the low end, approximately 25 percent of active physicians were retained in New Hampshire following ACGME training. Nevada, Arkansas, and Idaho rank near the top of the range, whereas South Dakota, Nebraska, North Dakota, and Utah fall within five percentage points below the average.[21]

***Link Between Medical School, Graduate Medical Education, and Practice.***
Retention of physicians is strongest when they receive both their medical school training and their residency training in the same state. "If students stay in one state for medical school and their residencies, there is an 80 percent chance that they will stay there."[22]

## *1.2 National Trends in Medical Education and Physician Workforce*

Understanding the national trends in medical education and the physician workforce requires consideration of the projections of physician shortages and new models of medical education.

[20] Santana, S. *Teaching Hospitals and the Maze of Medicaid*. 2002. AAMC.
[21] AAMC. *Key Physician Data by State.* 2006. Figure 7.
[22] Edward Salsberg, Director, AAMC Center for Workforce Studies, quoted in *The Arizona Republic*, June 3, 2005, "Missouri University Plans a Mesa Medical School."

### 1.2.1 Projections of Physician Shortages

Over the past several years, there has been a growing recognition of an impending national physician shortage in the U.S. despite a steady slate of medical school graduates in recent decades. In the 1990s the prevailing concern was that the nation faced a potential overall physician surplus, with only minor shortages in some specialties and in some isolated geographic areas (i.e., a problem of distribution rather than shortage). Yet numerous reports from federal agencies and national associations now project physician shortages. These shortages are attributed to a number of factors — primarily the increased numbers of elders, with their relatively greater need for medical care, and the lack of growth in the production of new physicians over the past two decades, resulting in a quickly aging physician population.

The AAMC has called for a 30 percent increase in the production of new physicians by 2015, with some of the increase coming from internal growth of existing programs and some from new programs. In 2001, Florida opened the first new medical school in the nation in approximately two decades at Florida State University. More recently, the state authorized two additional medical schools, one at the University of Central Florida and the other at Florida International University. Plans for new schools are under way in several other states, including Texas, California, Pennsylvania, Virginia, and Michigan. According to the AAMC, more than half of the existing medical schools have reported plans for enrollment expansion, with several planning geographically separate campuses.

### 1.2.2 New Models of Medical Education

The national calls for growth in the numbers of medical students come at a time when curricular approaches to medical education are undergoing significant change. At the risk of oversimplification, the traditional medical school curriculum in the U.S. has been characterized by two years of basic science instruction in classrooms and labs, followed by two years of clinical training in major teaching hospitals. In recent years, there has been a movement toward providing earlier clinical exposure for medical students during the first two years of medical school, and more clinical exposure in community settings (rather than teaching hospitals) during the last two years. Additionally, student-centered learning and technology are playing increasingly important roles in the curriculum.

***Distributive Model*.** The past two decades have seen the emergence of a new model of medical education that is loosely termed the *distributive model*. This model involves providing either didactic and/or clinical training in locations separate from the main campus and more in ambulatory sites. Indeed, 16 of the 22 most recently accredited medical schools follow the community-based distributive model, and several new schools still being developed also have adopted this strategy for clinical training. The most visible difference under this approach is that clinical training takes place in a variety of community-based and ambulatory settings, including rural hospitals, doctors' offices, and public health clinics, as well as in large hospitals and medical centers. Between 50 and 70 percent of clerkship experiences may occur outside the hospital setting.

The advantages of this approach are twofold: medical students are exposed to practice settings more similar to those where the majority will eventually practice, and instructional cost per student can be isolated more easily, often resulting in a reduced

need for state appropriations. The distributive model also allows existing medical schools to expand their programs in terms of enrollment, outreach, and geographic distribution. Furthermore, distributive models that use local community facilities have the following benefits:

- Provide education in practice locations.
- Allow for better utilization of local resources.
- Increase local community support.
- Address local shortages of physicians.
- Address maldistribution of physicians.
- Increase retention of graduates in areas of training.
- Increase and distribute the economic engines of research.
- Increase the stability of resources.
- Promote cost efficiency.

The emphasis on early clinical exposure in the curriculum as well as community-based and ambulatory educational experiences requires increased numbers of physician faculty. Although technology can partially offset the demand for faculty in ambulatory settings, the need for physician faculty is significant. Since current and potential faculty members face pressures for increased clinical revenues, some medical schools are experiencing challenges in attracting and retaining qualified instructional personnel. Medical schools have had success in overcoming these challenges by offering innovative incentives (e.g., use of library resources).

***Telemedicine*.** Health care has benefited from advancements in technology and the evolution of telemedicine, which utilizes different technologies to support the medical community despite distance. Telemedicine is a key component in the growth of medical education as it allows individuals greater access to classroom and clinical experiences as well as mentoring, networking, and community building. It has proved particularly useful in rural settings but is also valuable in more populated areas for maximizing efficiency and outreach.

## *1.3 Idaho's Interest in Medical Education and Physician Workforce*

Idaho has been one of the fastest growing states in the nation in recent years; the U.S. Census Bureau has projected that it will rank among the middle tier of states (37th) in terms of population by the year 2030, with nearly 2 million residents. As the state's population continues to escalate, higher levels of education and healthcare services are expected and can be provided. Yet this growth, combined with an increasing national physician shortage, has made it difficult for Idaho to improve its ratio of physicians per capita, a key indicator of physician access. In 2006, the AAMC reported that, of the 50 states, Idaho ranked 49th on this measure.[23] In addition to facing a significant shortage of physicians, Idaho is also experiencing a distribution problem, with most geographic regions designated as medically underserved.

[23] AAMC. *Key Physician Data by State.* 2006.

### ***1.3.1 Previous Medical Education Initiatives***

Idahoans have been proactive in their attempts to address the challenges presented by an aging physician workforce and a rapidly growing population. Several initiatives have been proposed since the mid-1990s.

***Idaho Medical Education Program Proposal (1994).*** Idaho State University partnered with the University of Utah School of Medicine to propose establishment of a four year medical education program that would result in the M.D. jointly awarded by the two institutions. The first year of the program would be delivered by Idaho State faculty on the Pocatello campus; the remaining three years would be delivered by University of Utah School of Medicine faculty in Salt Lake City. The program would be limited to Idaho residents, and enrollment would start with 6 students per class and grow by 3 students per year for three years, reaching a maximum class size of 15. This proposal was not adopted.

***Idaho Academic Medical Center Concept (early 2000s).*** The former University of Washington School of Medicine Clinical Coordinator in Idaho and the former president of Idaho State University conceived a model for a cooperative academic medical center. The design called for Boise State University, Idaho State University, and the University of Idaho to partner with the University of Utah and University of Washington schools of medicine to provide an "umbrella" for all medical education initiatives in Idaho, including undergraduate and graduate medical education (i.e., residencies and fellowships) and other healthcare programs. The model expanded medical education resources and offerings in Idaho during a transitional stage, leading to a fully Idaho-based and Idaho-involved program. Eventually, the administration of the program could be transitioned to Idaho in full, creating a free-standing program separate from the University of Washington and University of Utah. This model was never formally proposed.

***Expansion of Contracted Medical School Seats (2007).*** The Idaho Legislature funded two additional WWAMI (a five state consortium based at the University of Washington) seats for the 2007 entering class, increasing Idaho's participation in the program to 20 students per year. In addition, the University of Utah School of Medicine received permission through the accreditation process to increase its class size by two in order to accommodate two additional Idaho students in fall 2007. However, the Idaho Legislature did not approve funding for the additional Utah seats, and Idaho's investment remains the same with eight seats.

### ***1.3.2 Idaho Medical Association Resolution***

In July 2005, the Idaho Medical Association (IMA) House of Delegates passed a resolution to ask the Idaho State Board of Education "to undertake a comprehensive study of the feasibility of establishing a medical school in Idaho including costs, benefits, and alternative approaches to establishing a traditional medical school, and that the Board seek extensive physician input throughout the study process". The IMA made a formal request of the State Board of Education in December 2005, and the State Board of Education received funding from the Idaho Legislature to conduct the study in 2007.

### 1.3.3 Legislation

In 2007, the Idaho Legislature appropriated funds to the State Board of Education for a medical education study to determine the need for and feasibility of increased medical education opportunities in Idaho. Specifically, Senate Bill 1210 directed the State Board of Education to:

> *engage the services of an external, independent consultant to undertake a comprehensive study of the feasibility and viability of offering a medical degree through: (i) a distributive model in partnership with Idaho's public universities and medical community; and (ii) other delivery models the board deems worthy of consideration. Neither the consultant nor the oversight of this study shall be affiliated with any of Idaho's public universities.*
>
> *The consultant shall report its findings to the State Board of Education not later than November 1, 2007. The State Board of Education shall report the findings of the study and make recommendations to the Second Regular Session of the Fifty-ninth Idaho Legislature.*

### 1.3.4 Idaho State Board of Education Request for Proposal for the Medical Education Study

In its July 5, 2007 Request for Proposal (RFP), the Idaho State Board of Education stated it was seeking qualified consultants:

> *To conduct a study of the feasibility of offering a four year medical degree program through a distributive model in partnership with Idaho's public universities and other medical resources or through other delivery models.*
>
> *The primary goals of the study, to be addressed in the report, include:*
>
> - *An analysis of the feasibility of offering a four year medical degree through a distributive model in partnership with Idaho's public universities and medical centers,*
> - *The development of alternative delivery models for providing medical education within the State of Idaho and their associated feasibility,*
> - *An analysis of the differences between the current facilities and faculty used to provide medical education and the requirements of each of the proposed models,*
> - *A cost/benefit analysis of each model, and*
> - *An analysis of the future needs for medical doctors within Idaho and how each model might address those needs. Specifically, an analysis of the current ratio of medical doctors to Idaho residents and any improvements that may be made to move toward parity with national or regional averages.*

The scope of the study included analysis of the strengths and weaknesses of alternative models, but did not include a request for the consultant to develop a specific recommendation on which model Idaho should employ.

# *2.0 IDAHO'S MEDICAL EDUCATION RESOURCES*

# 2.0 IDAHO'S MEDICAL EDUCATION RESOURCES

This chapter highlights Idaho's current investment in medical education and presents potential avenues for exploration of additional resources. It provides overviews of the resources related to the three state universities, the University of Washington (UW) School of Medicine WWAMI program, the University of Utah (UU) School of Medicine, graduate medical education programs, and Idaho hospitals. Other potential resources for Idaho include a newly founded osteopathic school in Washington and a regional professional student exchange program.

## 2.1 Current State Investment in Medical Education

Although it is not currently home to a separately accredited medical school, the state of Idaho has already made a considerable investment in resources that might enable the cost-effective development of a new or expanded medical education program. These resources are found in the science and health-related programs of the three state universities, the contracted programs for medical education between the state of Idaho and universities in Washington and Utah, and graduate medical education programs that receive state support.

### 2.1.1 Health Professions Education and Research in Idaho Universities

The viability of many of the options to expand access to medical education in Idaho depends on the capacity of one or more of the state's universities in the biological sciences or other health professions programs. In this section, we provide a brief summary of the resources that each university might contribute to the development of a new medical education program.

### 2.1.2 The University of Idaho

The University of Idaho (UI) was established in 1889 and is the state's oldest public university. The main campus of UI is in Moscow, with satellite facilities in Boise, Coeur d'Alene, and Idaho Falls. The UI Research Park is located in Post Falls, and the UI Research and Extension Center in Twin Falls.

***Role and Mission.*** UI is the state's land-grant university and, as such, has significant programs in agriculture and engineering. It also offers programs at the professional level in law and business. UI's role in the state higher education system is defined by the Board of Education:

> *The University of Idaho is a high research activity, land-grant institution committed to undergraduate and graduate-research education with extension services responsive to Idaho and the region's business and community needs. The university is also responsible for regional medical and veterinary medical education programs in which the state of Idaho participates.*
>
> *The University of Idaho will formulate its academic plan and generate programs with primary emphasis on agriculture, natural resources, and metallurgy,*

> *engineering, architecture, law, foreign languages, teacher preparation and international programs related to the foregoing. The University of Idaho will give continuing emphasis in the areas of business, education, liberal arts and physical, life, and social sciences, which also provide the core curriculum or general education portion of the curriculum.*

In the early 1970s, UI's role was expanded to include responsibility for the state's involvement in medical education as host for the Idaho path of the University of Washington's WWAMI program.

***Health-Related Programs and Degree Production.*** UI offers degrees in several natural science programs that are basic to the study of medicine. For academic year 2005-2006, the following degrees were awarded:[1]

- College of Science
  - Department of Biological Sciences: 27 baccalaureate degrees, 2 master's degrees, and 1 doctoral degree
  - Department of Chemistry: 17 baccalaureate degrees, 1 master's degree, and 6 doctoral degrees
- College of Agriculture and Life Sciences
  - Department of Microbiology, Molecular Biology, and Biochemistry: 30 baccalaureate degrees, 2 master's degrees, and 4 doctoral degrees

***Faculty in Health Programs and NIH Research Productivity.*** UI has approximately 50 full-time faculty in the Departments of Biological Sciences; Chemistry; and Microbiology, Molecular Biology, and Biochemistry. The total amount of sponsored research at UI in 2004 was $80.7 million.[2] Of this amount, nearly $9.9 million was received from the National Institutes of Health (NIH); the total allocation was in the form of research grants.[3]

***Strategic Partnerships.*** UI partners with nearby Washington State University (WSU) to operate a first-year training site for the UW School of Medicine through its WWAMI program. Additionally, UI is the lead institution for the IDeA Network of Biomedical Research Excellence (INBRE) grant from NIH (shared with Idaho State University [ISU] and Boise State University [BSU]) and for the Inland Northwest Research Alliance (INRA), a research consortium with ISU, BSU, WSU, Utah State University, Montana State University, University of Montana, and University of Alaska Fairbanks.

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[1] IPEDS 2005-2006 completion data. This is not an exhaustive list of degrees awarded in the College of Science and College of Agriculture and Life Sciences.
[2] 2004 Progress Report on Plan of Action for Scholarly Activity (p.3), http://www.uro.uidaho.edu/documents/ProgressReport-PlanofAction-rev9-30-04.pdf&pid=72775&doc=1.
[3] NIH Awards to Domestic Institutions of Higher Education, By Rank FY 2004, http://grants.nih.gov/grants/award/trends/dheallinst04.htm.

### *2.1.3 Idaho State University*

ISU was founded in 1901 as the Academy of Idaho. The school became Idaho Technical Institute in 1915; University of Idaho-Southern Branch in 1927; Idaho State College in 1947, when it also achieved four-year status; and Idaho State University in 1963. The main ISU campus is in Pocatello, and the university operates centers in Boise, Coeur d'Alene, Idaho Falls, and Twin Falls. In addition, ISU operates outreach centers in American Falls, Blackfoot, Preston, and Soda Springs.

***Role and Mission.*** ISU's role in the state higher education system is defined by the Board of Education:

> *Idaho State University is a doctoral university serving a diverse population through research, state and regional public service, undergraduate and graduate programs. The university also has specific responsibilities in delivering programs in the health professions.*
>
> *Idaho State University will formulate its academic plan and generate programs with primary emphasis on health professions, the related biological and physical sciences, and teacher preparation. Idaho State University will give continuing emphasis in the areas of business, education, engineering, technical training and will maintain basic strengths in the liberal arts and sciences, which provide the core curriculum or general education portion of the curriculum.*

***Health-Related Programs and Degree Production.*** The ISU College of Arts and Sciences offers degrees in several natural science programs that are basic to the study of medicine. In addition, ISU offers more than 30 health-specific degree programs in the Kasiska College of Heath Professions and the College of Pharmacy. For academic year 2005-2006, the following degrees were awarded:[4]

- College of Arts and Sciences
  - Biological Sciences: 45 baccalaureate degrees, 10 master's degrees, and 4 doctoral degrees
  - Chemistry: 12 baccalaureate degrees and 4 master's degrees
  - Biochemistry: 4 baccalaureate degrees
- College of Heath Professions
  - Nursing: 88 baccalaureate degrees and 22 master's degrees
  - Physician Assistant Studies: 29 master's degrees
  - Physical Therapy: 15 doctoral degrees
- College of Pharmacy: 1 master's degree and 66 doctoral degrees (3 Ph.D.s and 63 Pharm.D.s)

[4] IPEDS 2005-2006 completion data. This is not an exhaustive list of degrees awarded in the Colleges of Arts and Sciences, Health Professions, and Pharmacy.

***Faculty in Health Programs and NIH Research Productivity.*** ISU has approximately 80 full-time faculty in the Department of Biological Sciences, Department of Chemistry, and College of Pharmacy. The total amount of sponsored research at ISU in 2005 was $28.5 million.[5] Of this amount, $583,830 was received from NIH.[6] The total NIH allocation was in the form of research grants—$231,586 was given to the College of Pharmacy and the remaining funds were given to other research units.

***Strategic Partnerships.*** ISU has long-standing arrangements with approximately 150 hospitals, more than 110 pharmacy-affiliated sites, over 170 physicians (M.D.s and D.O.s), and more than 250 pharmacists across Idaho in support of its programs in the health professions. It operates 15 clinics—12 in Pocatello and 3 in Boise. The ISU Family Medicine Residency Program is affiliated with the UW and UU Family Medicine Residency Programs and the Portneuf Medical Center in Pocatello. ISU manages the residency certification process for students applying for the Idaho-sponsored slots at the UU School of Medicine. In addition, ISU partners with the Creighton University School of Dentistry in the Idaho Dental Education Program (IDEP). The first year of dental education is offered at ISU, and the remaining years are offered on the Creighton campus in Omaha, Nebraska. The program is open to eight Idaho students per year. ISU is also a member of INRA, as mentioned above.

### *2.1.4 Boise State University*

BSU has been in existence as an institution of higher education since 1932, when it was established as Boise Junior College (BJC). In 1939 BJC became a public college, and in 1965 it achieved four-year status and was renamed Boise College. In 1969 the school became part of the state university system and was renamed Boise State College, and in 1974 it achieved university status and was named Boise State University. It has evolved as the state's largest university and currently enrolls approximately 19,000 students.

***Role and Mission.*** BSU's role in the state higher education system is defined by the Board of Education:

> *Boise State University is a comprehensive, urban university serving a diverse population through undergraduate and graduate programs, research, and state and regional public service.*
>
> *Boise State University will formulate its academic plan and generate programs with primary emphasis on business and economics, engineering, the social sciences, public affairs, the performing arts, and teacher preparation. Boise State University will give continuing emphasis in the areas of the health professions, the physical and biological sciences, and education and will maintain basic strengths in the liberal arts and sciences, which provide the core curriculum or general education portion of the curriculum.*

[5] 2005 External Research Funding, Performance Measurement Report, p. 3, http://dfm.idaho.gov/Publications/BB/PerfReport/PR2008/perfrpt_isu.pdf.
[6] NIH Award Data for Individual Institutions, 2005, http://grants.nih.gov/grants/award/trends/FindOrg_Detail.cfm?OrgID=3541601&Year=2005.

***Health-Related Programs and Degree Production.*** BSU offers degrees in several natural science programs that are basic to the study of medicine through its College of Arts and Sciences. In addition, it offers several degree programs through its College of Health Sciences. For academic year 2005-2006, the following degrees were awarded:[7]

- College of Arts and Sciences
  - Biology: 63 baccalaureate degrees and 10 master's degrees
  - Chemistry: 15 baccalaureate degrees
- College of Health Sciences
  - Nursing: 43 baccalaureate degrees

***Faculty in Health Programs and NIH Research Productivity.*** BSU has approximately 30 full-time faculty in the Department of Biology and Department of Chemistry and Biochemistry. The total amount of sponsored research at BSU in 2006 was $23.8 million.[8] NIH supplied $79,822 all of which was given to the Department of Biology.[9]

***Strategic Partnerships.*** As mentioned above, BSU is a member of INRA. The university also maintains several research centers, some of which support the study of science and health. For example, the Mechanical Engineering and Kinesiology Departments collaborate with local clinicians to support the Center for Orthopaedic and Biomechanics Research.

### *2.1.5 Summary of State University Presence in Medical Education*

As noted above in the brief descriptions of each state university, the state of Idaho already has significant resources in place to expand capacity for medical education. Key information is summarized in **Exhibit 2-1**.

[7] IPEDS 2005-2006 completion data. This is not an exhaustive list of degrees awarded in the College of Arts and Sciences and College of Health Sciences.
[8] 2006 Fiscal Year, August Office Sponsored Programs, External Support (p. 7), http://osp.boisestate.edu/Forms/August%202006.pdf.
[9] NIH Award Data for Individual Institutions, 2006, http://grants.nih.gov/grants/award/trends/FindOrg_Detail.cfm?OrgID=478201&Year=2006.

## EXHIBIT 2-1
## IDAHO HIGHER EDUCATION RESOURCES FOR MEDICAL EDUCATION

| Program/Institution | Undergraduate Enrollment | | | Graduate Enrollment | | | NIH~ | Total Sponsored Research |
|---|---|---|---|---|---|---|---|---|
| | Total | Biological Sciences | Physical Sciences | Total | Biological Sciences | Physical Sciences | | |
| Boise State University | 17,040 | 515 | 217 | 1,789 | 42 | 42 | $79,822 | $23.8 million^ |
| Idaho State University | 10,640 | 603 | 209 | 1,795 | 107 | 97 | $590,122 | $28.5 million^^ |
| University of Idaho | 9,127 | 391 | 182* | 2,281 | 103 | 89* | $10,384,645 | $80.7 million^^^ |
| **Total** | **36,807** | **1,509** | **608** | **5,865** | **252** | **228** | **$11,054,589** | **$133 million** |

*Sources: IPEDS 2006 Enrollment Early Release file *IPEDS 2004 Enrollment file.*

~National Institutes of Health http://grants1.nih.gov/grants/award/trends/FindOrg_Detail.cfm?OrgID=3541601

http://grants1.nih.gov/grants/award/trends/FindOrg_Detail.cfm?OrgID=478201

http://grants1.nih.gov/grants/award/trends/FindOrg_Detail.cfm?OrgID=3543501

^2006 Fiscal Year, Office of Sponsored Programs, External Support (p. 7) http://osp.boisestate.edu/Forms/August%202006.pdf

^^2005 External Research Funding, Performance Measurement Report (p. 3)
http://dfm.idaho.gov/Publications/BB/PerfReport/PR2008/perfrpt_isu.pdf

^^^2004 Progress Report on Plan of Action for Scholarly Activity (p. 3)
http://www.uro.uidaho.edu/documents/ProgressReport-PlanofAction-rev9-30-04.pdf&pid=72775&doc=1

## SELECT DEGREES AWARDED

| Program | Boise State University | | | Idaho State University | | | University of Idaho | | |
|---|---|---|---|---|---|---|---|---|---|
| | BA | Masters | PhD | BA | Masters | PhD | BA | Masters | PhD |
| Biology/Biological Sciences | 63 | 10 | - | 45 | 10 | 4 | 27 | 2 | 1 |
| Biochemistry | - | - | - | 4 | - | - | - | - | - |
| Chemistry, General | 15 | - | - | 12 | 4 | - | 17 | 1 | 6 |
| Microbiology, General | - | - | - | 12 | 3 | - | 23 | - | - |
| Molecular Biology | - | - | - | - | - | - | 7 | 2 | 4 |
| Nursing/Registered Nurse | 43 | 0 | 0 | 88 | 22 | 0 | 0 | 0 | 0 |
| Pharmacy | - | - | - | - | 1 | 66 | - | - | - |
| Physician Assistant | - | - | - | - | 29 | - | - | - | - |
| Physical Therapy | - | - | - | - | - | 15 | - | - | - |
| **Total** | **121** | **10** | **0** | **161** | **69** | **85** | **74** | **5** | **11** |

Source: IPEDS Completion Data 2005-2006

### *2.1.6 Idaho Rural Physician Incentive Program*

In an attempt to attract physicians to rural Idaho, the Legislature established the Rural Physician Incentive Program in 2003:

> *All state supported Idaho medical education students entering in the Fall 2003 semester or thereafter, will be assessed a fee equal to 4percent of the annual average medical support fee paid by the state. The incentive fee collected by the State Board of Education will be deposited into the Rural Physician Incentive Fund to repay the educational debts of rural physicians who practice primary care medicine in medically underserved areas of the state that demonstrate a need for assistance in physician recruitment. The maximum amount of educational debt payment that a rural physician may receive is $50,000 over a five-year period. Debt repayment is scheduled to begin in 2010.*[10]

Idaho-sponsored medical students have paid this fee for four years and the repayment portion of the program will not start for more than two years. The program's level of success will become apparent several years in the future, when physician retention is determined.

## *2.2 WWAMI*

WWAMI is a regional medical education program sponsored by the UW School of Medicine. The states of Washington, Wyoming, Alaska, Montana, and Idaho (hence the initials WWAMI) partner with UW to provide their residents with access to publicly supported medical education. WWAMI traces its origins to 1972, when Washington, Alaska, Montana, and Idaho agreed to fund seats in the program. In 1996, Wyoming became the fifth state to join WWAMI. The program has enjoyed long and steady support from across the region since its founding.

### *2.2.1 Impact on Workforce in Idaho*

Of the 436 WWAMI Idaho graduates, 217 (50 percent) are practicing or have practiced in Idaho. In addition, 37 percent of family physicians and 35 percent of primary care physicians in Idaho were WWAMI-trained. Finally, Idaho realizes a significant return on its WWAMI investment — there are 436 Idaho-sponsored WWAMI graduates, and 305 of *all* WWAMI graduates (from all five states) are practicing or have practiced in Idaho, resulting in a 70 percent (305/436) return on investment.

### *2.2.2 Organization of WWAMI*

The four-year WWAMI program is designed to provide the first year of medical school in each of the five participating states. Current sites are in Pullman, Washington; Laramie, Wyoming; Anchorage, Alaska; Bozeman, Montana; and Moscow, Idaho — a site shared with WSU in Pullman. Information about each WWAMI site is summarized in **Exhibit 2-2**. A new WWAMI site is scheduled to open in Spokane, Washington in Fall 2008.

[10] University of Idaho Website: http://www.webs.uidaho.edu/wwami/idaho_rural_physician_incentive_program.htm

**EXHIBIT 2-2**
**SUMMARY OF WWAMI TRAINING SITES**

| State | Host University | Location |
|---|---|---|
| Washington | Washington State University | Pullman* |
| Wyoming | University of Wyoming | Laramie |
| Alaska | University of Alaska | Anchorage |
| Montana | Montana State University | Bozeman |
| Idaho | University of Idaho | Moscow* |

* The Pullman and Moscow sites function as a joint program.

WWAMI students from all sites join students from the UW School of Medicine's first-year class for the second year of medical school in Seattle. The third and fourth years of the program for the WWAMI cohort take place at clinical training sites in the outlying states and in Seattle, though students are not required to return to their home states for this training. Additionally, students from the UW class can swap training opportunities with WWAMI students upon approval. The "Idaho Track" provides an opportunity for students to complete their third and fourth years of training in Idaho. As a result, Idaho's medical education infrastructure includes numerous physicians, affiliated faculty, and clinical sites.

### *2.2.3 UW School of Medicine*

The UW School of Medicine is recognized as one of the nation's leading medical education programs. In the 2008[11] release of the *U.S. News and World Report* medical school rankings, the UW school of medicine was ranked 1st overall in the Medical Schools–Primary Care category and 6th overall in the Medical Schools–Research category. In support of this prestigious standing, UW was ranked 1st in Family Medicine and 1st in Rural Medicine. The UW medical school ranks 2nd among the nation's medical schools in funding from NIH for biomedical research and related activities ($573.2 million in 2005).

### *2.2.4 Population Trends*

When the WWAMI program was first established in 1972, the five-state region was very different from what it has become in the early twenty-first century. In 1970, the region had a total population of more than 5.4 million; its 2006 estimated population was nearly 10 million (see **Exhibit 2-3** for state-specific population figures).

[11] *US News and World Report* notes that the rankings are from 2007 although published in the 2008 edition.

**EXHIBIT 2-3**
**POPULATION CHANGES IN WWAMI STATES**

| | 2006 Est Pop | 2000 Pop | Change 2000-2006 | 1970 Pop | Change 1970-2006 |
|---|---|---|---|---|---|
| Washington | 6,395,798 | 5,894,121 | 8.5% | 3,409,169 | 87.6% |
| Wyoming | 515,004 | 493,782 | 4.3% | 332,416 | 54.9% |
| Alaska | 670,053 | 626,932 | 6.9% | 300,382 | 123.1% |
| Montana | 944,632 | 902,195 | 4.7% | 694,409 | 36.0% |
| Idaho | 1,466,465 | 1,293,953 | 13.3% | 712,567 | 105.8% |
| **Total** | **9,991,952** | **9,210,983** | **-** | **5,448,943** | **-** |
| **Average** | **-** | **-** | **7.5%** | **-** | **81.5%** |

Source: U.S. Census Bureau

### *2.2.5 WWAMI Idaho Trends*

In response to significant population growth, some WWAMI states have contracted with the UW School of Medicine to expand their slots. Idaho has realized a general increase in the number of applicants for WWAMI slots and in the number of qualified applicants (or the number of applicants interviewed). Yet the number of available WWAMI slots for Idaho students has increased minimally. As a result, growing numbers of qualified applicants are not offered admission to the UW School of Medicine through WWAMI (see **Exhibit 2-4**).

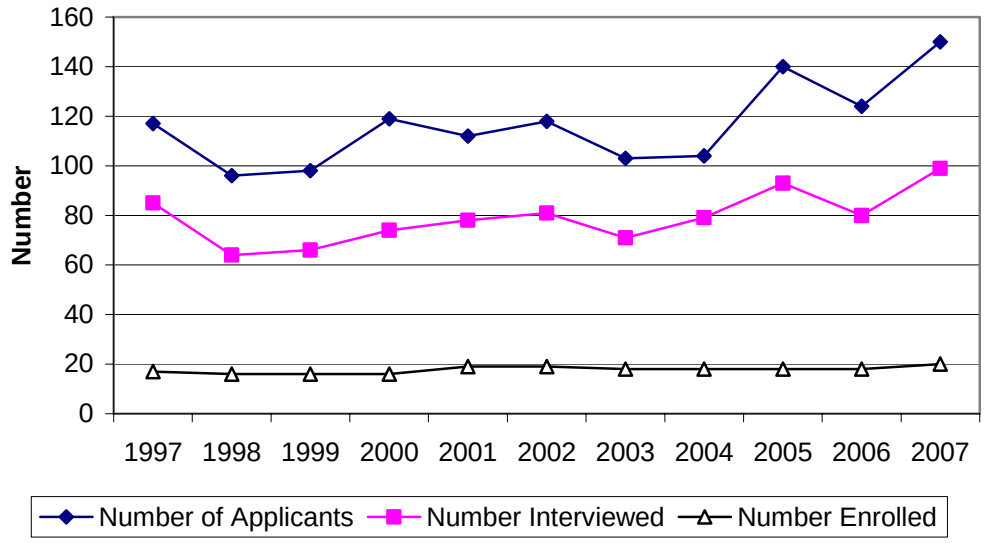
### *2.2.6 Financing WWAMI Slots*

The WWAMI Idaho agreement allows Idaho-sponsored students to pay reduced tuition to the UW School of Medicine. In addition, the state of Idaho pays a support fee for each student. The state appropriation was $3,569,200[12] (~$49,572 per student; 72 students total); in FY 2006 and the state appropriation was $3,533,800[13] (~$47,754 per student; 74 students total) in FY 2007. The appropriation for FY 2008 is $3,664,000[14] (~$48,210 per student; 76 students total). In 2010, Idaho students will total 80 (20 in each class).

[12] *FY 2008 Idaho Legislative Budget Book*, p. 1-83. http://www.legislature.idaho.gov/Budget/publications/PDFs/LBB/FY2008/Education/HealthEdLBB.pdf
[13] *FY 2008 Idaho Legislative Budget Book*, p. 1-83. http://www.legislature.idaho.gov/Budget/publications/PDFs/LBB/FY2008/Education/HealthEdLBB.pdf
[14] Idaho Legislature, *Senate Bill 1201* http://www3.state.id.us/oasis/S1201.html

**EXHIBIT 2-4**
**WWAMI IDAHO TRENDS: APPLICANTS AND SLOTS**

| Year | Number of Applicants | Number Interviewed | Number Enrolled | Applicants per Idaho Slot | Number Interviewed per Idaho Slot |
|---|---|---|---|---|---|
| 1997 | 117 | 85 | 17 | 6.88 | 5.00 |
| 1998 | 96 | 64 | 16 | 6.00 | 4.00 |
| 1999 | 98 | 66 | 16 | 6.13 | 4.13 |
| 2000 | 119 | 74 | 16 | 7.44 | 4.63 |
| 2001 | 112 | 78 | 19 | 5.89 | 4.11 |
| 2002 | 118 | 81 | 19 | 6.21 | 4.26 |
| 2003 | 103 | 71 | 18 | 5.72 | 3.94 |
| 2004 | 104 | 79 | 18 | 5.78 | 4.39 |
| 2005 | 140 | 93 | 18 | 7.78 | 5.17 |
| 2006 | 124 | 80 | 18 | 6.89 | 4.44 |
| 2007 | 150 | 99 | 20 | 8 | 4.95 |

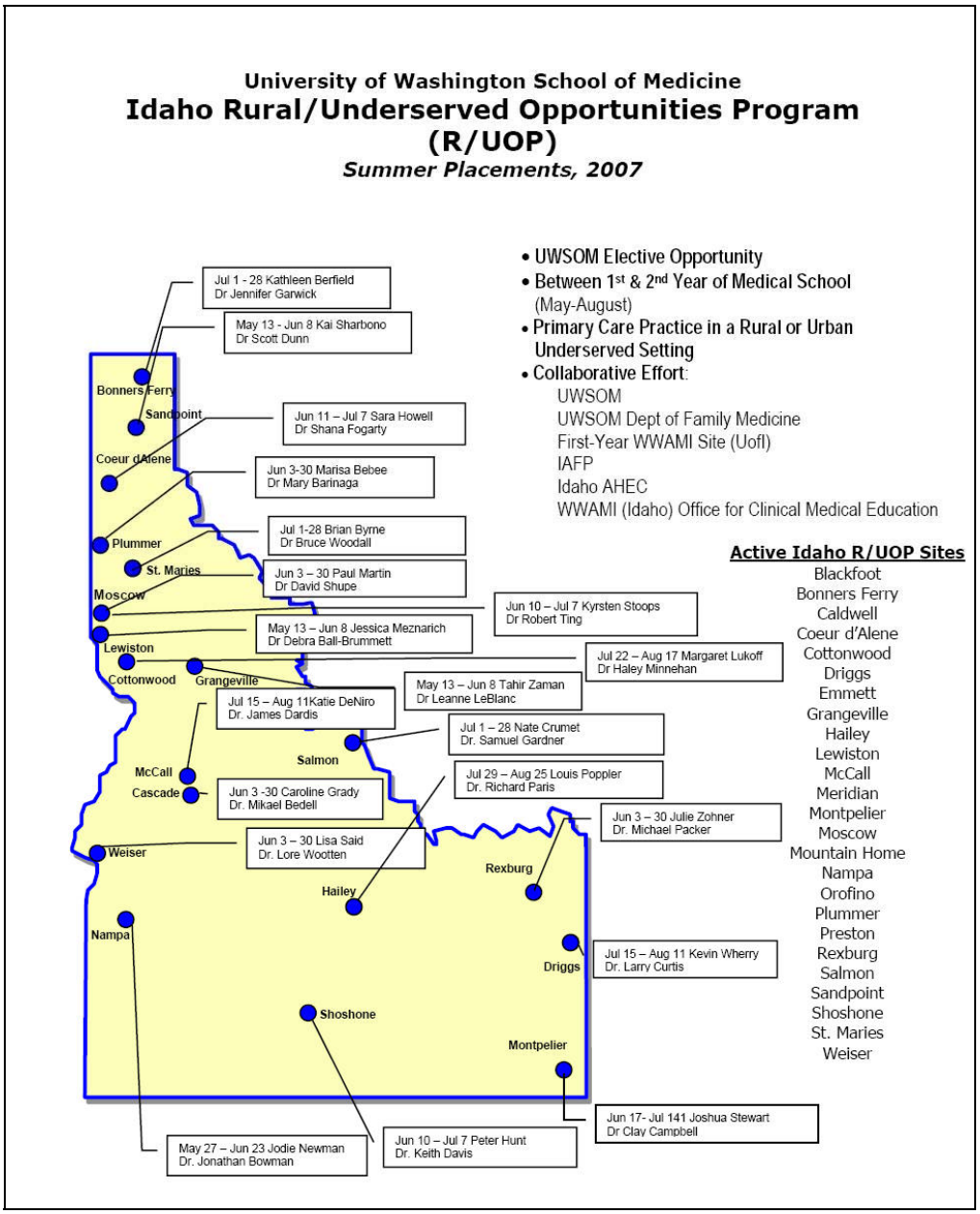



Source: University of Washington/WWAMI, 2007.

### *2.2.7 Rural/Underserved Opportunities Program*

In 1989, the Rural/ underserved Opportunities Program (R/UOP) was developed to give UW School of Medicine students (including WWAMI students) clinical experiences in rural and underserved communities. R/UOP is an elective program; students are matched with physicians and are given stipends to support month-long summer experiences. In 2007, 20 WWAMI students participated in R/UOP in Idaho (see **Exhibit 2-5**).

**EXHIBIT 2-5**
**2007 IDAHO R/UOP PLACEMENTS**




Source: University of Washington School of Medicine, 2007.

## *2.3 University of Utah Contract*

In addition to participating in WWAMI, the state of Idaho provides access to publicly supported medical education through a partnership with the University of Utah (UU) School of Medicine.

### *2.3.1 History of Contract*

Idaho's relationship with the UU School of Medicine began through the Western Interstate Commission for Higher Education (WICHE). (See Section 2.6.2 for detailed information about WICHE.) Idaho students originally attended the UU School of Medicine through the WICHE Professional Student Exchange Program (PSEP). However, in the 1980s Idaho developed its own partnership with the UU School of Medicine.

### *2.3.2 Program Delivery Model*

The first two years of medical school at UU take place on the UU campus in Salt Lake City and focus on the basic sciences. In the third and fourth years, students complete clinical rotations in a variety of disciplines; most rotations take place in the Salt Lake City area (e.g., UU Medical Center, LDS Hospital, Primary Children's Medical Center, UU Neuropsychiatric Institute, and the VA Medical Center), though students can request approval to complete clerkships elsewhere. Idaho-sponsored students are required to complete two rotations in Idaho.

### *2.3.3 Number of Slots and Trends*

The state of Idaho originally contracted with the UU School of Medicine for five seats in the 1970s. In the early 1980s, Idaho reduced the seats to four due to financial difficulties. Idaho-sponsored seats increased to six in the late 1990s and to eight in 2004. The UU School of Medicine received accreditation approval to expand its entering medical school class size by two students in 2007 to accommodate a total of ten students from Idaho per year. However, the Idaho Legislature chose not to fund the additional seats. **Exhibit 2-6** highlights application trends for the last five years.

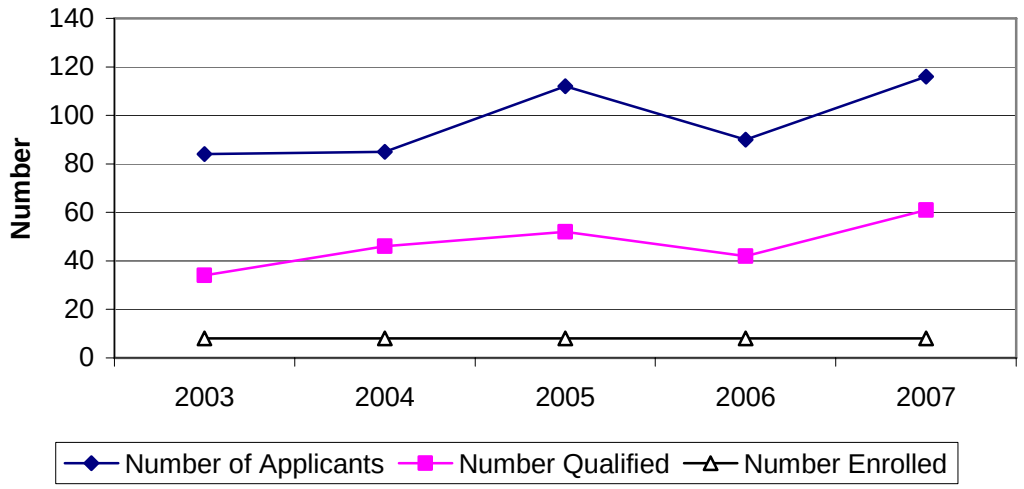
### *2.3.4 Financing the Slots*

The Idaho-UU School of Medicine agreement allows Idaho-sponsored students to pay in-state tuition. In addition, the state of Idaho pays support fees for the 32 students enrolled (eight per year). The state appropriation was $979,600[15] (~$30,612 per student) in FY 2006 and $1,039,100[16] (~$32,471 per student) in FY 2007. The appropriation for FY 2008 is $1,088,800[17] (~$34,025 per student).

[15] *FY 2008 Idaho Legislative Budget Book*, p. 1-83. http://www.legislature.idaho.gov/Budget/publications/PDFs/LBB/FY2008/Education/HealthEdLBB.pdf
[16] *FY 2008 Idaho Legislative Budget Book*, p. 1-83. http://www.legislature.idaho.gov/Budget/publications/PDFs/LBB/FY2008/Education/HealthEdLBB.pdf
[17] Idaho Legislature, *Senate Bill 1201* http://www3.state.id.us/oasis/S1201.html

**EXHIBIT 2-6**
**IDAHO-UU SCHOOL OF MEDICINE TRENDS: APPLICANTS AND SLOTS**

| Year | Number of Applicants | Number Qualified | Number Enrolled | Applicants per Slot | Number Qualified per Slot | Average GPA of Qualified Applicants | Average MCAT of Qualified Applicants |
|---|---|---|---|---|---|---|---|
| 2003 | 84 | 34 | 8 | 10.5 | 4.3 | 3.8 | 28.0 |
| 2004 | 85 | 46 | 8 | 10.625 | 5.8 | 3.7 | 29.0 |
| 2005 | 112 | 52 | 8 | 14 | 6.5 | 3.7 | 29.0 |
| 2006 | 90 | 42 | 8 | 11.25 | 5.3 | 3.7 | 28.5 |
| 2007 | 116 | 61 | 8 | 14.5 | 7.6 | 3.7 | 29.0 |




Source: University of Utah.

## *2.4 Graduate Medical Education*

Graduate medical education (GME) is the training medical school graduates receive before they can practice medicine without supervision.

### *2.4.1 GME Programs in Idaho*

There are two GME programs based fully in Idaho:

- Family Medicine Residency of Idaho (Boise)
- Idaho State University Family Medicine Residency (Pocatello)

There are three UW residencies based in Seattle that provide some training in Idaho:

- Internal Medicine Residency Program (Seattle and Boise)
- Psychiatry Residency Program (Seattle and Boise)
- Pulmonary/Critical Care Fellowship Training Program (Seattle and Boise)

All of the programs are affiliated with the UW School of Medicine, and the ISU Family Medicine Residency is affiliated with the UU School of Medicine as well.

### *2.4.2 Numbers of Idaho GME Participants*

**Exhibit 2-7** highlights each GME program's length and number of participants.

**EXHIBIT 2-7**
**GME PROGRAM PARTICIPANTS**

| GME Program | Total Training | Training in Idaho | Participants |
|---|---|---|---|
| Family Medicine (Boise) | 3 years | 3 years | 10 per year |
| Family Medicine (Pocatello) | 3 years | 3 years | 6 per year |
| Internal Medicine (Seattle and Boise) | 3 years | 1 year | ~8 per year |
| Psychiatry (Seattle and Boise) | 4 years | 2 years | ~6 per year |
| Pulmonary/Critical Care (Seattle and Boise) | 3 years | 1-2 years | 1-2 per year |

### *2.4.3 Financing GME Slots*

Funding for GME programs comes from a wide variety of sources, including patient revenue, hospitals and medical centers, and grants. The programs' largest expenses are salaries and wages for the residents and fellows. This is in contrast to medical students, who pay tuition. Residents and fellows have completed their medical degrees and are providing services to patients as part of their graduate training.

### *2.4.4 Rural Tracks*

The Family Medicine Residency of Idaho program in Boise offers a clinical training track in Caldwell. Residents spend the first year in Boise and the second and third years in Caldwell. Of the 10 residents who have completed the Caldwell track to date, 8 are practicing medicine in the Caldwell area. A second rural track based on the Caldwell model will open in Twin Falls for the 2008-2009 academic year.

## *2.5 Hospitals in Idaho*

Hospitals and medical centers are the primary clinical training sites for medical school students and GME participants.

### *2.5.1 Statewide Summary Data*

The Idaho Hospital Association recognizes 37 traditional community hospitals and 6 additional member facilities. There are 3,293 beds among the 43 facilities (**Exhibit 2-8**).

## EXHIBIT 2-8
## IDAHO HOSPITALS

| Traditional Community Hospitals | Location | Acute Care Beds | Rehab Beds | Obstetric Beds | Psychiatric Care Beds | Intensive Care Beds | Pediatric Care Beds | Alcohol/Drug Rehab Beds | Other Care Beds | Long Term Care Beds | Total by Facility |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bear Lake Memorial Hospital | Montpelier | 16 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | | **21** |
| Benewah Community Hospital | St. Maries | 18 | | 1 | | | | | | | **19** |
| Bingham Memorial Hospital | Blackfoot | 21 | | | | 4 | | | | | **25** |
| Bonner General Hospital | Sandpoint | 36 | | 8 | | 4 | | | | | **48** |
| Boundary Community Hospital | Bonners Ferry | 20 | | | | | | | | | **20** |
| Caribou Memorial Hospital | Soda Springs | 21 | | 2 | | 2 | | | | 27 | **52** |
| Cascade Medical Center | Cascade | 10 | | | | | | | | | **10** |
| Cassia Regional Medical Center | Burley | 16 | | 16 | | 3 | | | | | **35** |
| Clearwater Valley Hospital & Clinics | Orofino | 23 | | | | | | | | | **23** |
| Eastern Idaho Regional Medical Ctr | Idaho Falls | 121 | | 22 | 40 | 47 | 10 | 13 | | | **253** |
| Elmore Medical Center | Mountain Home | 25 | | | | | | | | | **25** |
| Franklin County Medical Center | Preston | 20 | | | | | | | | 45 | **65** |
| Gooding County Memorial Hospital | Gooding | 14 | | | | | | | | | **14** |
| Gritman Medical Center | Moscow | 17 | | 4 | | 4 | | | | | **25** |
| Harms Memorial Hospital | American Falls | 10 | | | | | | | | | **10** |
| Kootenai Medical Center | Coeur d'Alene | 123 | 15 | 12 | 55 | 14 | 11 | 7 | 16 | | **253** |
| Lost Rivers District Hospital | Arco | 14 | | | | | | | | | **14** |
| Madison Memorial Hospital | Rexburg | 34 | | 9 | | 4 | 2 | | | | **49** |
| McCall Memorial Hospital | McCall | 11 | | 2 | | 2 | | | | | **15** |
| Mercy Medical Center | Nampa | 110 | | 16 | | 18 | 8 | | | | **152** |
| Minidoka Memorial Hospital | Rupert | 24 | | | | 1 | | | | | **25** |
| Oneida County Hospital | Malad City | 11 | | | | | | | | | **11** |
| Portneuf Medical Center | Pocatello | 161 | 14 | 7 | 15 | 36 | 17 | | 23 | | **273** |
| Saint Alphonsus Reg Med Ctr | Boise | 183 | 33 | 24 | 32 | 70 | 5 | | | | **347** |
| Shoshone Medical Center | Kellogg | 25 | | | | | | | | | **25** |
| St. Benedicts Family Medical Center | Jerome | 19 | | 4 | | | | | | | **23** |
| St. Joseph Regional Medical Center | Lewiston | 78 | | 13 | 20 | 9 | 9 | | 16 | | **145** |
| St. Luke's Boise/Meridian Reg Med Ctr | Boise/Meridian | 226 | | 88 | | 118 | 49 | | 56 | | **537** |
| St. Luke's Magic Valley Reg Med Ctr | Twin Falls | 103 | | 18 | 28 | 20 | 14 | | 14 | | **197** |
| St. Luke's Wood River Medical Center | Ketchum | 19 | | | | 2 | | | | | **21** |
| St. Mary's Hospital | Cottonwood | 23 | | | | | | | | | **23** |
| Steele Memorial Medical Center | Salmon | 15 | | 3 | | | | | | | **18** |
| Syringa General Hospital | Grangeville | 12 | | | | 2 | | | | | **14** |
| Teton Valley Hospital | Driggs | 12 | | 1 | | | | | | | **13** |
| Walter Knox Memorial Hospital | Emmett | 14 | | 2 | | | | | | | **16** |
| Weiser Memorial Hospital | Weiser | 25 | | | | | | | | | **25** |
| West Valley Medical Center | Caldwell | 73 | | 5 | 18 | 18 | 10 | | | | **124** |
| **TOTAL** | | **1703** | **62** | **258** | **208** | **382** | **135** | **20** | **125** | **72** | **2965** |
| **Other IHA Member Facilities** | **Location** | **Acute Care Beds** | **Rehab Beds** | **Obstetric Beds** | **Psychiatric Care Beds** | **Intensive Care Beds** | **Pediatric Care Beds** | **Alcohol/Drug Rehab Beds** | **Other Care Beds** | **Long Term Care Beds** | **Total by Facility** |
| 366th Medical Group (AFB) | Mountain Home | | | | | | | | | | **10*** |
| Idaho Elks Rehabilitation Hospital | Boise | | 56 | | | | | | | | **56** |
| Idaho State Hospital North | Orofino | | | | 60 | | | | | | **60** |
| Idaho State Hospital South | Blackfoot | | | | 106 | | | | 29 | | **135** |
| Intermountain Hospital of Boise | Boise | | | | 53 | | | 24 | | | **77** |
| Veterans Affairs Medical Center | Boise | | | | | | | | | | **46**** |
| **TOTAL** | | **0** | **56** | **0** | **219** | **0** | **0** | **24** | **29** | **0** | **328** |

Sources: Idaho Hospital Association, based on state reports as of November 2006. See * and ** for source exceptions.
* 366th Medical Group Web site, http://www.mountainhome.af.mil/library/factsheets/factsheet.asp?id=4368
** Boise VA Medical Center Web site, http://www1.va.gov/directory/guide/facility.asp?id=17

### *2.5.2 Communities With Capacity to Support Required Clerkships*

While any of the hospitals included in **Exhibit 2-8** could conceivably handle a limited number of medical students, those with 200 or more beds hold the greatest potential to support an expanded program of medical education in the state. There are six hospitals in Idaho with approximately 200 or more beds (including St. Luke's Magic Valley Regional Medical Center with 197 beds). In order to fully determine which communities in Idaho can support required medical school clerkships, a detailed analysis must be conducted in light of the requirements of the Liaison Committee on Medical Education (LCME). Furthermore, it is important to note that only nine counties in Idaho have 60 physicians or more: Ada, Bannock, Blaine, Bonner, Bonneville, Canyon, Kootenai, Nez Perce, and Twin Falls. See Chapter 3.0 for more detailed information on physicians by county.

## *2.6 Other Potential Resources for Idaho*

In addition to the partnerships Idaho maintains with the UW and UU medical schools, the newly created Pacific Northwest University of Health Sciences and WICHE are potential resources for the state.

### *2.6.1 Pacific Northwest University of Health Sciences*

Founded in 2005, Pacific Northwest University of Health Sciences (PNWU) is a new institution in Yakima, Washington, that will enroll its first students in Fall 2008.

***History of PNWU.*** The College of Osteopathic Medicine (COM) will be PNWU's first school and the first new medical school in the Pacific Northwest in 60 years. PNWU-COM plans to accept its first class of 70 students in September 2008. A 48,000 square-foot facility is under construction, with an estimated completion date of July 2008. PNWU-COM has received provisional accreditation from the Commission of Osteopathic College Accreditation (COCA) and is authorized by the Washington Higher Education Coordinating Board.

***PNWU Mission.*** The PNWU-COM mission is as follows:

> *to provide men and women with a scholarly medical education and training of osteopathic principles, to encourage research, to promote lifelong scholarly activity, and to serve the Pacific Northwest through educational experiences within the five-state region, leading to an increase in the number of osteopathic physicians practicing in rural and underserved areas.*

Furthermore, "PNWU is devoted to training new generations of doctors who will serve the needs of those who live in the non-urban communities and rural areas of Alaska, Idaho, Montana, Oregon and Washington."

***Program Delivery Model.*** The PNWU-COM curriculum will be structured around seven competencies: Patient Care, Medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, Systems-Based Practice, and Osteopathic Principles/Practice/Osteopathic Manipulative Treatment. The

first two years of the curriculum will consist of basic science courses and courses that focus on osteopathic principles and practices. The third and fourth years of the curriculum will be clinical-based. Students will be required to complete eight rotations: family medicine, emergency medicine, general internal medicine, pediatrics-neonate, general surgery, osteopathic principles and practice, women's health, and clinical medical/surgical subspecialty. The clinical sites will be established by the Assistant Dean of Clinical Sciences.[18]

***Enrollment and Tuition.*** PNWU-COM will enroll 70 students per class for a full enrollment of 280 students. Tuition for the class entering in Fall 2008 will be $30,000, and yearly tuition increases will be implemented. In addition, students will pay a one-time acceptance fee of $1,000 and academic fees of $2,500 per year. The total cost for the class entering in Fall 2008 will be $33,675 for the first year, $34,000 for the second year, $35,575 for the third year, and $37,229 for the fourth year.

### *2.6.2 Western Interstate Commission for Higher Education (WICHE) Professional Exchange Program*

WICHE is a coalition of 15 states that expands access to higher education and promotes resource sharing. Idaho became the eighth WICHE member in 1953. Robert Kustra, president of Boise State University, and Arthur Vailas, president of Idaho State University, are the current WICHE Idaho commissioners. The other WICHE states are Alaska, Arizona, California, Colorado, Hawai'i, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

The key components of WICHE are as follows:

- Policy analysis and research
- Three student exchange programs
  - Western Undergraduate Exchange (WUE)
  - Western Regional Graduate Program (WRGP)
  - Professional Student Exchange Program (PSEP)
- Western Cooperative for Educational Telecommunications (WCET)
- Mental Health Program
- Other academic, organizational, and technological support programs

***WICHE PSEP–Medicine.*** The PSEP–Medicine program provides students from participating states preferential admission and reduced cost for medical school. The home states pay administrative fees to the medical schools in support of their students.

Seventeen allopathic medical schools and four osteopathic medical schools participate in the WICHE PSEP. However, not all WICHE states sponsor students every year, and not all medical schools receive students every year. The 2006-2007 medical student distributions are listed in **Exhibit 2-9** (102 students total).

[18] Pacific Northwest University of Health Sciences College of Osteopathic Medicine. *Student Handbook.* 2007.

## EXHIBIT 2-9
## WICHE PSEP–MEDICINE STUDENT DISTRIBUTION 2006-2007

| Allopathic | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sending State | Receiving School | | | | | | | | | | | Total # Students |
| | Univ of Arizona | Loma Linda Univ | UC San Diego | UC San Fran | Univ of Colorado | Univ of Hawai'i | Univ of Nevada | Univ of New Mexico | Univ of North Dakota | Oregon Health & Science Univ | Univ of Utah | |
| Montana | 3 | 1 | | | 11 | 1 | 1 | | 3 | 7 | 1 | 28 |
| Wyoming | 1 | | 1 | 1 | 9 | | | 1 | 1 | 1 | 3 | 18 |
| **Totals** | **4** | **1** | **1** | **1** | **20** | **1** | **1** | **1** | **4** | **8** | **4** | **46** |

| Osteopathic | | | | | | |
|---|---|---|---|---|---|---|
| Sending State | Receiving School | | | | | Total # Students |
| | Midwestern Univ - Arizona College of Osteopathic Medicine | Touro Univ College of Osteopathic Medicine | Touro Univ Nevada | Western Univ of Health Sciences College of Osteopathic Medicine of the Pacific | Out of Region | |
| Arizona | 20 | 4 | | 2 | 4 | 30 |
| Montana | 3 | 1 | 1 | 2 | | 7 |
| New Mexico | 2 | 1 | | | | 3 |
| Washington | 3 | 1 | | 3 | | 7 |
| Wyoming | 7 | | | 2 | | 9 |
| **Totals** | **35** | **7** | **1** | **9** | **4** | **56** |

Source: WICHE Student Exchange Program Academic Year 2006-2007 Statistical Report, http://www.wiche.edu/SEP/PDF/StatReport0107FINAL_forWeb.pdf

## *2.7 Summary*

The state of Idaho has invested significant resources in undergraduate and graduate medical education through:

- Its partnership with the UU School of Medicine.
- Its partnership with the UW School of Medicine/WWAMI.
- WWAMI Idaho Track.
- GME programs.
- Physicians, professionals, and medical centers participating in the training of students in healthcare programs (e.g., pharmacy).

The three state universities in Idaho offer additional resources on which to build new and/or expanded medical education programs. Numerous avenues for expanding medical education exist, yet the state will be best served if opportunities are examined in tandem with an analysis of current and projected medical education needs, as presented in Chapter 3.0.

# *3.0 ANALYSIS OF CURRENT AND PROJECTED NEEDS FOR MEDICAL EDUCATION IN IDAHO*

# 3.0 ANALYSIS OF CURRENT AND PROJECTED NEEDS FOR MEDICAL EDUCATION IN IDAHO

Determining the need for medical education requires a multifaceted analysis of various factors related to a state's population, physician workforce, student access to programs, and the economy. In this chapter, we review and analyze available data to develop potential state goals for medical access in Idaho. The chapter includes the following sections:

- Framework for Analyzing Needs
- Perceptions of Medical Education Needs Within Idaho
- Recent and Projected Population Growth
- Student Access to Medical Education
- Residency Training
- Physician Access
- Economic Impact
- Summary of Demand Analysis
- Potential State Goals for Medical Access

## 3.1 Framework for Analyzing Needs

Our analysis of the need to expand access to medical education in Idaho is framed by three primary factors:

- Types of information to be solicited.
- Types of access to be reviewed.
- Timeframe to be considered.

Each of these three factors is summarized below.

### 3.1.1 Types of Information

We relied on two broad types of information to assess the possible need to expand access to medical education in Idaho. First, we considered the perceptions of numerous educational, healthcare, and elected leaders in the state. These individuals have first-hand exposure to the issues confronting the state's education and healthcare systems and an appreciation of the complexities surrounding any decision to expand medical education. Importantly, their views helped to define the types of factual data that would be needed to confirm whether their perceptions of conditions in the recent past would continue to apply in the near and long-term future.

The second broad type of information was a variety of statistical data drawn from recognized, authoritative sources. These data included information on such topics as medical workforce from the American Medical Association and similar bodies, medical school enrollments from the Association of American Medical Colleges and the Accreditation Council for Graduate Medical Education, overall college and university enrollments from the U.S. Department of Education, and population figures from the U.S. Census Bureau.

### *3.1.2 Types of Access*

Although the stated purpose of the study was to assess the need to expand medical education, an important underlying factor was the need for adequate levels of healthcare services in the state. Accordingly, we considered access to have two major dimensions:

- Student access – measured by the number of seats in medical school available to potential students who were qualified to pursue medical education.
- Physician access – measured by the ability of residents of the state to gain access to the services of licensed physicians.

### *3.1.3 Timeframe*

Although much of the analysis is based on current conditions in Idaho compared to the past and to current conditions in other states, another important element is projected needs. Projections of need are important for two reasons:

- The time required to establish medical education programs and to train physicians for the workforce is significant. A decision made now to expand medical education would not have significant impact on the workforce for a decade or more.
- The state's population has been growing rapidly, and that trend is expected to continue. We believe that state leaders appreciate the need to ensure that actions taken now to improve access to medical education are not already outdate by the time they are fully implemented.

We selected the year 2020 as the benchmark year for estimating future needs.

## *3.2 Perceptions of Medical Education Needs Within Idaho*

During the course of the study, we interviewed approximately 200 higher education leaders, healthcare leaders, and elected officials. These interviews were conducted through a variety of means—face-to-face, by telephone, and in individual and small group settings. A common focus across these interviews was to determine the respondents' views on three central questions:

- Do Idaho students have adequate access to medical education?
- Do Idaho citizens have adequate access to physician services?
- What are the advantages and disadvantages of the various alternatives for expanding access to medical education?

Depending on the interviewee, other questions were addressed as well, such as the role his or her organization might play in medical education in the future.

The topic that met with the greatest consensus was the need to improve student access to medical education. Respondents across the various categories of stakeholders

generally agreed that Idaho students faced much greater difficulty in being admitted to medical school than their cohorts in other states and their predecessors from previous generations. Numerous respondents cited firsthand knowledge of well-qualified applicants who were unable to gain admission to medical school under either of the two state contracts with University of Washington and University of Utah.

The interviews also revealed general agreement, with some exceptions, concerning the need for more physicians in the state. Respondents typically observed that the problems with physician access were greater in rural Idaho than in the Treasure Valley, and that shortages were more pronounced in some medical specialties than in others. In noting the need for more physicians in the state, several respondents observed that providing more educational opportunities was not the only way to increase the physician base; other strategies could also be employed (e.g., increasing the medical reimbursement rates for procedures).

Unlike the first two questions, there was a significant diversity in opinions regarding the best way to expand access to medical education.

- Many observers expressed general satisfaction with the WWAMI program and noted the strong national reputation of the UW School of Medicine. These observers believed that the most efficient means to expand medical education would be to simply purchase more seats through the WWAMI program rather than invest in the infrastructure needed to build a new medical school. A subset of this group suggested that any significant increase in the number of WWAMI seats should come through the creation of an additional first year training site, either in Boise or in Pocatello. Another frequent suggestion for strengthening the WWAMI relationship was to expand the opportunity for second, third, and fourth year training in Idaho.

- Support was also expressed for expanding the number of contracted seats with the UU School of Medicine. There was some concern, however, that the program delivery model should be modified to enable Idaho residents to receive more of their training in the state rather than spending all but a few weeks of their four years in Utah as is currently required.

- Proponents of purchasing additional contracted seats often stated that they did not support the establishment of an Idaho medical school. Their reasons included the perception that Idaho does not have a large enough population to support the required clinical components of the medical school curriculum, the belief that a medical school in Idaho would not be of high quality, and concern that funding for a new medical school would reduce appropriations for the existing institutions of higher education in the state.

- Many respondents cited the potential advantages of establishing of a new medical school in Idaho. Proponents of this approach felt that the state had grown to a size where it should no longer rely on neighboring states to educate its students, especially in light of the impending national physician shortage. Further, they felt that an Idaho-based medical school would be more focused on meeting the needs of the state and have a greater positive economic

impact since state tax dollars would be invested within the state rather than elsewhere.

- Although residency training was not as well understood as M.D. training programs by most respondents, those with knowledge of medical education were nearly unanimous in their belief that the number of slots in the state's existing residency programs should be expanded and that programs in additional specialties should be established. The perceived advantage of investing in graduate medical education was the immediacy of its impact on the state's physician workforce and the stronger correlation between practice location and residency training location as compared to medical school location. A common suggestion was that graduate medical education in Idaho be expanded regardless of whether any action to expand M.D. training was pursued.

Many respondents further commended the Legislature and the Board of Education for commissioning the medical education study and expressed the desire that the study contribute to a more informed public debate on how (or even whether) to proceed in expanding access to medical education.

## *3.3 Recent and Projected Population Growth*

As most long-term residents of Idaho know, the state's population has grown significantly over the past several decades. As shown in **Exhibit 3-1**, the state's population expanded by 120 percent between the 1950 and 2000 Census counts. This rate was significantly greater than that of the nation as a whole, making Idaho the 16$^{th}$ fastest-growing state (Idaho ranked 8$^{th}$ in growth rate between 1970 and 2000). Idaho was the 44$^{th}$ most populous state at the start of the period and the 39$^{th}$ by 2000.

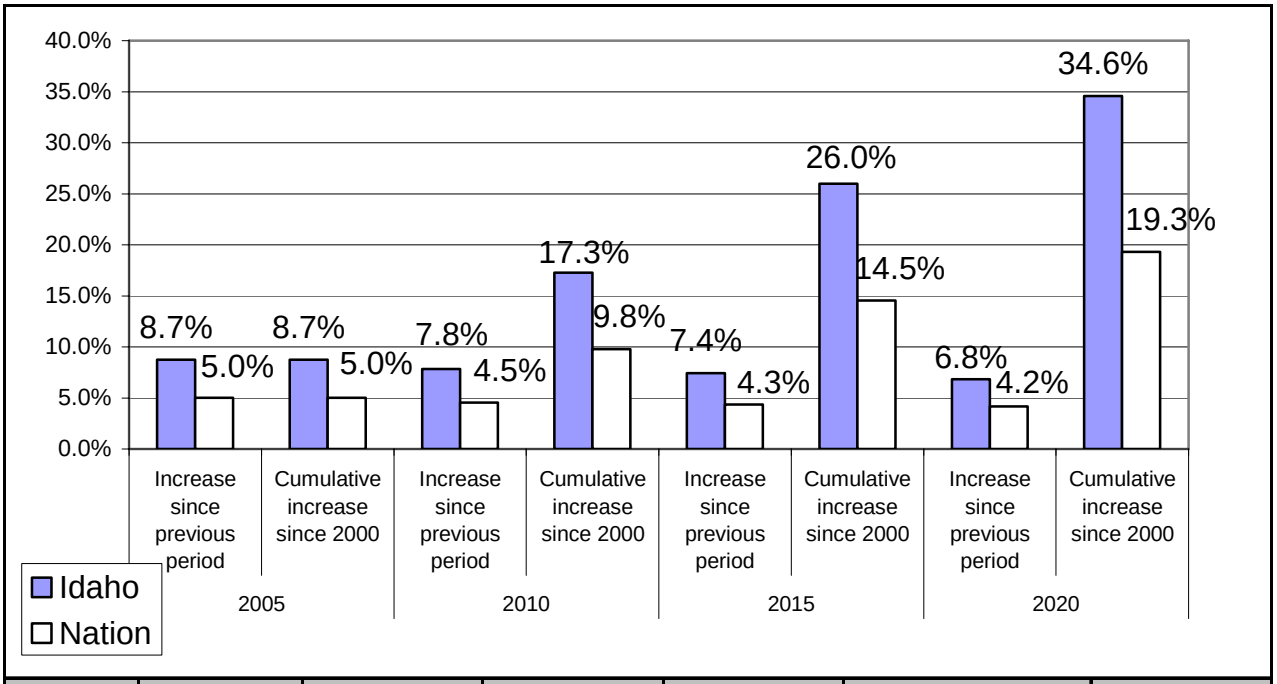
**EXHIBIT 3-1**
**LONG-TERM HISTORICAL TRENDS IN POPULATION GROWTH**
**IDAHO AND THE NATION**

| Census Year | Idaho | | | | 50 State Summary | | |
|---|---|---|---|---|---|---|---|
| | Population | % Increase | Cumulative % Increase | Rank | Population | % Increase | Cumulative % Increase |
| 1950 | 588,637 | | | 44 | 150,697,361 | | |
| 1960 | 667,191 | 13% | 13% | 43 | 179,323,175 | 19% | 19% |
| 1970 | 712,567 | 7% | 21% | 43 | 203,211,926 | 13% | 35% |
| 1980 | 943,935 | 32% | 60% | 41 | 226,545,805 | 11% | 50% |
| 1990 | 1,006,749 | 7% | 71% | 42 | 248,709,873 | 10% | 65% |
| 2000 | 1,293,953 | 29% | 120% | 39 | 281,421,906 | 13% | 87% |
| 50-Year Change | 705,316 | 120% | 120% | 16 | 130,724,545 | 87% | 87% |

Source: U.S. Census Bureau.

During the early years of the twenty-first century, Idaho's population has continued to grow, and the state is expected to remain one of the fastest-growing states in the nation. The state's population grew by over 100,000 (nearly 9 percent) between 2000 and 2005, compared to a national growth rate of 5 percent for the same period. As shown in **Exhibit 3-2**, this growth is projected to continue at nearly twice the national rate, with the state's population reaching approximately 1.74 million by 2020. If this projection is realized, Idaho will become the 37$^{th}$ most populous state in the nation and no longer fall in the lowest quartile of states in terms of population size.

**EXHIBIT 3-2**
**PROJECTED POPULATION GROWTH IN IDAHO**
**2000 THROUGH 2020**




| Entity | Year | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|---|
| Idaho | Number | 1,293,953 | 1,407,060 | 1,517,291 | 1,630,045 | 1,741,333 |
| | Increase | | 113,107 | 110,231 | 112,754 | 111,288 |
| | % Increase | | 8.7% | 7.8% | 7.4% | 6.8% |
| | Cumulative Increase | | 113,107 | 223,338 | 336,092 | 447,380 |
| | % Increase | | 8.7% | 17.3% | 26.0% | 34.6% |
| Nation | Number | 281,421,906 | 295,507,134 | 308,935,581 | 322,365,787 | 335,804,546 |
| | Increase | | 14,085,228 | 13,428,447 | 13,430,206 | 13,438,759 |
| | % Increase | | 5.0% | 4.5% | 4.3% | 4.2% |
| | Cumulative Increae | | 14,085,228 | 27,513,675 | 40,943,881 | 54,382,640 |
| | % Increase | | 5.0% | 9.8% | 14.5% | 19.3% |

Source: U.S. Census Bureau.

Several age cohorts within the overall population are especially important when analyzing the need to expand medical education. The oldest age cohort—those aged 65 and above—place a well above average demand on physician services. An above average growth rate among this cohort translates into a need for the expansion of the physician base to outpace the overall growth of the population. The population projections by age in **Exhibit 3-3** reveal that the 65 and over age cohort in Idaho is expected to grow by 85 percent between 2000 and 2020, compared to the overall growth rate of 35 percent.

**EXHIBIT 3-3**
**IDAHO POPULATION PROJECTIONS FOR SELECTED AGE COHORTS**

| Age Cohorts | Year | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|---|
| Ages 22-30 | Number | 157,559 | 187,857 | 196,217 | 184,991 | 183,362 |
| | Increase | | 30,298 | 8,360 | (11,226) | (1,629) |
| | % Increase | | 19.2% | 4.5% | -5.7% | -0.9% |
| | Cumulative Increase | | 30,298 | 38,658 | 27,432 | 25,803 |
| | % Increase | | 19.2% | 24.5% | 17.4% | 16.4% |
| Ages 65 & Above | Number | 145,916 | 158,646 | 181,416 | 220,113 | 269,439 |
| | Increase | | 12,730 | 22,770 | 38,697 | 49,326 |
| | % Increase | | 8.7% | 14.4% | 21.3% | 22.4% |
| | Cumulative Increase | | 12,730 | 35,500 | 74,197 | 123,523 |
| | % Increase | | 8.7% | 24.3% | 50.8% | 84.7% |
| All Ages | Number | 1,293,953 | 1,407,060 | 1,517,291 | 1,630,045 | 1,741,333 |
| | Increase | | 113,107 | 110,231 | 112,754 | 111,288 |
| | % Increase | | 8.7% | 7.8% | 7.4% | 6.8% |
| | Cumulative Increase | | 113,107 | 223,338 | 336,092 | 447,380 |
| | % Increase | | 8.7% | 17.3% | 26.0% | 34.6% |

Source: U.S. Census Bureau.

A second age cohort of concern in the analysis of medical school access is the young adult population. Residents between the ages of 22 and 30 make up the vast majority of medical school applicants. Changes in the numbers in this cohort are likely to translate into fluctuating numbers of students seeking to enroll in medical school. **Exhibit 3-3** shows that this age cohort is expected to grow at a slower than average rate between 2000 and 2020.

In summary, Idaho's population is increasing rapidly, and the growth pattern is projected to continue. Idaho is no longer among the nation's smallest states and is quickly becoming one of the middle-tier states in terms of population. Importantly, the state's elderly population, a group with increased demands for medical care, is growing at an exceptionally high rate and will stretch physician resources more tightly.

## *3.4 Student Access to Medical Education*

Student access to medical education can be assessed in various ways. Perhaps the most common approach has been to compare all 50 states per capita on the number of seats in medical school for entering students. More sophisticated analyses also consider the numbers of traditional college-age residents and/or the numbers of college graduates. Also, adjustments for interstate programs (such as WWAMI) are required for a more accurate reflection of the number of medical school seats that are available to a state's residents. Further, comparisons to selected groups of states are often more informative than consideration of only the national average.

A more difficult, but important, determination is the quality of the applicant pool. Since medical schools are highly selective by design, measurement of student access needs to consider the ability of *qualified* applicants to enter medical school.

The analyses in this section provide a variety of perspectives on whether Idaho students have adequate access to medical education.

### *3.4.1 National Benchmark Comparisons of Seats per Capita*

The most basic measure of access to medical education is seats per capita. In **Exhibit 3-4**, various measures of entering seats per capita are listed for all 50 states:

- Seats per overall population.
- Seats per young adult population, ages 18-24.
- Seats per prior year college graduate at the baccalaureate level

In all cases, the numbers of entering seats per state have been adjusted to reflect known standing arrangements between states for students to attend medical school outside their home states.

As seen, Idaho (with 18 WWAMI seats and 8 Utah seats) had 1.82 seats per 100,000 total population in 2006. This rate was only 32 percent of the national average, resulting in Idaho ranking 48$^{th}$ on this measure among the states.

Similar results were also found when measuring access on the basis of the young adult population and recent college graduates. Idaho ranked 48$^{th}$ in entering seats per 10,000 population in the 18-24 age range (31 percent of the national average). Likewise, Idaho ranked 49$^{th}$ in entering seats per prior year baccalaureate graduates (31 percent of the national average).

States often seek other benchmarks in addition to the national average to assess their performance toward public goals. For the Idaho medical education study, we provide three additional benchmarks based on groupings of states that are similar in age, size, or geographic location:

- Mountain States
- Northwest States
- Small Population States

## EXHIBIT 3-4
## NATIONAL COMPARISONS AMONG STATES ON ACCESS TO MEDICAL EDUCATION, 2005

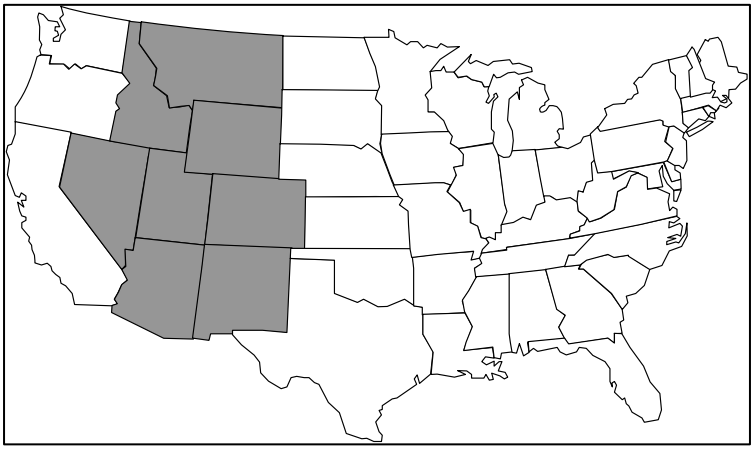
| State | 1st Year Medical School Seats per 100,000 Population | | 1st Year Medical School Seats per 10,000 Ages 18-24 Population | | 1st Year Medical School Seats in State per 100 Baccalaureate Graduates | |
|---|---|---|---|---|---|---|
| | Ratio | Rank | Ratio | Rank | Ratio | Rank |
| U.S. | 5.65 | | 5.75 | | 1.17 | |
| Alabama | 4.94 | 30 | 5.28 | 27 | 1.04 | 28 |
| Alaska | 1.51 | 49 | 1.27 | 49 | 0.70 | 40 |
| Arizona | 1.88 | 47 | 1.93 | 47 | 0.38 | 48 |
| Arkansas | 5.21 | 27 | 5.46 | 24 | 1.29 | 16 |
| California | 3.02 | 40 | 2.90 | 42 | 0.74 | 39 |
| Colorado | 2.93 | 42 | 2.87 | 43 | 0.54 | 44 |
| Connecticut | 5.56 | 22 | 6.33 | 18 | 1.17 | 20 |
| Delaware | 0.00 | 50 | 0.00 | 50 | 0.00 | 50 |
| District of Columbia | 78.56 | 1 | 74.93 | 1 | 4.97 | 1 |
| Florida | 2.54 | 43 | 2.95 | 41 | 0.69 | 41 |
| Georgia | 4.43 | 33 | 4.46 | 33 | 1.14 | 23 |
| Hawai'i | 5.05 | 29 | 5.05 | 29 | 1.21 | 17 |
| **Idaho** | **1.82** | **48** | **1.76** | **48** | **0.36** | **49** |
| Illinois | 8.92 | 9 | 8.99 | 8 | 1.78 | 5 |
| Indiana | 4.60 | 32 | 4.72 | 32 | 0.79 | 38 |
| Iowa | 4.75 | 31 | 4.85 | 31 | 0.68 | 42 |
| Kansas | 6.36 | 18 | 6.17 | 21 | 1.08 | 25 |
| Kentucky | 5.90 | 19 | 6.17 | 20 | 1.38 | 13 |
| Louisiana | 9.51 | 5 | 8.85 | 9 | 1.99 | 4 |
| Maine | 0.00 | 50 | 0.00 | 50 | 0.00 | 50 |
| Maryland | 7.79 | 13 | 7.89 | 14 | 1.74 | 6 |
| Massachusetts | 9.59 | 4 | 10.09 | 4 | 1.35 | 14 |
| Michigan | 5.45 | 23 | 5.58 | 23 | 1.07 | 27 |
| Minnesota | 5.21 | 28 | 4.96 | 30 | 0.94 | 32 |
| Mississippi | 3.46 | 38 | 3.41 | 37 | 0.86 | 36 |
| Missouri | 7.85 | 12 | 7.95 | 12 | 1.32 | 15 |
| Montana | 2.14 | 46 | 2.20 | 45 | 0.39 | 47 |
| Nebraska | 13.65 | 3 | 13.48 | 3 | 2.00 | 3 |
| Nevada | 2.20 | 44 | 2.54 | 44 | 0.95 | 31 |
| New Hampshire | 5.80 | 20 | 6.30 | 19 | 0.93 | 34 |
| New Jersey | 3.78 | 37 | 4.41 | 34 | 1.03 | 29 |
| New Mexico | 3.89 | 35 | 3.79 | 36 | 1.02 | 30 |
| New York | 8.98 | 8 | 9.24 | 7 | 1.58 | 9 |
| North Carolina | 5.23 | 26 | 5.46 | 25 | 1.15 | 21 |
| North Dakota | 9.18 | 6 | 8.36 | 10 | 1.13 | 24 |
| Ohio | 7.70 | 14 | 8.03 | 11 | 1.55 | 10 |
| Oklahoma | 4.06 | 34 | 4.02 | 35 | 0.79 | 37 |
| Oregon | 3.01 | 41 | 3.10 | 39 | 0.65 | 43 |
| Pennsylvania | 9.07 | 7 | 9.69 | 6 | 1.45 | 11 |
| Rhode Island | 7.92 | 11 | 7.91 | 13 | 0.90 | 35 |
| South Carolina | 5.23 | 25 | 5.38 | 26 | 1.18 | 18 |
| South Dakota | 6.61 | 16 | 6.47 | 16 | 1.07 | 26 |
| Tennessee | 6.91 | 15 | 7.26 | 15 | 1.58 | 8 |
| Texas | 5.35 | 24 | 5.06 | 28 | 1.38 | 12 |
| Utah | 3.81 | 36 | 3.17 | 38 | 0.46 | 46 |
| Vermont | 16.63 | 2 | 16.35 | 2 | 2.12 | 2 |
| Virginia | 5.73 | 21 | 5.79 | 22 | 1.17 | 19 |
| Washington | 2.17 | 45 | 2.14 | 46 | 0.48 | 45 |
| West Virginia | 8.61 | 10 | 9.92 | 5 | 1.63 | 7 |
| Wisconsin | 6.45 | 17 | 6.41 | 17 | 1.14 | 22 |
| Wyoming | 3.14 | 39 | 3.00 | 40 | 0.94 | 33 |

Source: Population—U.S. Census Bureau; Medical School Seats—Association of American Medical Colleges and Idaho State Legislature Budget Book; Graduates—U.S. Department of Education.

### *3.4.2 Mountain State Benchmark Comparisons of Seats per Capita*

The Mountain State grouping is comprised of eight states in the western U.S., excluding those on the Pacific coast. These states, illustrated in **Exhibit 3-5**, share a number of characteristics such as relative age, population size and density, and economic capacity to support public goods and services.

**EXHIBIT 3-5**
**MOUNTAIN STATE GROUPING FOR ANALYSIS OF ACCESS TO MEDICAL EDUCATION**



As indicated in **Exhibit 3-6**, Idaho ranked last among the eight Mountain States in the number of seats per 100,000 population in 2005, and was at 68 percent of the average of the other states. On the basis of young adult population, Idaho also ranked last among the Mountain States (66 percent of average). When comparing seats on a per baccalaureate degree basis, Idaho ranked last again, and was at 68 percent of the group average. Even though Idaho ranked at the bottom of this group on all three measures, it fell much nearer the Mountain State group average than the much higher national average.

**EXHIBIT 3-6**
**COMPARISONS AMONG MOUNTAIN STATES**
**ON ACCESS TO MEDICAL EDUCATION, 2005**

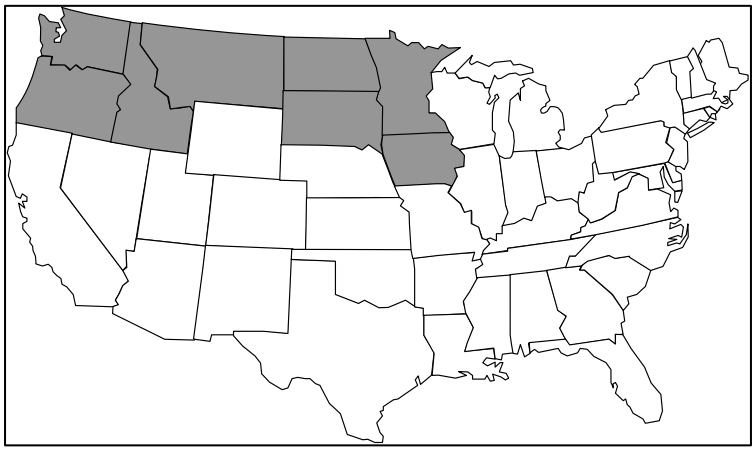
| State | 1st Year Medical School Seats per 100,000 Population | | 1st Year Medical School Seats per 10,000 Ages 18-24 Population | | 1st Year Medical School Seats in State per 100 Baccalaureate Graduates | |
|---|---|---|---|---|---|---|
| | Ratio | Rank | Ratio | Rank | Ratio | Rank |
| Group | 2.69 | | 2.66 | | 0.53 | |
| Arizona | 1.88 | 7 | 1.93 | 7 | 0.38 | 7 |
| Colorado | 2.93 | 4 | 2.87 | 4 | 0.54 | 4 |
| **Idaho** | **1.82** | **8** | **1.76** | **8** | **0.36** | **8** |
| Montana | 2.14 | 6 | 2.20 | 6 | 0.39 | 6 |
| Nevada | 2.20 | 5 | 2.54 | 5 | 0.95 | 2 |
| New Mexico | 3.89 | 1 | 3.79 | 1 | 1.02 | 1 |
| Utah | 3.81 | 2 | 3.17 | 2 | 0.46 | 5 |
| Wyoming | 3.14 | 3 | 3.00 | 3 | 0.94 | 3 |

Source: Population—U.S. Census Bureau; Medical School Seats—Association of American Medical Colleges and Idaho State Legislature Budget Book; Graduates—U.S. Department of Education.

### *3.4.3 Northwest State Benchmark Comparisons of Seats per Capita*

A second set of states selected for comparison are those that are considered to be in the Northwest. These eight states are illustrated in the map in **Exhibit 3-7**. Like the Mountain States, these states share a number of characteristics that may play an important role in their ability to support expanded access to medical education.

**EXHIBIT 3-7**
**NORTHWEST STATE GROUPING FOR ANALYSIS**
**OF ACCESS TO MEDICAL EDUCATION**



Idaho ranked last among the eight Northwest States in the number of seats per 100,000 population in 2005, and was at 47 percent of the average of the other states (see **Exhibit 3-8**). On the basis of population ages 18-24, Idaho ranked last among the Northwest States (46 percent of average). When comparing seats per recent college graduate, Idaho ranked last again, and was at 50 percent of the group average. Even

though Idaho also ranked last on all measures in this group of states, it was further below the Northwest State average than the Mountain State average.

**EXHIBIT 3-8**
**COMPARISONS AMONG NORTHWEST STATES ON ACCESS TO MEDICAL EDUCATION, 2005**

| State | 1st Year Medical School Seats per 100,000 Population | | 1st Year Medical School Seats per 10,000 Ages 18-24 Population | | 1st Year Medical School Seats in State per 100 Baccalaureate Graduates | |
|---|---|---|---|---|---|---|
| | Ratio | Rank | Ratio | Rank | Ratio | Rank |
| Group | 3.85 | | 3.80 | | 0.72 | |
| **Idaho** | **1.82** | **8** | **1.76** | **8** | **0.36** | **8** |
| Iowa | 4.75 | 4 | 4.85 | 4 | 0.68 | 4 |
| Minnesota | 5.21 | 3 | 4.96 | 3 | 0.94 | 3 |
| Montana | 2.14 | 7 | 2.20 | 6 | 0.39 | 7 |
| North Dakota | 9.18 | 1 | 8.36 | 1 | 1.13 | 1 |
| Oregon | 3.01 | 5 | 3.10 | 5 | 0.65 | 5 |
| South Dakota | 6.61 | 2 | 6.47 | 2 | 1.07 | 2 |
| Washington | 2.17 | 6 | 2.14 | 7 | 0.48 | 6 |

Source: Population—U.S. Census Bureau; Medical School Seats—Association of American Medical Colleges and Idaho State Legislature Budget Book; Graduates—U.S. Department of Education.

### *3.4.4 Small Population State Benchmark Comparisons of Seats per Capita*

The final set of states selected for comparison is based solely on population size. A common perception revealed in the state leader interviews was that Idaho is too small to support expanded access to medical education. In 2005, the following seven states, like Idaho, had populations of more than 1 million, but less than 2 million:

- Hawai'i, population of 1.27 million
- Maine, population of 1.31 million
- Nebraska, population of 1.76 million
- New Hampshire, population of 1.31 million
- New Mexico, population of 1.93 million
- Rhode Island, population of 1.07 million
- West Virginia, population of 1.81 million

As shown in **Exhibit 3-9**, Idaho ranked seventh among the eight Small Population States in the number of seats per 100,000 population in 2005, and was at 27 percent of the average of the other states. On the basis of young adult population, Idaho again ranked 7th among the Small Population States (25 percent of average). When comparing seats on a per baccalaureate degree basis, Idaho ranked 7th again, and was at 30 percent of the group average. Maine, another state without an allopathic medical school, ranked below Idaho on all three measures. Even though Idaho did not rank last on any measure among this group of states, it was proportionately further below the group average for Small Population States than any of the other three benchmark averages.

**EXHIBIT 3-9**
**COMPARISONS AMONG SMALL STATES**
**ON ACCESS TO MEDICAL EDUCATION, 2005**

| State | 1st Year Medical School Seats per 100,000 Population | | 1st Year Medical School Seats per 10,000 Ages 18-24 Population | | 1st Year Medical School Seats in State per 100 Baccalaureate Graduates | |
|---|---|---|---|---|---|---|
| | Ratio | Rank | Ratio | Rank | Ratio | Rank |
| Group | 6.65 | | 6.91 | | 1.19 | |
| Hawai'i | 5.05 | 5 | 5.05 | 5 | 1.21 | 3 |
| **Idaho** | **1.82** | **7** | **1.76** | **7** | **0.36** | **7** |
| Maine | 0.00 | 8 | 0.00 | 8 | 0.00 | 8 |
| Nebraska | 13.65 | 1 | 13.48 | 1 | 2.00 | 1 |
| New Hampshire | 5.80 | 4 | 6.30 | 4 | 0.93 | 5 |
| New Mexico | 3.89 | 6 | 3.79 | 6 | 1.02 | 4 |
| Rhode Island | 7.92 | 3 | 7.91 | 3 | 0.90 | 6 |
| West Virginia | 8.61 | 2 | 9.92 | 2 | 1.63 | 2 |

Source: Population—U.S. Census Bureau; Medical School Seats—Association of American Medical Colleges and Idaho State Legislature Budget Book; Graduates-—U.S. Department of Education.

Many interviewees expressed the view that Idaho was too small to operate its own medical school, especially one equal in quality to the schools with which the state currently contracts for entering medical student seats. While we are unable to provide meaningful information on the relative quality of medical schools across the nation (it should be noted that all U.S. medical schools are required to meet high standards of quality set forth in the accreditation criteria of the Liaison Committee on Medical Education [LCME]), we do provide details on the number of medical schools in states with populations of less than 2 million in **Exhibit 3-10**.

As seen, 10 of the other 14 states in this category have medical schools (3 of the other 4 without schools are also WWAMI states). It is important to note that in 2 of these 10 states (Rhode Island and New Hampshire), the schools are private rather than state universities. The public schools in small population states typically have entering classes of 60 to 100 students. Interestingly, West Virginia, with a population of 1.8 million, operates two state-supported allopathic medical schools as well as a state-supported osteopathic school. Idaho is the most populous state in the nation that does not operate its own medical school.

**EXHIBIT 3-10**
**MEDICAL SCHOOLS IN SMALL STATES**
**WITH LESS THAN 2 MILLION POPULATION**

| State | Population 2005 | Contract Programs | Medical Schools | | |
|---|---|---|---|---|---|
| | | | Public | Private | Osteopathic |
| Wyoming | 508,798 | WWAMI | | | |
| Vermont | 622,387 | | University of Vermont | | |
| North Dakota | 634,605 | | University of North Dakota | | |
| Alaska | 663,253 | WWAMI | | | |
| South Dakota | 774,883 | | University of South Dakota | | |
| Delaware | 841,741 | | | | |
| Montana | 934,737 | WWAMI | | | |
| Rhoda Island | 1,073,579 | | | Brown University | |
| Hawai'i | 1,273,278 | | University of Hawaii | | |
| New Hampshire | 1,306,819 | | | Dartmouth College | |
| Maine | 1,318,220 | | | | University of New England^ |
| **Idaho** | **1,429,367** | **WWAMI** | | | |
| Nebraska | 1,758,163 | | University of Nebraska | Creighton University | |
| West Virginia | 1,814,083 | | University of West Virginia & Marshall University | | WV School of Osteopathic Medicine^^ |
| New Mexico | 1,925,985 | | University of New Mexico | | |

^The University of New England osteopathic school is private.
^^The West Virginia School of Osteopathic Medicine is public.
Source: Population—U.S. Census Bureau; Medical School Information—U.S. Department of Education.

### *3.4.5 Projected Medical School Access in 2020*

As noted in the introduction to this chapter, expansion of medical education necessitates long-term planning due to the time required for universities to develop or expand programs and for students to advance through the medical education pipeline. In **Exhibit 3-11**, we summarize results of our analyses of projected student access to medical education in the year 2020. These projections were based on announced plans of medical schools in the various states to expand their enrollment capacities and U.S. Census Bureau population projections for each state.

**EXHIBIT 3-11**
**PROJECTED ACCESS TO MEDICAL EDUCATION IN 2020**
**BASED ON PROJECTED POPULATION AND**
**MEDICAL SCHOOL EXPANSION PLANS**

| Comparison Group | Projected 1st Year Medical School Seats | Projected Total Population 2020 | Projected Seats per 100,000 Population | Projected Ages 18-24 Population 2020 | Projected Seats per 10,000 Ages 18-24 Population |
|---|---|---|---|---|---|
| National Summary | 21,784 | 335,804,546 | 6.49 | 29,338,501 | 7.42 |
| Mountain State Summary | 793 | 23,815,716 | 3.33 | 2,138,628 | 3.71 |
| Northwest State Summary | 878 | 23,068,580 | 3.81 | 1,953,434 | 4.49 |
| Small Population State Summary | 751 | 11,188,150 | 6.71 | 877,125 | 8.56 |
| Idaho | 28 | 1,741,333 | 1.61 | 142,208 | 1.97 |

Source: Population—U.S. Census Bureau; Projected Medical School Seats—AAMC reports on medical school expansion and individual medical school Web sites.

Nationally, the projected number of first-year seats in medical schools is expected to increase by 30 percent, compared to projected population growth of 13 percent. Projected growth in the Mountain States is even more dramatic, with the number of

seats increasing by 56 percent (significant expansions have been announced in Arizona and Colorado). Growth at lesser rates is planned for the Northwest States and Small Population States. Overall, the seats per 100,000 population in 2020 are projected to total:

- 6.49 nationally
- 3.33 in the Mountain States
- 3.81 in the Northwest States
- 6.71 in the Small Population States
- 1.61 in Idaho

A similar pattern is projected for seats per population aged 18-24, with Idaho still well below any comparison average. The minimal increase in growth is based on the two additional WWAMI seats that were funded beginning in 2007.

### *3.4.6 Summary of Benchmark Comparisons*

This section of the report provides data to assess Idaho students' relative level of access to medical school as compared to their peers across the nation. A variety of benchmarks based on different population cohorts and state groupings have been presented. **Exhibit 3-12** displays the results of these comparisons as well as the numbers of medical school seats that would be required to place Idaho students at parity with their various sets of peers.

Overall, Idaho ranks near the bottom of each comparison group for each population cohort. As compared to the 26 state-supported students from Idaho in 2006, a significantly larger number would be needed to achieve parity. Using the average of each measure across state groupings, the typical number of first-year medical school seats needed for parity in access ranges from 66 to 71 across the various comparisons for 2005, and from 86 to 89 seats for 2020.

**EXHIBIT 3-12**
**SUMMARY OF BENCHMARK COMPARISONS**
**ON ACCESS TO MEDICAL EDUCATION**

| Comparison Basis and Year | Idaho | National Average | Mountain State Average | Northwest State Average | Small Population State Average | Average of Four Comparison Groups |
|---|---|---|---|---|---|---|
| Seats per 100,000 Population | | | | | | |
| 2005 | 1.82 | 5.65 | 2.69 | 3.85 | 6.65 | 4.71 |
| 2020 | 1.61 | 6.49 | 3.33 | 3.81 | 6.71 | 5.08 |
| *Total Idaho Seats to Achieve Parity* | | | | | | |
| *2005* | | *81* | *38* | *55* | *95* | *67* |
| *2020* | | *113* | *58* | *66* | *117* | *89* |
| Seats per 10,000 18-24 Population | | | | | | |
| 2005 | 1.76 | 5.75 | 2.66 | 3.80 | 6.91 | 4.78 |
| 2020 | 1.97 | 7.42 | 3.71 | 4.49 | 8.56 | 6.05 |
| *Total Idaho Seats to Achieve Parity* | | | | | | |
| *2005* | | *85* | *39* | *56* | *102* | *71* |
| *2020* | | *106* | *53* | *64* | *122* | *86* |
| Seats per 100 College Graduates | | | | | | |
| 2005 | 0.36 | 1.17 | 0.53 | 0.72 | 1.19 | 0.90 |
| *Total Idaho Seats to Achieve Parity* | | | | | | |
| *2005* | | *85* | *39* | *52* | *87* | *66* |

### *3.4.7 Analysis of Sufficiency of Current Pool of Applicants*

Our analyses of student access suggest that a significantly greater number of medical school seats would need to be available to Idaho students in order for them to have the same level of opportunity for medical education as their peers in other states. An obvious question is whether there are enough qualified applicants to fill such an expanded number of seats.

As national medical education leaders have become more concerned about the need for expanded training capacity over the past several years, the AAMC has called for a 30 percent increase in medical school enrollments. As part of its analyses, the AAMC examined the depth of the national applicant pool for medical education to determine whether there were adequate numbers of qualified students. Specifically, it addressed the question: Can applicant growth sustain higher enrollment at current levels of quality? It concluded:

> *We believe future applicant pools should be large enough to sustain a national first-year medical school enrollment of 21,434 students, equal to a 30 percent increase over the matriculating class of 2002. If 2 percent of college graduates continue to apply to medical school, the projected growth in numbers of college graduates will likely swell applicant pools by 2010 to levels needed to meet the minimum applicant-to-matriculant ratios that have sustained medical school admissions in the past.*[1]

To examine the implications of this question for Idaho medical education, we compared the medical school applicant pools from each of the states. As seen in **Exhibit 3-13**,

[1] Association of American Medical Colleges. *Analysis in Brief* (Volume 7, Number 3). 2007.

Idaho residents who apply to medical school exceed the national averages for each of the three components of the Medical College Admissions Test (MCAT) and have higher grade point averages (GPAs) in science courses, non-science courses, and overall.

Medical school admissions officers widely accept the composite MCAT score of 24 (8 in each of the three sections) to be the threshold score predictive of passage of the United States Medical Licensure Exam (USMLE) Part I. Evidence has shown that 95 percent of applicants scoring 24 on the MCAT will pass the USMLE Part I. In practice, many medical schools recruit students with the strongest MCAT scores, and class averages of 30 or higher are typical in America's most selective medical schools. Our interpretation of the data is that Idaho's applicant pool is well above the national average, approaching the average for students admitted to America's most selective medical schools.

With a state average combined score of 28.2, Idaho apparently has a disproportionately large number of well-qualified potential students who are not even applying to medical school due to the intense competition for the limited number of state-funded medical school seats.

## EXHIBIT 3-13
## MCAT SCORES AND GPAs FOR APPLICANTS BY STATE OF LEGAL RESIDENCE, 2006

| State of Legal Residence | MCAT Verbal | | MCAT PhysSc | | MCAT BioSc | | GPA Science | | GPA Other | | GPA Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| Alabama | 9.0 | 2.1 | 8.7 | 2.2 | 9.1 | 2.0 | 3.42 | 0.44 | 3.67 | 0.31 | 3.53 | 0.36 |
| Alaska | 9.6 | 1.7 | 9.1 | 1.9 | 9.6 | 1.9 | 3.37 | 0.41 | 3.63 | 0.32 | 3.48 | 0.34 |
| Arizona | 8.8 | 2.2 | 8.6 | 2.1 | 9.1 | 2.0 | 3.34 | 0.47 | 3.62 | 0.34 | 3.47 | 0.37 |
| Arkansas | 8.7 | 2.2 | 7.9 | 2.0 | 8.6 | 2.0 | 3.38 | 0.48 | 3.67 | 0.32 | 3.52 | 0.36 |
| California | 9.1 | 2.2 | 9.8 | 2.2 | 10.1 | 2.1 | 3.34 | 0.45 | 3.57 | 0.31 | 3.44 | 0.36 |
| Colorado | 9.4 | 2.0 | 9.3 | 2.0 | 9.8 | 1.9 | 3.43 | 0.42 | 3.61 | 0.34 | 3.51 | 0.35 |
| Connecticut | 9.5 | 2.0 | 9.4 | 2.0 | 10.0 | 1.8 | 3.38 | 0.38 | 3.60 | 0.27 | 3.48 | 0.30 |
| Delaware | 8.6 | 2.5 | 8.6 | 2.8 | 9.1 | 2.6 | 3.33 | 0.48 | 3.60 | 0.33 | 3.44 | 0.41 |
| District of Columbia | 8.4 | 2.7 | 8.3 | 2.4 | 8.8 | 2.3 | 3.18 | 0.59 | 3.42 | 0.44 | 3.30 | 0.50 |
| Florida | 8.6 | 2.3 | 8.5 | 2.1 | 9.0 | 2.1 | 3.34 | 0.47 | 3.63 | 0.33 | 3.47 | 0.38 |
| Georgia | 8.6 | 2.2 | 8.4 | 2.3 | 8.9 | 2.3 | 3.32 | 0.47 | 3.58 | 0.33 | 3.44 | 0.37 |
| Hawaii | 8.5 | 2.1 | 8.7 | 2.3 | 9.2 | 2.1 | 3.28 | 0.52 | 3.58 | 0.33 | 3.43 | 0.39 |
| **Idaho** | **9.3** | ***1.8*** | **9.2** | ***2.0*** | **9.7** | ***1.7*** | **3.47** | ***0.42*** | **3.69** | ***0.28*** | **3.57** | ***0.33*** |
| Illinois | 9.0 | 2.1 | 9.1 | 2.2 | 9.4 | 2.0 | 3.34 | 0.46 | 3.59 | 0.35 | 3.45 | 0.37 |
| Indiana | 9.2 | 1.9 | 9.1 | 2.0 | 9.5 | 1.9 | 3.46 | 0.43 | 3.70 | 0.27 | 3.57 | 0.33 |
| Iowa | 9.5 | 1.9 | 9.3 | 2.1 | 9.9 | 1.8 | 3.50 | 0.39 | 3.73 | 0.25 | 3.60 | 0.31 |
| Kansas | 8.8 | 2.1 | 8.5 | 2.0 | 9.0 | 1.9 | 3.46 | 0.43 | 3.69 | 0.30 | 3.57 | 0.34 |
| Kentucky | 8.8 | 2.0 | 8.4 | 2.2 | 8.9 | 2.2 | 3.39 | 0.45 | 3.66 | 0.33 | 3.51 | 0.36 |
| Louisiana | 8.5 | 2.0 | 8.3 | 2.0 | 8.8 | 2.0 | 3.41 | 0.44 | 3.66 | 0.32 | 3.52 | 0.36 |
| Maine | 9.4 | 1.8 | 9.1 | 2.4 | 9.6 | 2.0 | 3.45 | 0.40 | 3.63 | 0.27 | 3.53 | 0.31 |
| Maryland | 8.9 | 2.4 | 9.1 | 2.5 | 9.6 | 2.3 | 3.34 | 0.46 | 3.60 | 0.31 | 3.45 | 0.36 |
| Massachusetts | 9.5 | 2.1 | 9.6 | 2.3 | 10.1 | 2.0 | 3.36 | 0.44 | 3.55 | 0.33 | 3.44 | 0.36 |
| Michigan | 8.9 | 2.1 | 9.3 | 2.3 | 9.7 | 2.1 | 3.37 | 0.47 | 3.61 | 0.32 | 3.48 | 0.38 |
| Minnesota | 9.3 | 2.0 | 9.4 | 2.0 | 9.7 | 1.9 | 3.42 | 0.42 | 3.64 | 0.30 | 3.52 | 0.33 |
| Mississippi | 8.6 | 2.2 | 7.8 | 2.1 | 8.4 | 2.2 | 3.42 | 0.49 | 3.69 | 0.32 | 3.54 | 0.38 |
| Missouri | 9.2 | 2.1 | 9.0 | 2.2 | 9.5 | 2.0 | 3.49 | 0.41 | 3.67 | 0.33 | 3.57 | 0.35 |
| Montana | 9.4 | 1.8 | 9.0 | 1.7 | 9.8 | 1.6 | 3.51 | 0.41 | 3.71 | 0.26 | 3.60 | 0.32 |
| Nebraska | 8.8 | 2.0 | 8.5 | 1.9 | 9.0 | 1.9 | 3.47 | 0.42 | 3.69 | 0.30 | 3.57 | 0.33 |
| Nevada | 8.4 | 2.2 | 8.3 | 2.2 | 9.0 | 2.4 | 3.26 | 0.53 | 3.57 | 0.37 | 3.40 | 0.41 |
| New Hampshire | 9.7 | 2.2 | 9.0 | 2.2 | 9.8 | 2.0 | 3.47 | 0.41 | 3.60 | 0.35 | 3.53 | 0.36 |
| New Jersey | 9.0 | 2.1 | 9.4 | 2.2 | 9.8 | 2.0 | 3.39 | 0.45 | 3.58 | 0.31 | 3.48 | 0.35 |
| New Mexico | 9.1 | 2.1 | 8.4 | 2.1 | 9.2 | 2.0 | 3.36 | 0.45 | 3.62 | 0.35 | 3.48 | 0.36 |
| New York | 9.0 | 2.2 | 9.3 | 2.3 | 9.6 | 2.1 | 3.35 | 0.45 | 3.58 | 0.32 | 3.46 | 0.36 |
| North Carolina | 9.1 | 2.2 | 8.8 | 2.3 | 9.2 | 2.3 | 3.33 | 0.47 | 3.55 | 0.34 | 3.43 | 0.38 |
| North Dakota | 9.0 | 1.7 | 8.8 | 1.8 | 9.3 | 1.7 | 3.51 | 0.37 | 3.73 | 0.28 | 3.61 | 0.30 |
| Ohio | 9.0 | 2.0 | 9.0 | 2.1 | 9.4 | 1.9 | 3.41 | 0.44 | 3.66 | 0.31 | 3.52 | 0.35 |
| Oklahoma | 8.8 | 2.1 | 8.2 | 2.1 | 8.7 | 1.9 | 3.44 | 0.42 | 3.69 | 0.29 | 3.55 | 0.32 |
| Oregon | 9.5 | 2.1 | 9.6 | 2.2 | 10.1 | 1.9 | 3.44 | 0.43 | 3.63 | 0.30 | 3.53 | 0.34 |
| Pennsylvania | 9.2 | 2.0 | 9.3 | 2.2 | 9.7 | 1.9 | 3.40 | 0.42 | 3.63 | 0.31 | 3.50 | 0.34 |
| Puerto Rico | 5.9 | 2.2 | 6.3 | 1.7 | 6.7 | 2.2 | 3.21 | 0.55 | 3.61 | 0.35 | 3.39 | 0.43 |
| Rhode Island | 9.2 | 2.3 | 9.1 | 2.4 | 9.6 | 2.2 | 3.34 | 0.43 | 3.60 | 0.31 | 3.46 | 0.35 |
| South Carolina | 8.8 | 2.1 | 8.2 | 2.1 | 8.8 | 2.0 | 3.39 | 0.45 | 3.59 | 0.34 | 3.48 | 0.37 |
| South Dakota | 9.1 | 1.8 | 8.7 | 2.2 | 9.3 | 2.0 | 3.51 | 0.42 | 3.70 | 0.32 | 3.60 | 0.36 |
| Tennessee | 8.6 | 2.1 | 8.3 | 2.2 | 8.8 | 2.1 | 3.33 | 0.50 | 3.61 | 0.34 | 3.46 | 0.39 |
| Texas | 8.9 | 2.2 | 9.1 | 2.3 | 9.5 | 2.1 | 3.41 | 0.44 | 3.63 | 0.33 | 3.47 | 0.37 |
| Utah | 9.2 | 1.7 | 9.3 | 1.9 | 10.0 | 1.7 | 3.46 | 0.38 | 3.69 | 0.28 | 3.56 | 0.30 |
| Vermont | 9.8 | 1.8 | 9.5 | 2.1 | 10.0 | 1.8 | 3.41 | 0.41 | 3.56 | 0.28 | 3.47 | 0.31 |
| Virginia | 9.2 | 2.1 | 9.1 | 2.3 | 9.5 | 2.1 | 3.31 | 0.45 | 3.54 | 0.34 | 3.41 | 0.37 |
| Washington | 9.5 | 1.9 | 9.8 | 2.0 | 10.2 | 1.8 | 3.44 | 0.37 | 3.65 | 0.27 | 3.53 | 0.30 |
| West Virginia | 8.7 | 2.0 | 8.2 | 2.1 | 8.6 | 2.0 | 3.40 | 0.39 | 3.70 | 0.27 | 3.54 | 0.30 |
| Wisconsin | 9.4 | 1.9 | 9.4 | 2.1 | 9.9 | 1.8 | 3.49 | 0.40 | 3.68 | 0.28 | 3.57 | 0.32 |
| Wyoming | 9.1 | 2.0 | 8.5 | 2.0 | 9.3 | 1.9 | 3.47 | 0.36 | 3.66 | 0.25 | 3.55 | 0.28 |
| U.S. Territories | 7.2 | 1.7 | 6.6 | 1.7 | 7.8 | 2.1 | 3.22 | 0.48 | 3.64 | 0.25 | 3.41 | 0.36 |
| Canada | 8.2 | 2.0 | 9.6 | 1.9 | 10.0 | 1.9 | 3.38 | 0.51 | 3.57 | 0.36 | 3.47 | 0.41 |
| Other | 8.8 | 2.2 | 10.1 | 2.3 | 10.2 | 2.2 | 3.45 | 0.48 | 3.60 | 0.34 | 3.52 | 0.39 |
| All | 9.0 | 2.2 | 9.1 | 2.2 | 9.5 | 2.1 | 3.38 | 0.45 | 3.61 | 0.32 | 3.48 | 0.36 |

Source: Association of American Medical Colleges.

We also analyzed applicant information for the WWAMI program from each of the participating states over the past five years. As seen in **Exhibit 3-14**, the ratio of applicants per entrant in Idaho was the highest among the five states. Idaho entrants ranked second on MCAT scores among the five states and were above average on GPA performance. Since the WWAMI applicant base is much stronger than the overall national applicant pool, the performance of Idaho students is especially impressive. Importantly, these analyses provide confidence that a significant expansion of medical school enrollment among Idaho students could occur without adverse impact on the quality of students.

**EXHIBIT 3-14**
**ANALYSIS OF WWAMI APPLICANT POOL**
**BY STATE, 2003-2007 ENTERING CLASSES**

| Year Entered | State of Residence | Total Applicants | Number of Entering Students | Average MCAT Score | Average Undergraduate GPA | Applicants per Entrant |
|---|---|---|---|---|---|---|
| 2007 | Washington | 731 | 105 | 10.746 | 3.67 | 6.96 |
| 2007 | Wyoming | 46 | 11 | 8.848 | 3.75 | 4.18 |
| 2007 | Alaska | 83 | 20 | 9.106 | 3.44 | 4.15 |
| 2007 | Montana | 87 | 20 | 9.519 | 3.54 | 4.35 |
| 2007 | Idaho | 150 | 20 | 10.433 | 3.73 | 7.50 |
| 2007 | **Total** | **1,097** | **176** | **10.266** | **3.64** | **6.23** |
| 2006 | Washington | 648 | 104 | 10.580 | 3.61 | 6.23 |
| 2006 | Wyoming | 54 | 14 | 8.852 | 3.67 | 3.86 |
| 2006 | Alaska | 78 | 10 | 10.500 | 3.61 | 7.80 |
| 2006 | Montana | 97 | 20 | 9.783 | 3.74 | 4.85 |
| 2006 | Idaho | 124 | 18 | 9.543 | 3.58 | 6.89 |
| 2006 | **Total** | **1,001** | **166** | **10.221** | **3.63** | **6.03** |
| 2005 | Washington | 623 | 103 | 10.534 | 3.62 | 6.05 |
| 2005 | Wyoming | 62 | 12 | 9.889 | 3.71 | 5.17 |
| 2005 | Alaska | 67 | 11 | 9.909 | 3.61 | 6.09 |
| 2005 | Montana | 98 | 20 | 10.150 | 3.72 | 4.90 |
| 2005 | Idaho | 140 | 18 | 10.037 | 3.71 | 7.78 |
| 2005 | **Total** | **990** | **164** | **10.344** | **3.65** | **6.04** |
| 2004 | Washington | 628 | 109 | 10.517 | 3.64 | 5.76 |
| 2004 | Wyoming | 47 | 10 | 9.567 | 3.78 | 4.70 |
| 2004 | Alaska | 66 | 10 | 10.367 | 3.69 | 6.60 |
| 2004 | Montana | 103 | 20 | 10.150 | 3.75 | 5.15 |
| 2004 | Idaho | 104 | 18 | 10.407 | 3.74 | 5.78 |
| 2004 | **Total** | **948** | **167** | **10.395** | **3.68** | **5.68** |
| 2003 | Washington | 651 | 107 | 10.504 | 3.67 | 6.08 |
| 2003 | Wyoming | 55 | 10 | 9.433 | 3.77 | 5.50 |
| 2003 | Alaska | 59 | 10 | 9.866 | 3.64 | 5.90 |
| 2003 | Montana | 95 | 20 | 9.883 | 3.76 | 4.75 |
| 2003 | Idaho | 103 | 18 | 10.204 | 3.71 | 5.72 |
| 2003 | **Total** | **963** | **165** | **10.292** | **3.69** | **5.84** |
| 5-Yr Sum | Washington | 3,281 | 528 | 10.576 | 3.64 | 6.21 |
| 5-Yr Sum | Wyoming | 264 | 57 | 9.297 | 3.73 | 4.63 |
| 5-Yr Sum | Alaska | 353 | 61 | 9.811 | 3.57 | 5.79 |
| 5-Yr Sum | Montana | 480 | 100 | 9.897 | 3.70 | 4.80 |
| 5-Yr Sum | Idaho | 621 | 92 | 10.132 | 3.69 | 6.75 |
| 5-Yr Sum | **Total** | **4,999** | **838** | **10.303** | **3.66** | **5.97** |

Source: WWAMI Program Office – Idaho.

***Idaho Medical Students in Other Than State-Funded Seats.*** Idaho students, like those all over the nation, pursue medical education beyond the borders of their home states (even after adjusting for contracted seats in nearby states). Their reasons for doing so are varied and include a desire to graduate from a nationally prestigious school, to carry on a family tradition of attending a certain school, or simply to go wherever they can gain admission. For the entering class of 2006, data from the AAMC show that 61 Idaho residents began attending medical school—all at out-of-state locations (see **Exhibit 3-15**). After adjusting for the 26 state-funded seats in 2006 with the Washington and Utah programs, we determined that more than half the students left Idaho without state support for their medical educations.

Perhaps more importantly, Idaho applicants have one of the lowest rates of entrance among students across the 50 states. Nearly 60 percent of all applicants to medical school from Idaho failed to matriculate in 2006, compared to a national average of 55.6 percent. Given the previously noted stronger than average academic qualifications of Idaho applicants, a likely interpretation is that Idaho students were pursuing too few seats in the region to have a high probability of admission.

## EXHIBIT 3-15
## MIX OF IN-STATE AND OUT-OF-STATE
## MEDICAL SCHOOL ATTENDANCE, 2006

| State of Legal Residence | Applicants | Matriculation Status | | | | | |
|---|---|---|---|---|---|---|---|
| | | Matriculated In State | | Matriculated Out of State | | NOT Matriculated | |
| | | N | % | N | % | N | % |
| Alabama | 542 | 226 | 41.7 | 56 | 10.3 | 260 | 48.0 |
| Alaska | 85 | - | - | 29 | 34.1 | 56 | 65.9 |
| Arizona | 574 | 110 | 19.2 | 113 | 19.7 | 351 | 61.1 |
| Arkansas | 305 | 132 | 43.3 | 17 | 5.6 | 156 | 51.1 |
| California | 4,452 | 808 | 18.1 | 1,160 | 26.1 | 2,484 | 55.8 |
| Colorado | 646 | 117 | 18.1 | 140 | 21.7 | 389 | 60.2 |
| Connecticut | 414 | 77 | 18.6 | 118 | 28.5 | 219 | 52.9 |
| Delaware | 78 | - | - | 38 | 48.7 | 40 | 51.3 |
| District of Columbia | 87 | 15 | 17.2 | 17 | 19.5 | 55 | 63.2 |
| Florida | 1,748 | 477 | 27.3 | 247 | 14.1 | 1,024 | 58.6 |
| Georgia | 1,154 | 315 | 27.3 | 167 | 14.5 | 672 | 58.2 |
| Hawaii | 214 | 56 | 26.2 | 37 | 17.3 | 121 | 56.5 |
| **Idaho** | **150** | **-** | **-** | **61** | **40.7** | **89** | **59.3** |
| Illinois | 1,844 | 627 | 34.0 | 216 | 11.7 | 1,001 | 54.3 |
| Indiana | 702 | 240 | 34.2 | 90 | 12.8 | 372 | 53.0 |
| Iowa | 341 | 94 | 27.6 | 43 | 12.6 | 204 | 59.8 |
| Kansas | 434 | 150 | 34.6 | 65 | 15.0 | 219 | 50.5 |
| Kentucky | 412 | 190 | 46.1 | 26 | 6.3 | 196 | 47.6 |
| Louisiana | 886 | 341 | 38.5 | 58 | 6.5 | 487 | 55.0 |
| Maine | 84 | - | - | 39 | 46.4 | 45 | 53.6 |
| Maryland | 913 | 147 | 16.1 | 266 | 29.1 | 500 | 54.8 |
| Massachusetts | 897 | 217 | 24.2 | 216 | 24.1 | 464 | 51.7 |
| Michigan | 1,347 | 394 | 29.3 | 212 | 15.7 | 741 | 55.0 |
| Minnesota | 761 | 193 | 25.4 | 132 | 17.3 | 436 | 57.3 |
| Mississippi | 314 | 110 | 35.0 | 28 | 8.9 | 176 | 56.1 |
| Missouri | 568 | 199 | 35.0 | 83 | 14.6 | 286 | 50.4 |
| Montana | 101 | - | - | 50 | 49.5 | 51 | 50.5 |
| Nebraska | 291 | 111 | 38.1 | 18 | 6.2 | 162 | 55.7 |
| Nevada | 165 | 49 | 29.7 | 20 | 12.1 | 96 | 58.2 |
| New Hampshire | 97 | 6 | 6.2 | 38 | 39.2 | 53 | 54.6 |
| New Jersey | 1,358 | 302 | 22.2 | 363 | 26.7 | 693 | 51.0 |
| New Mexico | 238 | 70 | 29.4 | 39 | 16.4 | 129 | 54.2 |
| New York | 2,702 | 883 | 32.7 | 434 | 16.1 | 1,385 | 51.3 |
| North Carolina | 962 | 270 | 28.1 | 124 | 12.9 | 568 | 59.0 |
| North Dakota | 134 | 41 | 30.6 | 13 | 9.7 | 80 | 59.7 |
| Ohio | 1,485 | 565 | 38.0 | 147 | 9.9 | 773 | 52.1 |
| Oklahoma | 383 | 140 | 36.6 | 42 | 11.0 | 201 | 52.5 |
| Oregon | 380 | 84 | 22.1 | 101 | 26.6 | 195 | 51.3 |
| Pennsylvania | 1,423 | 438 | 30.8 | 237 | 16.7 | 748 | 52.6 |
| Puerto Rico | 374 | 188 | 50.3 | 10 | 2.7 | 176 | 47.1 |
| Rhode Island | 80 | 13 | 16.3 | 26 | 32.5 | 41 | 51.3 |
| South Carolina | 503 | 210 | 41.7 | 29 | 5.8 | 264 | 52.5 |
| South Dakota | 142 | 44 | 31.0 | 28 | 19.7 | 70 | 49.3 |
| Tennessee | 682 | 227 | 33.3 | 67 | 9.8 | 388 | 56.9 |
| Texas | 3,279 | 1,160 | 35.4 | 174 | 5.3 | 1,945 | 59.3 |
| Utah | 488 | 75 | 15.4 | 149 | 30.5 | 264 | 54.1 |
| Vermont | 87 | 36 | 41.4 | 10 | 11.5 | 41 | 47.1 |
| Virginia | 913 | 241 | 26.4 | 195 | 21.4 | 477 | 52.2 |
| Washington | 694 | 103 | 14.8 | 187 | 26.9 | 404 | 58.2 |
| West Virginia | 241 | 119 | 49.4 | 22 | 9.1 | 100 | 41.5 |
| Wisconsin | 680 | 213 | 31.3 | 104 | 15.3 | 363 | 53.4 |
| Wyoming | 56 | - | - | 24 | 42.9 | 32 | 57.1 |
| Other | 1,218 | - | - | 222 | 18.2 | 996 | 81.8 |
| Total | 39,108 | 10,823 | 27.7 | 6,547 | 16.7 | 21,738 | 55.6 |

Source: Association of American Medical Colleges, Applicant Matriculant File as of October 27,2006.

## *3.5 Residency Training*

As introduced in Chapter 1.0, residency training (or graduate medical education—GME) is an essential step in the medical education process. Physicians are not allowed to practice without supervision until some residency training is completed.

Not only is the opportunity to pursue GME a key component of student access, it is very important for physician access as well. The location of a new physician's residency training is the best single predictor of where he or she will eventually practice.

For purposes of assessing adequacy of GME opportunity in a state, two major issues should be considered:

- The number of first-year residency seats offered in the state each year.
- The number and range of medical specialties in which residencies are offered.

**Exhibit 3-16** provides a high-level summary of the opportunity for GME in Idaho compared to the same benchmarks used for considering medical school access.

**EXHIBIT 3-16**
**GRADUATE MEDICAL EDUCATION OFFERINGS**
**IDAHO AND BENCHMARK STATES**

| Benchmark | Number of 1st Year GME Seats | Number of Accredited Programs | Programs in Core Clinical Specialties | | | |
|---|---|---|---|---|---|---|
| | | | Family Medicine | Internal Medicine | Obstetrics/ Gynecology | Pediatrics |
| Idaho | 17 | 4 | 3 | 0 | 0 | 0 |
| National Average | 716 | 167 | 9 | 8 | 5 | 4 |
| Mountain State Average | 195 | 46 | 4 | 2 | 1 | 1 |
| Northwest State Average | 169 | 42 | 5 | 2 | 1 | 1 |
| Small Population State Average | 162 | 43 | 3 | 2 | 1 | 1 |

Source: *Graduate Medical Education Data Resource Book, 2005-2006*, Accreditation Council for Graduate Medical Education.

In terms of the number of seats available for medical school graduates to begin residency training, Idaho provided opportunities for 17 physicians in 4 accredited programs in 2005. By comparison, the national average of all 50 states was 716 first year seats, the Mountain State average was 195 seats, the Northwest State average was 169 seats, and the Small Population State average was 162 seats. The lack of opportunity for GME in Idaho is even more pronounced when considering the range of core program offerings. Idaho only offers three core programs (all in family medicine), while the other benchmark averages are significantly greater. Most other states provide coverage of all core clinical specialties.

To place the data above in greater perspective, **Exhibit 3-17** compares the number of residency seats to the population and the number of M.D. students for the various state benchmarks. On the basis of GME seats per 100,000 population, Idaho (with 1.16 only seats) ranks ahead of only Montana and trails all of the benchmarks by a considerable margin. When comparing first year residency seats per first year medical school seats, Idaho again ranks next to last.

At a minimum, a state needs to provide as many first-year residency seats as it has first-year medical school seats. Otherwise, some of the new M.D. graduates are forced to leave the state and the investment in the future medical workforce is devalued. Obviously, any state action to increase the number of medical school seats will need to be coupled with a decision to increase residency seats or slippage on this measure will occur.

## EXHIBIT 3-17
## COMPARISON OF FIRST-YEAR GRADUATE MEDICAL EDUCATION (GME) SEATS TO POPULATION AND FIRST-YEAR MEDICAL SCHOOL SEATS BY STATE

| State | Medical School First-Year Seats | GME First-Year Seats | GME Seats per Medical School Seat | Population | GME Seats per 100,000 Population |
|---|---|---|---|---|---|
| Alaska | 10 | 12 | 1.20 | 670,053 | 1.79 |
| Alabama | 232 | 442 | 1.90 | 4,599,030 | 9.61 |
| Arkansas | 150 | 216 | 1.44 | 2,810,872 | 7.68 |
| Arizona | 115 | 453 | 3.94 | 6,166,318 | 7.35 |
| California | 1,109 | 3,155 | 2.85 | 36,457,549 | 8.65 |
| Colorado | 143 | 408 | 2.85 | 4,753,377 | 8.58 |
| Connecticut | 197 | 695 | 3.53 | 3,504,809 | 19.83 |
| District of Columbia | 483 | 581 | 1.20 | 581,530 | 99.91 |
| Delaware | - | 84 | n.a | 853,476 | 9.84 |
| Florida | 480 | 1,054 | 2.19 | 18,089,888 | 5.83 |
| Georgia | 416 | 684 | 1.64 | 9,363,941 | 7.30 |
| Hawai'i | 64 | 152 | 2.38 | 1,285,498 | 11.82 |
| Iowa | 143 | 238 | 1.66 | 2,982,085 | 7.98 |
| **Idaho** | **26** | **17** | **0.65** | **1,466,465** | **1.16** |
| Illinois | 1,164 | 1,935 | 1.66 | 12,831,970 | 15.08 |
| Indiana | 290 | 457 | 1.58 | 6,313,520 | 7.24 |
| Kansas | 173 | 215 | 1.25 | 2,764,075 | 7.78 |
| Kentucy | 250 | 332 | 1.33 | 4,206,074 | 7.89 |
| Louisiana | 432 | 496 | 1.15 | 4,287,768 | 11.57 |
| Massachusetts | 635 | 1,723 | 2.72 | 6,437,193 | 26.77 |
| Maryland | 444 | 876 | 1.97 | 5,615,727 | 15.60 |
| Maine | - | 90 | n.a | 1,321,574 | 6.81 |
| Michigan | 559 | 1,511 | 2.71 | 10,095,643 | 14.97 |
| Minnesota | 253 | 731 | 2.90 | 5,167,101 | 14.15 |
| Missouri | 458 | 837 | 1.83 | 5,842,713 | 14.33 |
| Mississippi | 103 | 149 | 1.44 | 2,910,540 | 5.12 |
| Montana | 20 | 7 | 0.35 | 944,632 | 0.74 |
| North Carolina | 457 | 938 | 2.05 | 8,856,505 | 10.59 |
| North Dakota | 61 | 42 | 0.69 | 635,867 | 6.61 |
| Nebraska | 245 | 212 | 0.87 | 1,768,331 | 11.99 |
| New Hampshire | 79 | 124 | 1.56 | 1,314,895 | 9.43 |
| New Jersey | 334 | 906 | 2.71 | 8,724,560 | 10.38 |
| New Mexico | 76 | 170 | 2.24 | 1,954,599 | 8.70 |
| Nevada | 54 | 81 | 1.49 | 2,495,529 | 3.25 |
| New York | 1,749 | 5,495 | 3.14 | 19,306,183 | 28.46 |
| Ohio | 896 | 1,703 | 1.90 | 11,478,006 | 14.84 |
| Oklahoma | 152 | 229 | 1.51 | 3,579,212 | 6.40 |
| Oregon | 119 | 261 | 2.19 | 3,700,758 | 7.05 |
| Pennsylvania | 1,137 | 2,507 | 2.20 | 12,440,621 | 20.15 |
| Rhode Island | 89 | 253 | 2.84 | 1,067,610 | 23.70 |
| South Carolina | 224 | 354 | 1.58 | 4,321,249 | 8.19 |
| South Dakota | 51 | 37 | 0.72 | 781,919 | 4.73 |
| Tennessee | 414 | 677 | 1.64 | 6,038,803 | 11.21 |
| Texas | 1,264 | 2,338 | 1.85 | 23,507,783 | 9.95 |
| Utah | 94 | 233 | 2.49 | 2,550,063 | 9.14 |
| Virginia | 431 | 706 | 1.64 | 7,642,884 | 9.24 |
| Vermont | 106 | 89 | 0.84 | 623,908 | 14.26 |
| Washington | 134 | 578 | 4.33 | 6,395,798 | 9.04 |
| Wisconsin | 357 | 579 | 1.62 | 5,556,506 | 10.42 |
| West Virginia | 161 | 205 | 1.28 | 1,818,470 | 11.27 |
| Wyoming | 16 | 14 | 0.88 | 515,004 | 2.72 |
| US | 17,045 | 36,493 | 2.14 | 299,398,484 | 12.19 |

Source: *Graduate Medical Education Data Resource Book, 2005-2006*, Accreditation Council for Graduate Medical Education.

## *3.6 Physician Access*

As noted in the introduction to this chapter, the need to provide access for Idahoans to physician services is one of the primary reasons for the need to provide reasonable student access to medical education. In this section of the needs analysis, we assess the need for physicians in Idaho.

### *3.6.1 National Comparisons of Physicians per Capita*

Our interviews with state leaders indicated that the need for more physicians in Idaho is a common perception. Our statistical analyses of physicians per capita across the states confirm this perception.

We compared Idaho to other states using two different counts of physicians. The *Total Physicians* count is what its name implies – the number of licensed physicians living in the state. The *Physicians Engaged in Patient Care* count is a subset of the first, and excludes those physicians who are retired or who serve primarily in administrative or academic capacities. According to the American Medical Association Masterfile, Idaho had 2,825 total physicians in 2005, and 2,321 of those were engaged in patient care (82 percent).

Comparisons based on both physician-counting methods are shown in **Exhibit 3-18**. Idaho ranks 49$^{th}$ among the 50 states (50$^{th}$ if the District of Columbia is considered) on the total physician measure and last on the patient care physician measure. The rate of 198 total physicians per 100,000 population is 66 percent of the national average, and 162 patient care physicians per 100,000 population is 68 percent of the corresponding national rate. Compared to the median (i.e., the middle ranking state), Idaho is 70 percent of that national benchmark on the total physicians measure and 72 percent of the patient care physician measure. In any of these cases, Idaho would need an approximate 40-50 percent increase in the number of physicians to be at parity with the rest of the nation in physician access.

## EXHIBIT 3-18
## MEASURES OF PHYSICIAN ACCESS
## BY STATE, 2005

| State | Physicians in State per 100,000 Population | | Patient Care Physicians per 100,000 Population | |
|---|---|---|---|---|
| | Ratio | Rank | Ratio | Rank |
| Alaksa | 248 | 38 | 214 | 33 |
| Alabama | 238 | 42 | 198 | 41 |
| Arkansas | 228 | 45 | 189 | 45 |
| Arizona | 247 | 39 | 191 | 43 |
| California | 299 | 18 | 234 | 22 |
| Colorado | 296 | 19 | 236 | 19 |
| Connecticut | 407 | 6 | 319 | 7 |
| District of Columbia | 827 | 1 | 623 | 1 |
| Delaware | 282 | 25 | 225 | 25 |
| Florida | 294 | 20 | 224 | 26 |
| Georgia | 243 | 40 | 200 | 39 |
| Hawai'i | 356 | 8 | 283 | 8 |
| Iowa | 213 | 48 | 166 | 48 |
| **Idaho** | **198** | **50** | **162** | **50** |
| Illinois | 302 | 17 | 244 | 13 |
| Indiana | 239 | 41 | 199 | 40 |
| Kansas | 254 | 36 | 203 | 38 |
| Kentucky | 255 | 35 | 212 | 35 |
| Louisiana | 281 | 26 | 233 | 23 |
| Massachusetts | 496 | 2 | 382 | 2 |
| Maryland | 456 | 3 | 345 | 3 |
| Maine | 311 | 12 | 244 | 14 |
| Michigan | 270 | 28 | 216 | 29 |
| Minnesota | 319 | 11 | 257 | 11 |
| Missouri | 264 | 32 | 215 | 31 |
| Mississippi | 202 | 49 | 166 | 49 |
| Montana | 267 | 31 | 212 | 34 |
| North Carolina | 285 | 24 | 228 | 24 |
| North Dakota | 270 | 29 | 224 | 27 |
| Nebraska | 269 | 30 | 218 | 28 |
| New Hampshire | 306 | 15 | 241 | 16 |
| New Jersey | 342 | 9 | 277 | 9 |
| New Mexico | 275 | 27 | 216 | 30 |
| Nevada | 215 | 47 | 176 | 47 |
| New York | 426 | 4 | 338 | 4 |
| Ohio | 293 | 21 | 234 | 21 |
| Oklahoma | 196 | 51 | 158 | 51 |
| Oregon | 311 | 13 | 242 | 15 |
| Pennsylvania | 333 | 10 | 258 | 10 |
| Rhode Island | 397 | 7 | 321 | 6 |
| South Carolina | 259 | 33 | 214 | 32 |
| South Dakota | 250 | 37 | 206 | 37 |
| Tennessee | 291 | 22 | 241 | 17 |
| Texas | 234 | 44 | 193 | 42 |
| Utah | 235 | 43 | 190 | 44 |
| Virginia | 305 | 16 | 245 | 12 |
| Vermont | 422 | 5 | 321 | 5 |
| Washington | 308 | 14 | 239 | 18 |
| Wisconsin | 287 | 23 | 234 | 20 |
| West Virginia | 258 | 34 | 209 | 36 |
| Wyoming | 219 | 46 | 177 | 46 |
| US Average | 300 | | 239 | |
| US Median | 281 | | 224 | |

Source: American Medical Association

Similar analyses of physicians per capita were developed for each of the three groups of comparison states. Since Idaho ranks last nationally, the obvious finding is that the state also ranks at the bottom of each comparison group. Compared to the group averages, Idaho's ratio of patient care physicians per capita is:

- 83 percent of the Mountain State average,
- 76 percent of the Northwest State average,
- 69 percent of the Small Population State Average.

Details of the comparisons with the selected groups of states are listed in **Exhibit 3-19**.

**EXHIBIT 3-19**
**PHYSICIAN ACCESS IN SELECTED COMPARISON STATES, 2005**

| State | Physicians in State per 100,000 Population | | Patient Care Physicians per 100,000 Population | |
|---|---|---|---|---|
| | Ratio | Rank | Ratio | Rank |
| **Mountain States** | | | | |
| Arizona | 247 | 4 | 191 | 4 |
| Colorado | 296 | 1 | 236 | 1 |
| **Idaho** | **198** | **8** | **162** | **8** |
| Montana | 267 | 3 | 212 | 3 |
| Nevada | 215 | 7 | 176 | 7 |
| New Mexico | 275 | 2 | 216 | 2 |
| Utah | 235 | 5 | 190 | 5 |
| Wyoming | 219 | 6 | 177 | 6 |
| Average | 244 | | 195 | |
| **Northwest States** | | | | |
| **Idaho** | **198** | **8** | **162** | **8** |
| Iowa | 213 | 7 | 166 | 7 |
| Minnesota | 319 | 1 | 257 | 1 |
| Montana | 267 | 5 | 212 | 5 |
| North Dakota | 270 | 4 | 224 | 4 |
| Oregon | 311 | 2 | 242 | 2 |
| South Dakota | 250 | 6 | 206 | 6 |
| Washington | 308 | 3 | 239 | 3 |
| Average | 267 | | 214 | |
| **Small Population States** | | | | |
| Hawai'i | 356 | 2 | 283 | 2 |
| **Idaho** | **198** | **8** | **162** | **8** |
| Maine | 311 | 3 | 244 | 3 |
| Nebraska | 269 | 6 | 218 | 5 |
| New Hampshire | 306 | 4 | 241 | 4 |
| New Mexico | 275 | 5 | 216 | 6 |
| Rhode Island | 397 | 1 | 321 | 1 |
| West Virginia | 258 | 7 | 209 | 7 |
| Average | 296 | | 237 | |

Source: American Medical Association

### *3.6.2 Age Distribution of Physicians*

Another perception across our interviews is that the physician shortage in the state is likely to become more acute in the near future due to the aging of the workforce. That is, many of the state's doctors are expected to retire in the near future. Although reliable data do not exist on physicians' plans for retirement, data are available that categorize physicians in each state into ten year age groupings.

Using data from the American Medical Association, we determined that 40 percent of the state's physicians are age 55 years or older, and that 21 percent are 65 years or older. As shown in **Exhibit 3-20**, Idaho has the 6th oldest physician workforce among the 50 states. To the extent that an aging physician workforce is a contributing factor to the nation's impending physician shortage, the impact is likely to be more pronounced in Idaho.

## EXHIBIT 3-20
## AGE DISTRIBUTION OF PHYSICIANS BY STATE, 2005

| State | Total | Age Categories | | | | | Age 55 & Over | |
|---|---|---|---|---|---|---|---|---|
| | | < 35 | 35-44 | 45-54 | 55-64 | 65 | % | Rank |
| Total Physicians | 902,053 | 140,093 | 212,050 | 222,469 | 157,596 | 169,845 | 36.3% | |
| Alabama | 10,809 | 1,672 | 2,576 | 2,974 | 1,880 | 1,707 | 33.2% | 40 |
| Alaska | 1,643 | 143 | 460 | 463 | 350 | 227 | 35.1% | 29 |
| Arizona | 14,699 | 1,709 | 3,575 | 3,686 | 2,584 | 3,145 | 39.0% | 12 |
| Arkansas | 6,315 | 931 | 1,503 | 1,715 | 1,071 | 1,095 | 34.3% | 33 |
| California | 108,053 | 14,594 | 23,204 | 24,522 | 21,731 | 24,002 | 42.3% | 4 |
| Colorado | 13,816 | 1,762 | 3,512 | 3,520 | 2,528 | 2,494 | 36.3% | 23 |
| Connecticut | 14,234 | 2,224 | 3,230 | 3,616 | 2,429 | 2,735 | 36.3% | 25 |
| Delaware | 2,372 | 366 | 573 | 567 | 383 | 483 | 36.5% | 21 |
| Dist of Columbia | 4,815 | 1,131 | 973 | 908 | 867 | 936 | 37.4% | 18 |
| Florida | 52,324 | 4,939 | 11,101 | 13,419 | 9,245 | 13,620 | 43.7% | 2 |
| Georgia | 22,222 | 3,212 | 5,813 | 6,002 | 3,636 | 3,559 | 32.4% | 46 |
| Hawaii | 4,528 | 547 | 1,013 | 1,183 | 881 | 904 | 39.4% | 9 |
| **Idaho** | **2,825** | **198** | **728** | **761** | **556** | **582** | **40.3%** | **6** |
| Illinois | 38,513 | 7,883 | 8,941 | 8,852 | 6,596 | 6,241 | 33.3% | 37 |
| Indiana | 14,977 | 2,172 | 3,706 | 4,122 | 2,537 | 2,440 | 33.2% | 39 |
| Iowa | 6,319 | 1,009 | 1,483 | 1,661 | 1,061 | 1,105 | 34.3% | 34 |
| Kansas | 6,978 | 1,005 | 1,642 | 1,743 | 1,230 | 1,358 | 37.1% | 19 |
| Kentucky | 10,646 | 1,628 | 2,704 | 2,770 | 1,841 | 1,703 | 33.3% | 38 |
| Louisiana | 12,650 | 2,236 | 2,975 | 3,041 | 2,212 | 2,186 | 34.8% | 31 |
| Maine | 4,095 | 374 | 889 | 1,130 | 798 | 904 | 41.6% | 5 |
| Maryland | 25,498 | 3,979 | 5,961 | 6,273 | 4,579 | 4,706 | 36.4% | 22 |
| Massachusetts | 31,908 | 6,293 | 7,964 | 7,325 | 5,115 | 5,211 | 32.4% | 47 |
| Michigan | 27,316 | 5,106 | 6,465 | 6,340 | 4,583 | 4,822 | 34.4% | 32 |
| Minnesota | 16,373 | 2,773 | 4,184 | 4,256 | 2,583 | 2,577 | 31.5% | 50 |
| Mississippi | 5,872 | 750 | 1,471 | 1,520 | 1,036 | 1,095 | 36.3% | 24 |
| Missouri | 15,322 | 2,957 | 3,709 | 3,788 | 2,468 | 2,400 | 31.8% | 48 |
| Montana | 2,496 | 109 | 540 | 732 | 545 | 570 | 44.7% | 1 |
| Nebraska | 4,727 | 834 | 1,180 | 1,215 | 733 | 765 | 31.7% | 49 |
| Nevada | 5,196 | 519 | 1,457 | 1,270 | 874 | 1,076 | 37.5% | 16 |
| New Hampshire | 4,003 | 410 | 952 | 1,102 | 705 | 834 | 38.4% | 14 |
| New Jersey | 29,786 | 4,013 | 6,889 | 7,724 | 5,558 | 5,602 | 37.5% | 17 |
| New Mexico | 5,292 | 647 | 1,196 | 1,354 | 1,139 | 956 | 39.6% | 8 |
| New York | 82,301 | 15,818 | 18,117 | 18,788 | 13,686 | 15,892 | 35.9% | 26 |
| North Carolina | 24,698 | 4,055 | 6,437 | 6,515 | 3,705 | 3,986 | 31.1% | 51 |
| North Dakota | 1,712 | 188 | 435 | 463 | 339 | 287 | 36.6% | 20 |
| Ohio | 33,618 | 6,420 | 8,267 | 7,823 | 5,288 | 5,820 | 33.0% | 41 |
| Oklahoma | 6,950 | 933 | 1,501 | 1,804 | 1,329 | 1,383 | 39.0% | 11 |
| Oregon | 11,301 | 1,241 | 2,748 | 2,817 | 2,244 | 2,251 | 39.8% | 7 |
| Pennsylvania | 41,358 | 7,199 | 8,919 | 10,495 | 7,008 | 7,737 | 35.7% | 28 |
| Rhode Island | 4,259 | 851 | 1,042 | 974 | 615 | 777 | 32.7% | 43 |
| South Carolina | 10,992 | 1,726 | 2,837 | 2,673 | 1,829 | 1,927 | 34.2% | 35 |
| South Dakota | 1,936 | 191 | 484 | 582 | 366 | 313 | 35.1% | 30 |
| Tennessee | 17,349 | 2,560 | 4,341 | 4,783 | 2,888 | 2,777 | 32.7% | 44 |
| Texas | 53,571 | 8,950 | 14,030 | 12,994 | 8,974 | 8,623 | 32.8% | 42 |
| Utah | 5,857 | 881 | 1,527 | 1,463 | 1,032 | 954 | 33.9% | 36 |
| Vermont | 2,624 | 368 | 574 | 687 | 470 | 525 | 37.9% | 15 |
| Virginia | 23,049 | 3,561 | 5,482 | 5,763 | 3,974 | 4,269 | 35.8% | 27 |
| Washington | 19,349 | 2,223 | 4,489 | 5,075 | 3,798 | 3,764 | 39.1% | 10 |
| West Virginia | 4,681 | 739 | 1,043 | 1,075 | 941 | 883 | 39.0% | 13 |
| Wisconsin | 15,855 | 2,222 | 4,157 | 4,316 | 2,508 | 2,652 | 32.5% | 45 |
| Wyoming | 1,113 | 71 | 261 | 307 | 230 | 244 | 42.6% | 3 |
| Possessions | 11,379 | 1,538 | 2,366 | 3,356 | 1,836 | 2,283 | 36.2% | |
| APO's and FPO's | 991 | 229 | 422 | 158 | 90 | 92 | 18.4% | |
| Address Unknown | 488 | 4 | 2 | 4 | 112 | 366 | 98.0% | |

Source: American Medical Association

### *3.6.3 Number of Physicians by Idaho County*

The number of physicians per capita in each of the state's counties varies significantly. Ada County, the state's most populous, had 2.68 patient care physicians per 1,000 residents in 2005 – a rate that placed it above the national average. By contrast, the statewide average for this measure was only 1.62. The numbers of patient care physicians in each of the state's 44 counties, along with the rate per 1,000 population for odd-numbered years over the past decade, are listed in **Exhibit 3-21**.

Over one-half of the state's counties (23 counties) had fewer than 10 physicians, and 17 of those counties had 5 or fewer physicians. By contrast, six counties had 100 or more physicians in 2005. The ratio of physicians per 1,000 population was below 1.00 in 30 of the 44 counties.

**EXHIBIT 3-21**
**PATIENT CARE PHYSICIANS BY COUNTY, 2005**

| Region Name | 1997 | | 1999 | | 2001 | | 2003 | | 2005 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Per 1,000 Populatio | Number | Per 1,000 Populatio | Number | Per 1,000 Populatio | Number | Per 1,000 Populatio | Number | Per 1,000 Populatio |
| Idaho | 1739 | 1.44 | 1802 | 1.44 | 1957 | 1.48 | 2198 | 1.61 | 2321 | 1.62 |
| Ada | 586 | 2.19 | 620 | 2.19 | 731 | 2.34 | 862 | 2.65 | 925 | 2.68 |
| Adams | 1 | 0.26 | 10 | 2.64 | 0 | - | 1 | 0.29 | 2 | 0.56 |
| Bannock | 146 | 1.97 | 139 | 1.86 | 132 | 1.74 | 150 | 1.94 | 153 | 1.97 |
| Bear Lake | 5 | 0.77 | 6 | 0.91 | 7 | 1.09 | 6 | 0.95 | 6 | 0.97 |
| Benewah | 7 | 0.78 | 7 | 0.77 | 8 | 0.89 | 10 | 1.11 | 7 | 0.76 |
| Bingham | 21 | 0.51 | 21 | 0.50 | 25 | 0.59 | 21 | 0.49 | 24 | 0.55 |
| Blaine | 60 | 3.49 | 67 | 3.87 | 70 | 3.54 | 69 | 3.33 | 65 | 3.07 |
| Boise | NA | NA | NA | NA | 1 | 0.14 | 2 | 0.28 | 1 | 0.13 |
| Bonner | 36 | 1.04 | 37 | 1.03 | 43 | 1.15 | 55 | 1.40 | 60 | 1.47 |
| Bonneville | 152 | 1.90 | 157 | 1.93 | 159 | 1.90 | 185 | 2.12 | 182 | 1.98 |
| Boundary | 6 | 0.61 | 8 | 0.80 | 7 | 0.71 | 7 | 0.69 | 8 | 0.76 |
| Butte | 2 | 0.65 | 2 | 0.66 | 1 | 0.35 | 1 | 0.35 | 3 | 1.08 |
| Camas | NA | NA | NA | NA | NA | NA | 0 | - | 0 | - |
| Canyon | 136 | 1.17 | 130 | 1.04 | 140 | 1.01 | 160 | 1.05 | 149 | 0.90 |
| Caribou | 3 | 0.41 | 3 | 0.41 | 3 | 0.41 | 3 | 0.42 | 5 | 0.70 |
| Cassia | 27 | 1.26 | 23 | 1.07 | 25 | 1.16 | 25 | 1.16 | 24 | 1.12 |
| Clark | NA | NA | NA | NA | NA | NA | 0 | - | 0 | - |
| Clearwater | 11 | 1.17 | 12 | 1.28 | 14 | 1.62 | 14 | 1.66 | 12 | 1.44 |
| Custer | 2 | 0.47 | 2 | 0.49 | 3 | 0.70 | 1 | 0.24 | 1 | 0.24 |
| Elmore | 9 | 0.36 | 17 | 0.66 | 22 | 0.76 | 22 | 0.77 | 25 | 0.88 |
| Franklin | 4 | 0.37 | 4 | 0.35 | 5 | 0.43 | 5 | 0.42 | 5 | 0.40 |
| Fremont | 2 | 0.17 | 3 | 0.25 | 3 | 0.25 | 2 | 0.16 | 2 | 0.16 |
| Gem | 7 | 0.48 | 6 | 0.40 | 7 | 0.45 | 8 | 0.51 | 9 | 0.55 |
| Gooding | 4 | 0.29 | 2 | 0.15 | 4 | 0.28 | 4 | 0.28 | 5 | 0.35 |
| Idaho County | 12 | 0.80 | 14 | 0.93 | 15 | 0.97 | 14 | 0.91 | 14 | 0.89 |
| Jefferson | 3 | 0.16 | 1 | 0.05 | 2 | 0.10 | 4 | 0.20 | 4 | 0.19 |
| Jerome | 10 | 0.57 | 9 | 0.50 | 8 | 0.43 | 12 | 0.63 | 12 | 0.61 |
| Kootenai | 157 | 1.59 | 163 | 1.56 | 186 | 1.66 | 211 | 1.79 | 263 | 2.06 |
| Latah | 38 | 1.15 | 41 | 1.26 | 35 | 1.00 | 39 | 1.12 | 47 | 1.34 |
| Lemhi | 4 | 0.50 | 2 | 0.25 | 2 | 0.26 | 7 | 0.90 | 6 | 0.76 |
| Lewis | 0 | - | 1 | 0.25 | 0 | - | 0 | - | 0 | - |
| Lincoln | 1 | 0.26 | 1 | 0.26 | 1 | 0.24 | 1 | 0.23 | 1 | 0.22 |
| Madison | 28 | 1.13 | 30 | 1.21 | 31 | 1.11 | 30 | 1.01 | 27 | 0.87 |
| Minidoka | 12 | 0.59 | 8 | 0.39 | 9 | 0.46 | 9 | 0.47 | 8 | 0.42 |
| Nez Perce | 78 | 2.12 | 83 | 2.25 | 73 | 1.97 | 79 | 2.10 | 79 | 2.08 |
| Oneida | 0 | - | 1 | 0.25 | 1 | 0.24 | 1 | 0.24 | 1 | 0.24 |
| Owyhee | NA | NA | 1 | 0.10 | 2 | 0.18 | 1 | 0.09 | 1 | 0.09 |
| Payette | 8 | 0.40 | 8 | 0.38 | 12 | 0.58 | 10 | 0.47 | 11 | 0.50 |
| Power | 4 | 0.49 | 2 | 0.24 | 3 | 0.40 | 2 | 0.27 | 2 | 0.26 |
| Shoshone | 12 | 0.86 | 11 | 0.81 | 10 | 0.74 | 9 | 0.69 | 12 | 0.92 |
| Teton | 4 | 0.76 | 5 | 0.88 | 6 | 0.93 | 5 | 0.71 | 8 | 1.07 |
| Twin Falls | 125 | 2.03 | 126 | 2.00 | 135 | 2.09 | 134 | 2.00 | 130 | 1.87 |
| Valley | 15 | 1.86 | 15 | 1.91 | 13 | 1.69 | 15 | 1.93 | 19 | 2.29 |
| Washington | 1 | 0.10 | 4 | 0.39 | 3 | 0.30 | 2 | 0.20 | 3 | 0.30 |

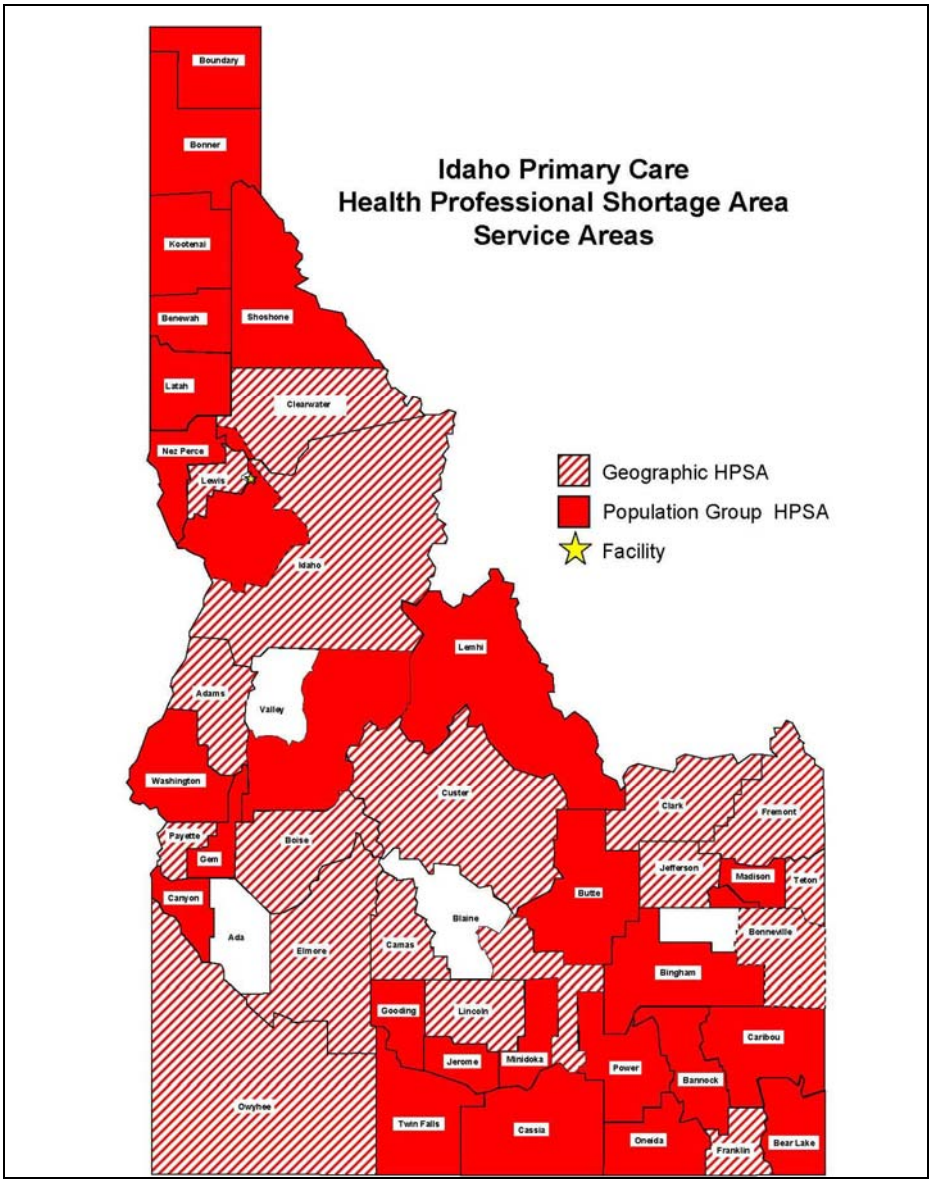
Source: American Medical Association

### *3.6.4 Health Professions Shortage Areas*

The federal government reviews health workforce and population data for areas across the nation and, based on its analyses, designates certain areas as a "health professions shortage area" or HPSA. One use of the HPSA designation is to determine eligibility for federal funds

About 20 percent of the nation's population lives in HPSA areas for primary care physicians. A map of the HPSAs in Idaho is illustrated in **Exhibit 3-22**.

**EXHIBIT 3-22**
**HEALTH PROFESSIONS SHORTAGE AREAS – IDAHO, 2006**




Source: HPSA State Office of Rural Health and Primary Care, Division of Health, Department of Health and Welfare, 2007.

## *3.7 Economic Impact*

Some of the state's leaders we interviewed felt that the lack of access to medical education and physician services in the state has an adverse economic impact. A report from the American Academy of Family Physicians found that the economic impact of each family physician in Idaho is $812,189 per year.[2] The adverse economic impact can be based on healthcare dollars leaving Idaho as its residents go to other states for needed care. Additionally, it can come from the inability to participate fully in the growing bio-tech industry.

### *3.7.1 Growth of Healthcare Industrial Sector*

The healthcare sector is among the fastest growing components of the U.S. economy. Based on data in **Exhibit 3-23**, the healthcare component of the gross domestic product grew by more than 44 percent nationally between 2000 and 2005. By contrast, the overall gross domestic product in the United States increased by approximately 27 percent during the same period.

In 2005, the healthcare component comprised 6.9 percent of the economy, compared to only 6.1 percent in 2000. Healthcare ranked second among nineteen components in the rate of growth over the five year period.

[2] *Economic Impact of Family Physicians in Idaho*. American Academy of Family Physicians. 2007.

**EXHIBIT 3-23**
**GROWTH OF THE HEALTHCARE INDUSTRY**

| Industry | Current Dollars | | | | Change 2000-2005 | |
|---|---|---|---|---|---|---|
| | 2000 | 2003 | 2004 | 2005 | % Change | Rank |
| Gross domestic product^ | 9,817 | 10,971 | 11,734 | 12,487 | 27% | - |
| Private industries | 8,614 | 9,557 | 10,251 | 10,935 | 27% | - |
| Agriculture, forestry, and fishing | 98 | 114 | 142 | 119 | 21% | 17 |
| Mining | 121 | 142 | 172 | 214 | 77% | 1 |
| Utilities | 189 | 223 | 235 | 239 | 26% | 12 |
| Construction | 436 | 501 | 550 | 594 | 36% | 5 |
| Manufacturing | 1,426 | 1,369 | 1,420 | 1,497 | 5% | 19 |
| Wholesale trade | 592 | 633 | 695 | 733 | 24% | 16 |
| Retail trade | 662 | 751 | 790 | 829 | 25% | 15 |
| Transportation and warehousing | 302 | 322 | 333 | 362 | 20% | 18 |
| Information | 458 | 492 | 539 | 578 | 26% | 14 |
| Finance and insurance | 741 | 885 | 927 | 1,012 | 37% | 4 |
| Real estate and rental and leasing | 1,191 | 1,375 | 1,486 | 1,563 | 31% | 8 |
| Professional, scientific, & technical services | 675 | 727 | 784 | 862 | 28% | 11 |
| Management of companies & enterprises | 183 | 192 | 221 | 231 | 26% | 13 |
| Administrative and waste management | 282 | 317 | 347 | 376 | 33% | 6 |
| Educational services | 79 | 100 | 106 | 113 | 43% | 3 |
| Health care and social assistance | 599 | 751 | 803 | 864 | 44% | 2 |
| Arts, entertainment, and recreation | 89 | 106 | 112 | 118 | 33% | 7 |
| Accommodation and food services | 261 | 293 | 313 | 338 | 30% | 9 |
| Government | 1,203 | 1,415 | 1,483 | 1,552 | 29% | 10 |

^Includes industries not shown separately.
Source: U.S. Census Bureau, Statistical Abstract of the U.S., 2007.

### *3.7.2 Healthcare as Percent of State Domestic Product*

Although healthcare is becoming an increasingly important component of the economy, it is relatively underrepresented in the Idaho gross state product. As seen in **Exhibit 3-24**, healthcare represents 6.7 percent of the gross product of Idaho compared to 6.9 percent nationally (Idaho ranks 35$^{th}$). This suggests that a disproportionate share of spending on healthcare is leaving the state rather than being retained in Idaho to help build the economy.

## EXHIBIT 3-24
## HEALTHCARE AS PERCENT OF STATE GROSS PRODUCT, 2004

| State | Total | Health Care and Social Assistance | Health Care and Social Share of State GDP | Rank |
|---|---|---|---|---|
| United States | 11,655.3 | 802.7 | 6.9% | - |
| Alabama | 141.4 | 9.8 | 6.9% | 29 |
| Alaska | 36.0 | 2.0 | 5.6% | 46 |
| Arizona | 194.2 | 13.4 | 6.9% | 30 |
| Arkansas | 82.7 | 6.1 | 7.4% | 19 |
| California | 1,519.2 | 89.4 | 5.9% | 41 |
| Colorado | 201.4 | 11.7 | 5.8% | 42 |
| Connecticut | 182.5 | 13.7 | 7.5% | 17 |
| Delaware | 52.3 | 2.7 | 5.2% | 48 |
| District of Columbia . . . . | 77.5 | 3.5 | 4.5% | 50 |
| Florida | 609.4 | 44.8 | 7.4% | 20 |
| Georgia | 339.7 | 19.5 | 5.7% | 44 |
| Hawaii | 50.2 | 3.4 | 6.8% | 32 |
| **Idaho** | **43.5** | **2.9** | **6.7%** | **35** |
| Illinois | 533.7 | 34.0 | 6.4% | 38 |
| Indiana | 229.4 | 16.2 | 7.1% | 26 |
| Iowa | 110.2 | 7.4 | 6.7% | 34 |
| Kansas | 98.9 | 7.0 | 7.1% | 25 |
| Kentucky | 133.0 | 10.6 | 8.0% | 13 |
| Louisiana | 160.2 | 10.4 | 6.5% | 36 |
| Maine | 43.3 | 4.5 | 10.4% | 1 |
| Maryland | 230.7 | 16.7 | 7.2% | 21 |
| Massachusetts | 312.7 | 26.4 | 8.4% | 8 |
| Michigan | 366.6 | 26.3 | 7.2% | 24 |
| Minnesota | 224.6 | 17.6 | 7.8% | 14 |
| Mississippi | 77.1 | 5.4 | 7.0% | 27 |
| Missouri . | 205.8 | 15.2 | 7.4% | 18 |
| Montana | 27.6 | 2.5 | 9.1% | 6 |
| Nebraska | 68.0 | 4.9 | 7.2% | 23 |
| Nevada | 99.1 | 5.0 | 5.0% | 49 |
| New Hampshire | 52.1 | 4.2 | 8.1% | 12 |
| New Jersey | 410.3 | 28.5 | 6.9% | 28 |
| New Mexico | 63.6 | 4.1 | 6.4% | 37 |
| New York | 906.8 | 68.8 | 7.6% | 16 |
| North Carolina | 324.0 | 20.3 | 6.3% | 39 |
| North Dakota | 22.7 | 2.0 | 8.8% | 7 |
| Ohio | 425.2 | 33.2 | 7.8% | 15 |
| Oklahoma | 111.8 | 7.6 | 6.8% | 31 |
| Oregon | 134.6 | 9.7 | 7.2% | 22 |
| Pennsylvania | 463.8 | 42.3 | 9.1% | 3 |
| Rhode Island | 41.8 | 3.8 | 9.1% | 4 |
| South Carolina | 131.5 | 7.6 | 5.8% | 43 |
| South Dakota | 29.7 | 2.5 | 8.4% | 9 |
| Tennessee | 216.8 | 17.9 | 8.3% | 10 |
| Texas | 903.2 | 53.7 | 5.9% | 40 |
| Utah | 82.5 | 4.6 | 5.6% | 45 |
| Vermont | 22.0 | 2.0 | 9.1% | 5 |
| Virginia | 327.0 | 17.2 | 5.3% | 47 |
| Washington | 253.1 | 17.1 | 6.8% | 33 |
| West Virginia | 49.9 | 4.7 | 9.4% | 2 |
| Wisconsin | 207.7 | 16.8 | 8.1% | 11 |
| Wyoming | 24.1 | 1.0 | 4.1% | 51 |

Source: U.S. Census Bureau, Statistical Abstract of the U.S., 2007.

### *3.7.3 Trends in Funding for Biomedical Research*

Federal funding for biomedical research has increased significantly over the past two decades. In fact, as widely known in the academic community, funding more than doubled between 1999 and 2004 for the National Institutes of Health, which is the primary federal agency that sponsors biomedical research and development. The twenty year trend of federal funding for health research and development (R&D), by agency, is depicted in **Exhibit 3-25**.

Roughly three-quarters of federal funding for health-related research is awarded to colleges and universities. Two-thirds of the university amount (or one-half of all funds) go to the 126 allopathic medical schools in the United States. Thus, a state greatly increases its probability of attracting federal biomedical research funding if it has a medical school.

**EXHIBIT 3-25**
**TRENDS IN FUNDING FOR BIOMEDICAL RESEARCH**
**(EXPRESSED IN MILLIONS OF DOLLARS)**

| Funding Sponsor | Fiscal Years | | | | | Percent Increase | | |
|---|---|---|---|---|---|---|---|---|
| | 1985 | 1990 | 1995 | 2000 | 2005^ | 85-95 | 95-05 | 85-05 |
| Total, All Federal Agencies | 6,790.8 | 9,790.6 | 13,430.1 | 19,516.3 | 31,733.3 | 98% | 136% | 367% |
| Department of Health & Human Services | 5,411.4 | 8,341.2 | 11,417.9 | 17,562.9 | 28,798.9 | 111% | 152% | 432% |
| *National Institutes of Health* | 4,827.7 | 7,136.5 | 10,681.8 | 16,918.3 | 27,665.3 | 121% | 159% | 473% |
| *Other HHS Programs and Agencies* | 583.7 | 1,204.7 | 736.1 | 644.6 | 1,133.6 | 26% | 54% | 94% |
| Other Federal Agencies (total) | 1,379.4 | 1,449.4 | 2,012.3 | 1,953.3 | 2,934.4 | 46% | 46% | 113% |

^Preliminary Estimate
Source: National Institutes of Health

### *3.7.4 Sponsored Research at Distributive Medical Schools*

The federal funding for biomedical research that goes to medical schools is by no means equally distributed across the schools. In fact, the top five schools received 17 percent of all funding in 2005. The top 20 schools received 49.3 percent of the funding, while the bottom 20 schools received only 1.1 percent.

A number of factors influence the success of a medical school in being able to attract federal R&D funding. Size of the institution (in terms of the numbers of faculty) and reputation are undoubtedly major considerations. Community-based medical schools (of which distributive schools are a subset) typically are not as competitive for federal research funds as major academic medical centers. As seen in **Exhibit 3-26**, the 17 medical schools that are considered by the AAMC to be community-based schools were awarded an average of $9.6 million per school while the other 106 schools received an average $107.9 million. Recent policy changes at NIH are expected to result in a more equitable distribution in the future.

**EXHIBIT 3-26**
**NIH FUNDING FOR US MEDICAL SCHOOLS**

| Recipients of NIH Funding | Amounts |
|---|---|
| Total Funding for 123 Medical Schools | $ 11,604,771,157 |
| Average Funding per School | $ 94,347,733 |
| Percent of Total Granted to 5 Highest Funded Schools | 17.0% |
| Average Funding for 5 Highest Funded Schools | $ 394,861,362 |
| Percent of Total Granted to 20 Highest Funded Schools | 49.3% |
| Average Funding for 20 Highest Funded Schools | $ 286,156,801 |
| Percent of Total Granted to 20 Lowest Funded Schools | 1.1% |
| Average Funding for 20 Lowest Funded Schools | $ 6,588,060 |
| Percent of Total Granted to 17 Community-Based Schools | 1.4% |
| Average Funding for 17 Community-Based Schools | $ 9,621,474 |

Source: National Institutes of Health

## *3.8 Summary of Demand Analysis*

Qualitative as well as quantitative data related to demand for physicians and medical education in Idaho were analyzed in preparation for estimating potential state goals for medical access. The qualitative data, primarily perceptions from nearly 200 interviewees, are supported by quantitative data for a number of issues and not supported on other issues.

For example, perceptions of interviewees consistently held that shortages exist in the physician workforce outside the Treasure Valley, especially in rural areas, and in selected medical specialty areas. Quantitative data that support these perceptions include:

- Idaho ranks last or near last among the states in physicians per population measures, nationally and among Mountain States, Northwest States, and Small Population States.

- Further analysis reveals that 30 of Idaho's 44 counties are below a 1 physician per 1,000 population ratio, supporting the perception that access to physicians is uneven throughout the state.

- Idaho ranks high in the number of physicians age 55 and over—suggesting that retirements over the next 10 years will further reduce access to physicians at the same time that a national shortage of physicians occurs.

Another perception frequently expressed was that access to medical education is more restricted for Idahoans than for students residing in other states. Quantitative data that support this perception include:

- Nationally, Idaho ranks 48th in number of 1st year medical school seats per 100,000 population, 48th in 1st year medical school seats per 10,000 ages 18-24 population, and 49th in 1st year medical school seats in states per 100 baccalaureate graduates.

- Even when compared to similar groups of states, access to medical education ranks last or next to last (Mountain States, Northwest States, and Small Population States).

- Projections of medical education seats based on population estimates for 2020 and medical school expansion plans suggest a further decline in access.

Other perceptions held by some interviewees are not supported by quantitative data. For example, a number of interviewees stated their beliefs that Idaho's population base is not large enough to support the clinical components of a medical education program. Quantitative data analysis revealed:

- Idaho's population growth has been rapid, consistent, and projected to continue, especially for the 65 and older age cohort—an age cohort that places high demand on medical services.

- A number of states with populations less than that of Idaho have supported medical schools for many years, and Idaho is the largest state without its own medical school.

- Although healthcare is becoming an increasingly important component of the economy, it is relatively underrepresented in the Idaho gross state product. It appears that a disproportionate share of spending on healthcare is leaving the state rather than being retained in Idaho to help build the economy.

Qualitative data related to the quality of a potential Idaho medical education program varied. Some interviewees expressed their beliefs that Idaho could not develop a quality medical education program. On the other hand, during site visits to the three universities in Idaho, the consultant team learned that baccalaureate graduates applying to medical education programs have had high qualifications; a strong presence of quality related academic and health education programs and research activities exists across the state; and healthcare providers deliver quality services. Available quantitative data support the reports of high quality among applicants to medical school:

- Idaho residents who apply to medical school exceed the national averages for scores on each of the three components of the Medical College Admissions Test (MCAT) and have higher grade point averages (GPAs) in science courses, non-science courses, and overall.

- Idaho apparently has a disproportionately large number of well-qualified, potential students who are not even applying to medical school due to the intense competition for the limited number of state-funded medical school seats.

- In 2006, despite restricted access to medical education programs, 61 Idaho residents entered medical school (all at out-of-state locations), more than one-half without support from the state (WWAMI and UU contracts).

- Idaho applicants have one of the lowest rates of entrance among students across the 50 states. Given the previously noted stronger than average academic qualifications of Idaho applicants, a likely interpretation is that Idaho

students are pursuing too few seats in the region to have a high probability of admission.

- Idaho ranks ahead of only one state in number of residency seats per capita and in the residency seats per first year medical school seats. The lack of opportunity for GME in Idaho is even more pronounced when considering the limited range of core program offerings. Most other states provide coverage of all core clinical specialties.

In summary, evidence from qualitative and quantitative analyses reveals that:

- Access to physicians and medical education rank extremely low in Idaho compared to the nation and selected state groups.
- The Idaho population base is sufficient to support the clinical components of a medical education program.
- Highly qualified Idahoans are applying to medical schools in greater numbers than can be served by programs in other states.
- Idaho is ill-prepared to compete for its share of the rapidly expanding biomedical industry.

These analyses are used in the following section to estimate the potential state goals for medical education access.

## *3.9 Potential State Goals for Medical Access*

A state investment to expand medical education, like any investment, should be made in light of the specific goals to be achieved. In the case of student access to medical school, some of the alternative strategies are likely to be impractical if the numbers of additional students to be served is relatively small, but may become much more attractive if there is believed to be significant unmet need. Thus, a goal for training the state's future physicians will be invaluable in determining the most appropriate course of action for medical education.

To assist in the goal-setting process, we suggest that the state consider an informal goal of meeting two-thirds of its annual requirement for new physicians through its own educational programs. The two-thirds rate is based on the current national proportion of medical school students who are in public institutions (or in schools that receive substantial state grants). That is, we offer that Idaho should be responsible for educating its own pool of physicians who are trained in state schools and expect to be able to compete with other states for its share of private school graduates.

To determine the number of physicians needed, we suggest that Idaho adopt a goal of reaching the national median rate of physicians per capita. The use of the national median (281), instead of the national average (300), removes the distorting effect of the major destination medical centers in several large urban areas and more closely approximates the averages of the three groupings of specially selected comparison

states (244, 267 and 296). Idaho would have needed 4,009 physicians in 2005 to have reached the national median.

Although it is not reasonable to quickly close the gap between Idaho's current 2,825 physicians and the 4,009 need to match the national median, it is feasible to set the 4,009 as a baseline for keeping pace with general turnover rates. Therefore, the annual new openings needed to keep pace with turnover is pegged to the national benchmark.

To determine the annual rate at which new physicians would need to be added to the workforce to maintain the goal of 4009 doctors, we assume a 3 percent annual turnover. This is based on the assumption that the typical new physician enters the workforce at the age of 30-35 and works for 30-35 years until he or she is approximately 65 years of age. Applying the 3 percent rate to the 4009 physician goal, approximately 120 new doctors would be needed per year just to handle turnover. If the state's policy is to accommodate two-thirds of its new doctors per year through state-funded programs, provisions should be made to support the training of roughly 80 medical students per year.

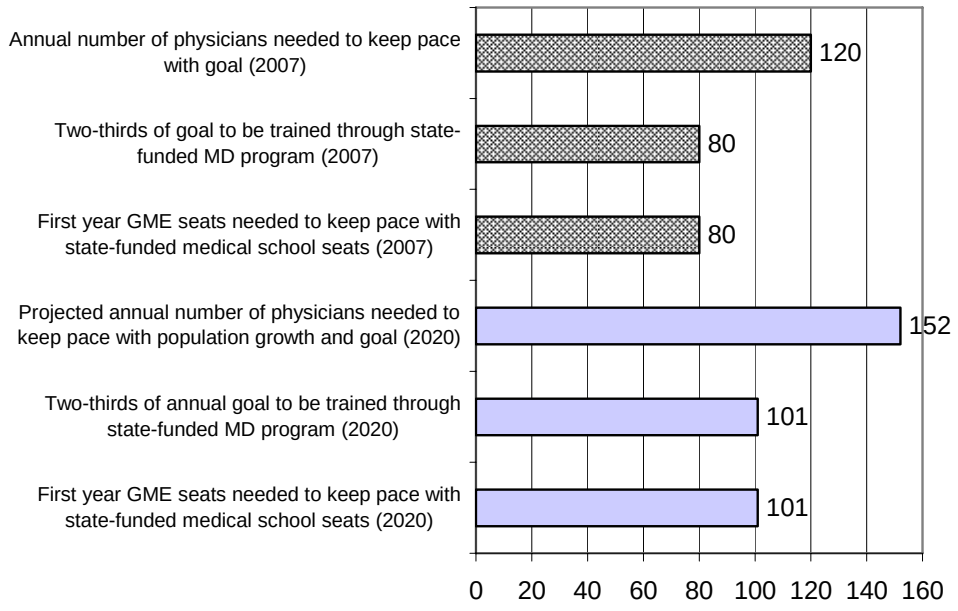
The 4,009 total physicians and 80 medical graduates per year are based on the state's population in 2005. Data shown earlier in **Exhibit 3-2** indicate that a 26 percent growth in population is projected in Idaho between 2005 and 2020. Just over 100 state-funded medical graduates per year would be needed to apply the goal to the projected population. Details of how the goal might be calculated and its impact are illustrated in **Exhibit 3-27**.

As previously discussed, residency training (or graduate medical education) is an essential step in the overall medical education pipeline. Further, the location of residency training is the best predictor of a physician's practice location. At a minimum, we suggest that Idaho set a goal of having an equal number of residency seats available in the state as it has seats for first year medical students.

## EXHIBIT 3-27
## POTENTIAL STATE GOALS FOR MEDICAL ACCESS

| Current Status | |
|---|---|
| Total Current Active Physicians in Idaho (2005) | 2,825 |
| Idaho Physicians per 100,000 Population | 198 |
| US Median Physicians per 100,000 Population | 281 |
| Percentage Increase Required to Reach Median | 42% |
| Percentage Population Increase from 2005 to 2020 | 26% |

| Goals | Potential Policy | Potential Current Goal | Potential Goal for 2020 |
|---|---|---|---|
| *Physician Access Goal* | | 4,009 | 5,052 |
| Assumed Annual Turnover Rate | 3% | | |
| New Physicians per Year to Fill Turnover | | 120 | 152 |
| *Student Access to Medical School Goal* | | | |
| Percentage Share per State-Funded Programs | 67% | | |
| New Physicians to be Trained per Year | | 80 | 101 |
| *Graduate Medical Education Access Goal* | | | |
| First-Year Seats | | 80 | 101 |




Source: Population—U.S. Census Bureau; Physicians—American Medical Association; MGT calculations.

# *4.0 APPROACH TO ASSESSING ALTERNATIVES*

# 4.0 APPROACH TO ASSESSING ALTERNATIVES

Each of the alternatives under consideration has the potential to expand access to medical education for Idaho residents. Each also has its relative disadvantages. To gain a better understanding of how the alternatives compare to one another, we assessed them using a set of seven criteria.

## 4.1 Criteria Employed

The first two criteria relate directly to the ability of the alternative to effect state goals related to medical education.

- Impact on Opportunity for Idaho Students
- Impact of State Physician Workforce

The second two criteria address implementation challenges and, to some degree, consider the likelihood of success.

- Challenges to Gaining Accreditation
- Time Required for Full Implementation

The final three criteria relate to financial concerns—both the cash outlays that would be required to fund the alternative and the economic benefits that would derive from its implementation.

- Start-Up Investment Required
- Annual Operating Support Required
- Economic Impact on State

Each of the criteria is described in greater detail in the sections that follow.

## 4.2 Criterion A – Impact on Opportunity for Idaho Students

***Description and Rationale.*** This criterion relates to the number of students that could be optimally served under the alternative. Some approaches for expanding access to medical education that are available to Idaho leaders have limited potential to handle large numbers of students, while others would be excessively expensive if only a limited number of students were to be served. The rationale for this criterion is self-evident given that the goal of the study is to address ways to expand access to medical education.

***Information Sources.*** To gather the information necessary to apply this criterion, we conducted interviews with experienced medical educators at several out-of-state medical schools and with officials involved in interstate contracts for medical education. We also reviewed information on the size and finances of medical schools in other states.

***Measures to Be Considered.*** For each of the alternatives for expanding access to medical school, we developed a range of numbers of first-year students that could be served.

## *4.3 Criterion B – Impact on State Physician Workforce*

***Description and Rationale.*** A major part of Idaho's interest in expanding student access to medical education is the need to ensure the adequacy of the state's future physician workforce. The "impact on workforce" criterion relates to the likelihood with which each alternative will supply future physicians for the state. This criterion concerns not only the absolute number of potential future physicians, but also their potential for practicing in Idaho in needed medical specialties or in communities with physician shortages.

***Information Sources.*** Key information for applying this criterion comes from Association of American Medical Colleges' (AAMC) analyses of data from the American Medical Association Physician Masterfile. Of special focus in these analyses was the pattern of graduates' practice locations for medical schools in similar states or under similar program delivery models. Additional information comes from the University of Washington and University of Utah reports on the practice locations of Idaho-sponsored graduates of their medical education programs.

***Measures to Be Considered.*** The key metric to be applied for the physician workforce criterion is the predicted number of physicians practicing in Idaho who were products of the state-funded program for access to medical education.

## *4.4 Criterion C – Challenges to Gaining Accreditation*

***Description and Rationale.*** Medical education programs, at both the undergraduate (i.e., medical school) and the graduate (i.e., residency) levels, must be accredited in order for their graduates to seek licensure and board certification. While we assume that any of the alternatives under consideration would become appropriately accredited, our concern in the accreditation criterion is whether implementation of the program would be unduly delayed or whether the alternative, as currently defined, would need to be modified.

***Information Sources.*** The various accrediting bodies for medical education have well-documented standards for accreditation. Members of the project team are experienced in the accreditation process and are aware of trends in the expectations of visitation teams regarding what constitutes compliance with the standards.

***Measures to Be Considered.*** Unlike the measures for the first two criteria, those for the accreditation criterion will not be quantitative. Instead, they will be observations on likely issues to be faced if the alternative is to be pursued.

## *4.5 Criterion D – Time Required for Full Implementation*

***Description and Rationale.*** Different alternatives for expanding access to medical education take different amounts of time to plan, implement, and reach full capacity. As Idaho leaders feel a sense of urgency in producing additional physicians for the state's medical workforce, the time required before new physicians are entering practice is a concern.

***Information Sources.*** To develop a better understanding of the time required to fully implement the various alternatives, we conducted interviews with experienced medical education leaders who were familiar with each access strategy. Additionally, we reviewed recent efforts to expand access in other states to determine how long it took to implement programs.

***Measures to Be Considered.*** The key metric to be applied is the number of years that will likely be required before the full planned complement of new physicians are in practice.

## *4.6 Criterion E – Start-Up Investment Required*

***Description and Rationale.*** Idaho's public officials take pride in their abilities to make efficient use of taxpayer dollars and are likely to demand that any program to expand access to medical education be cost-effective. The various alternatives for expanding access to medical education require significantly different amounts of funding for initial program planning and development and for capital investment.

***Information Sources.*** Since no specific proposals based on detailed business plans have been presented, we obtained information relating to the start-up investment criterion from analyses of the costs (or budgets) of several new (or recently planned) medical schools or medical education programs (e.g., the new Spokane program for WWAMI).

***Measures to Be Considered.*** We developed an estimate of all one-time start-up costs likely to be incurred in the implementation of each alternative. Major components of these estimates include facility construction and/or renovation costs, operating costs before students enroll, and costs incurred during the enrollment build-up phase that are above the average cost-per-student rate assumed for annual operating support.

## *4.7 Criterion F – Annual Operating Support Required*

***Description and Rationale.*** Over the long term, the major cost to the state for supporting a medical education program will be related to appropriations to help offset annual operating expenditures. While the state funding requirements for annual operating support per student across the various medical school alternatives fall within a relatively constrained range, the differences become greater as larger numbers of students are considered over an extended period.

***Information Sources.*** Data used to assess the alternatives comes from the budget plans of several recently planned and new medical schools and the budgets of established medical schools of similar size and/or mission. For contracted programs, current funding rates and the budget plan for the new expanded WWAMI program in Spokane were considered.

***Measures to Be Considered.*** The primary metric to be considered is the operating support for student instruction on a per student basis once the program reaches full capacity. Additional estimates to be considered are the projected annual requirements for 200 and 400 students (the total enrollment equivalents of first-year classes of 50 and 100 entrants). The focus will be on general fund requirements - the sum of state appropriations and student tuition - since the relationship between these two amounts is a state policy choice that can be modified at any point in the future.[1]

## *4.8 Criterion G – Economic Impact on State*

***Description and Rationale.*** While the first two financial criteria concern how much the state might need to invest in medical education, the last criterion considers the potential off setting economic impact that expanded medical education might have on the state. The various expansion alternatives have differing potential for contributing to the growth of the state economy.

***Information Sources.*** Data from reports periodically published by the AAMC on the economic impact of medical schools will be augmented by analyses of in-state versus out-of-state spending and economic impact analyses of similar programs.

***Measures to Be Considered.*** Detailed economic impact estimates of the various alternatives are beyond the scope of the current study, but we will be able to introduce information about the relative potential levels of economic impact.

[1] Funding of medical schools typically involves a complex array of resources, including appropriations, tuition, research grants, gifts and clinical income. Our focus on general fund revenue recognizes that state decision makers have little influence over other sources of revenue.

# *5.0 ALTERNATIVES FOR EXPANDING ACCESS TO MEDICAL EDUCATION*

# *5.0 ALTERNATIVES FOR EXPANDING ACCESS TO MEDICAL EDUCATION*

The state of Idaho is fortunate to have a choice among several alternative strategies for expanding student access to medical education. In this chapter, we identify a number of different opportunities and then focus on the four alternatives that we think merit serious consideration by state leaders.

## *5.1 Alternatives Considered*

The State of Idaho faces a wide array of approaches for expanding access to medical education for the state's current and potential students. Most alternatives focus on opportunities to earn a professional degree (e.g., the M.D.). Other alternatives address educational opportunities for advanced training in medicine through residency and fellowship programs.

Chapter 6.0 of this report offers our analyses of the four most promising alternatives that we believe state leaders should consider:

- Alternative I – Establishment of a New, University-Operated Medical School Based on the Distributive Model of Medical Education
- Alternative II – Expansion of the Package of Contracted Programs With Medical Schools in Other States
- Alternative III – Development of a New Joint Medical School From Current Medical Education Resources at the Three State Universities
- Alternative IV – Expansion of Graduate Medical Education Programs Based in the State

These alternatives and their variations are described in the remainder of this chapter.

In early phases of the study, we considered an even greater number of alternatives. Although nearly all of the approaches that we considered could be found in practice somewhere in the U.S., we determined that some had less potential for success in Idaho, namely:

- ***Establishment of a free-standing health sciences university.*** The Oregon Health and Science University (OHSU) is an example of this approach, which was dropped from consideration due to the excessive cost of building and operating a large teaching hospital that would be in competition with established healthcare providers in the community (the overall OHSU budget is more than $1.2 billion). Another significant disadvantage is the need to establish duplicative programs in several other health professions (e.g., pharmacy, nursing) or to transfer existing programs from other institutions in the effort to build a comprehensive health sciences university.

- ***Establishment of an osteopathic medical school.*** The Oklahoma State University College of Osteopathic Medicine in Tulsa and the Ohio University College of Osteopathic Medicine in Athens are examples of an osteopathic medical school at a state university. This alternative, which relies heavily on support from the osteopathic medicine community within the host state, was dropped from consideration due to the limited presence of D.O.s practicing in Idaho and the relative lack of research and economic impact.

- ***Development of a four year branch of an existing medical school.*** The new Phoenix campus of the Tucson-based University of Arizona and the new El Paso campus of the Texas Tech Health Sciences Center are examples of this model, which was dropped from consideration due to lack of known interest of an existing out-of-state program to expand into Idaho.

While the cited programs clearly do, or will, meet the needs of the residents of the states where they are located, different circumstances in Idaho make these models less attractive for potential implementation in the state.

## *5.2 Alternative I – Establishment of a New, University-Operated Medical School Based on the Distributive Model of Medical Education*

***Description.*** The new medical school would admit approximately 80-100 new students per year to a four year training program leading to the Doctor of Medicine (M.D.) degree. The first two years of the four year curriculum would take place on the campus of an established university, where the students would concentrate on developing the knowledge of the basic sciences that is needed to understand human medicine. Additionally, students would begin their clinical training and would have weekly exposure to patients, with physicians from nearby communities serving as preceptors.

During the third and fourth years of the curriculum, students would be “distributed” among several clinical campuses in communities across the state for clinical training. The current clerkship sites in Boise used by the WWAMI program would likely form the basis for the first clinical campus. Each clinical campus would be staffed by a small cadre of full-time university personnel and a larger number of local physicians who would be retained as community faculty and compensated on a part-time basis. Extensive use of video conferencing and other technology-assisted forms of instruction and internal communication would be employed.

The third year would focus on the core clinical rotations in family medicine, internal medicine, pediatrics, obstetrics-gynecology, surgery, and psychiatry. Elective rotations would be served during the fourth year with students either staying at their third year sites or relocating to other clinical campuses. Additionally, the new school would offer a rural track, which would provide opportunities during the third and fourth year for those students seeking to develop an understanding of the challenges and rewards of practicing in rural areas.

***Examples.*** Sixteen of the 22 most recently accredited medical schools in the U.S. rely on the community-based or distributive model of medical education. Notable examples include the programs at Michigan State University, Texas A&M University, the University

of North Dakota, and the University of South Dakota. The College of Medicine at Florida State University (the newest program to be accredited by the Liaison Committee on Medical Education [LCME]) also has successfully implemented the distributive model with community-based partners in six locations across the state.

Many long-established medical schools now operate a traditional program on campus and support one or more tracks on a distributive basis. The WWAMI program of the University of Washington (UW) is a prime example of a medical school employing both a traditional and a distributive approach to medical education. Similarly, the University of Illinois medical school operates several smaller distributed sites in addition to its large academic medical center in Chicago. Many other established medical schools are now adapting the distributive model to enable enrollment growth without the need to expand their teaching hospitals.

***Typical Start-up Investment and Operating Support Requirements.*** A new distributive model medical school would require both capital investment and start-up operating support before the first class was admitted and ongoing financial support once fully operational. The new medical school at Florida State University, with 120 students per class, recently occupied a new 330,000-gross-square-foot facility that cost $60 million to construct.[1] The original business plan estimated that expenditures would average approximately $80,000 per student per year when the school became fully operational and be funded from a combination of state appropriations, student charges, and other sources. During the first six years of the new school's existence, approximately $40 million was expended above the $80,000 per student rate to support operations before students arrived, provide advance funding and start-up support for faculty positions in anticipation of enrollment growth, establish clinical campuses, and undertake similar developmental activities.

Several new medical schools based on the distributive model are currently in the planning phase in Florida, California, and Pennsylvania. Expected operating costs at these schools typically range from $60,000 to $80,000 per student per year. The one exception is found in the preliminary plan for the University of California Merced, where significant resources are planned for research programs. Capital investment plans call for buildings and equipment in the $60 million range and above. It is important to note that the budget data for the planned programs are subject to further funding actions and the assessment of adequacy of resources by LCME accrediting teams.

The annual operating support requirements for more established distributive model medical schools follow a similar pattern and range from roughly $60,000 to $100,000 per student with one exception. The operating support and initial capital investments for selected medical schools are summarized in **Exhibit 5-1**. Higher costs at the University of Nevada are likely based on expansion plans that call for duplicating many functions in Las Vegas that are already found on the Reno campus.

[1] Costs of building materials and labor have increased considerably since that construction contract was bid, and costs of a similar facility in Idaho could be expected to be greater.

**EXHIBIT 5-1**
**FINANCIAL COMPARISONS OF COMMUNITY-BASED MEDICAL SCHOOLS**

| Medical Schools | Operating Support per Student | Capital Investment |
|---|---|---|
| *New Medical School* | | |
| Florida State University | $ 80,000 | $ 60,000,000 |
| *Recently Planned Medical Schools* | | |
| Northeast Pennsylvania | $ 64,222 | $ 71,000,000 |
| University of Central Florida | $ 77,789 | $ 58,000,000 |
| Florida International University | $ 67,145 | $ 64,000,000 |
| Univesity of California, Merced | $ 173,689 | $ 56,000,000 |
| *Established Medical Schools* | | |
| Eastern Virginia Medical School | $ 64,451 | *n.a.* |
| Northeastern Ohio Universities College of Medicine | $ 60,031 | *n.a.* |
| University of Nevada Reno | $ 142,790 | *n.a.* |
| University of North Dakota | $ 84,914 | *n.a.* |
| University of South Dakota | $ 102,727 | *n.a.* |
| *Summary* | | |
| Average | $ 91,776 | $ 61,800,000 |
| Median | $ 78,895 | $ 60,000,000 |

***Assumptions.*** If this alternative were to be pursued, the Idaho Board of Education would assign one of the three universities the responsibility for developing the new school. The selection process would take into account campus missions, experience in medical education, availability of appropriately qualified faculty already in place, availability of suitable campus facilities, plans to recruit clinical partners, availability of clinical facilities, availability of clinical material, opportunities for development of integrated graduate medical education programs, community support, and similar criteria.

If approved and funded by the Legislature, the development of the new medical school would require 3-5 years of planning before provisional accreditation would be granted and the first students could be admitted. During this period, the new school would hire the founding dean and faculty, design the curriculum, establish formal operating agreements with community teaching partners, develop both on-campus and off-campus facilities, implement a student admissions process, and seek provisional accreditation.

The initial classes would likely enroll a smaller number of students than the school's eventual planned capacity during the first few years of operation. The WWAMI and the

University of Utah (UU) contracts would be continued in the interim, but would begin to be phased out when the new school was able to admit an equivalent number of first-year students.

***Variations.*** The major variations of this alternative relate to the number of students to be served. A smaller class size would likely require a somewhat lower capital investment in facilities, but perhaps a higher expenditure per student due to less economy of scale. A larger class size would likely require greater capital investment and annual financial support, and might result in more difficulty in recruiting sufficient numbers of qualified applicants. These potential issues, however, could be offset by making some of the slots available to students from other states.

## *5.3 Alternative II – Expansion of the Package of Contracted Programs With Medical Schools in Other States*

***Description.*** The state of Idaho currently provides funding for 28 entering medical students per year with continued support over the four year curriculum for each entering class. Under this alternative, Idaho would provide access to medical education for an additional 32 students (resulting in 60 new students each year) through expansion of existing contracts with UW, UU, and, as necessary, additional schools of medicine.

The medical education programs at UW and UU have each expressed a willingness to consider expansion of the numbers of students served under existing contracts. While no specific proposals are pending, officials at UW would likely consider increasing the number of Idaho students from 20 to 40 per class, and UU could consider increasing its complement of Idaho students from 8 to 12 if its own expansion program is approved by the Utah State Legislature.

New partners are also a potential under this alternative. The OHSU has indicated its potential interest in contracting with Idaho for approximately 10-20 seats per year. Also, officials at the Western Interstate Commission on Higher Education (WICHE) have contacted medical schools in the region and believe Idaho students could be accommodated by the expanding programs at the University of Colorado and the University of Arizona through the Professional Student Exchange Program (PSEP).

***Examples.*** The concept of contracted programs is well understood by the state's leaders and medical students. Idaho has been a member of the WWAMI medical education compact since the 1970s, and the UU contract has existed since the 1980s. Additionally, Idaho participated in the WICHE PSEP for a number of years prior to entering into the UU contract.

***Typical Start-up Investment and Operating Support Requirements.*** As described in Chapter 2.0, the dollar amounts for the WWAMI (UW) and UU medical education contracts are adjusted annually to reflect the number of students enrolled and inflationary increases. Although the state funds allocated to the two programs are in total dollar amounts, the rate per student per year can be readily computed. Additionally, Idaho students pay tuition to their respective medical schools.

For the current 2007-08 academic and fiscal year, the average rates per student at the two schools are as follows:

- University of Washington
  - $48,210 state support per student[2]
  - $17,902 tuition and fees per student[3]
  - $66,112 total supported cost per student
    - (new WWAMI Spokane program is budgeted at $69,306 per student)

- University of Utah
  - $34,025 state support per student4
  - $20,692 tuition and fees per student[5]
  - $54,717 total supported cost per student

The potential rate for students contracted with OHSU is assumed to be in the same range as the WICHE rate since the institution is a participant in that program for students from other states.

- WICHE (OHSU as example)
  - $26,500 state support through PSEP per student
  - $20,184 tuition and fees per student
  - $46,684 total supported cost per student

***Assumptions.*** Since this alternative involves an expansion of the overall package of contracted programs, a number of assumptions are necessary.

- Students per class
  - WWAMI – 40 (up from current 20)
  - Utah – 12 (up from current 8)
  - OHSU or WICHE – 8 (all additions to current package)

- Cost per student
  - WWAMI – $66,112
    - Start-up operating cost of $5 million for new site
  - Utah – $54,717
  - OHSU or WICHE – $46,684

- Program delivery model
  - WWAMI – The contract would continue to offer the first year in Idaho, but an additional location with 20 students (in either Boise or Pocatello) would

[2] FY 2008 appropriation is $3,664,000 for 76 students. Idaho Legislature, *Senate Bill 1201* http://www3.state.id.us/oasis/S1201.html
[3] Total reflects resident tuition plus health/immunization fee. UW School of Medicine Financial Aid Office Web site http://www.uwmedicine.org/uwmed
[4] FY 2008 appropriation is $1,088,800 for 32 students. Idaho Legislature, *Senate Bill 1201* http://www3.state.id.us/oasis/S1201.html
[5] Total reflects resident tuition and fees. UU Income Accounting and Student Loan Services http://www.acs.utah.edu/tuition/t-med1234.html

be established to match the current location in Moscow. Second-year students would attend classes in Seattle. Additional opportunities for third- and fourth-year students would be made available in Idaho, with the goal of providing 40 slots within the state in each of the clerkship years.

- Utah – The program would continue to operate under the current model, with virtually all components being delivered in Salt Lake City.
- OHSU or WICHE – The program would be delivered at the main site of the medical school selected, with only minimal instructional experiences being offered in Idaho.

***Variations.*** An unlimited number of variations on this model are possible, including:

- A smaller number of seats being contracted.
- A different mix in the number of seats offered through each partner school of medicine.
- Establishment of two additional locations instead of one under the WWAMI alternative.

A significant variation that state leaders might want to consider under the contracted programs alternative is the development of one or more incentive programs to encourage graduates of the program to return to Idaho for their medical practice. Such a feature is part of Wyoming's participation in the WWAMI program, though evidence of the success of the strategy is mixed given the state's relatively recent entry into the WWAMI compact.

## *5.4 Alternative III – Development of a New Joint Medical School From Current Medical Education Resources at the Three State Universities*

***Description.*** The new medical school would admit approximately 100 new students per year to a four year training program leading to the M.D. degree. Rather than assigning sole responsibility to one of the state universities to develop the program (as in Alternative I), a consortium of the three state universities would be created to establish and operate the new medical school. Like Alternative I, however, the new school would be based on the distributive model.

The first two years of the four year curriculum would be based at each of the three cooperating universities, where separate cohorts of approximately 20-40 students each would concentrate on developing the knowledge of the basic sciences that is needed to understand human medicine. Additionally, students would participate in an introduction to medicine program that would involve weekly exposure to patients, with physicians from nearby communities serving as preceptors.

During the third and fourth years of the curriculum, students would be further "distributed" among several communities in the state for clinical training, with each university providing oversight for 1-2 clinical campuses. Each clinical campus would be staffed by a small cadre of full-time medical school personnel and a larger number of local physicians who would be retained and compensated on a part-time basis. The third

year would focus on the core clinical rotations in family medicine, internal medicine, pediatrics, obstetrics-gynecology, surgery, and psychiatry. Elective rotations would be served during the fourth year, either at the same location or elsewhere. Additionally, the school would offer a rural track, which would provide opportunities during the third and fourth year for those students seeking to develop an understanding of the challenges and rewards of practicing in rural areas.

***Examples.*** No existing programs are an identical match to the model described above, but examples of all of the essential elements can be found elsewhere. For instance, the Indiana University School of Medicine's first two years are spread among nine sites in cooperation with other universities such as Purdue and Notre Dame. The third and fourth years of the Michigan State University program are offered in their entirety at six campuses across the state.

***Variations.*** The Northeastern Ohio Universities Colleges of Medicine and Pharmacy (NEOUCOM) is a community-based, public institution that provides interdisciplinary training in the health professions, including the M.D. degree. The NEOUCOM educational consortium, based at its Rootstown, Ohio campus, includes the University of Akron, Kent State University, and Youngstown State University, eight community teaching hospitals, ten associated hospitals, and two health departments. Unlike Alternative III, however, NEOUCOM is a separately accredited *institution* as well as having an accredited medical education *program*, and is independent from the accreditation of the three sponsoring state universities. NEOUCOM and the three universities have a joint early admissions, accelerated M.D. program and several joint Ph.D. programs in the biomedical sciences.

***Typical Start-up Investment and Operating Support Requirements.*** The cost per student at the joint medical school would likely exceed the costs under the first alternative due to the need to coordinate multiple locations and possibly duplicate some of the program support and infrastructure.

Given the limited number of additional students to be accommodated at either Boise State University or Idaho State University (30-40 students each), the need for investment in new buildings would likely be minimal since existing facilities might be available. The University of Idaho would be expected to continue to serve at least 20 students using the current WWAMI facilities.

The NEOUCOM is perhaps the closest comparator with three universities jointly operating the medical school. Its general fund cost per student in FY 2007 was $60,031.

***Assumptions.*** If approved by the Board of Education and the Legislature, the development of the new medical school would require 3-5 years of planning before the first students could be admitted. The initial classes would probably enroll a smaller number of students during the first few years of operation than the school's eventual capacity. Most likely, only one additional location would be placed into service at a time. The WWAMI and UU contracts would be continued in the interim, but would begin to be phased out when the new school admitted its first students.

## *5.5 Alternative IV – Expansion of Graduate Medical Education Programs Based in the State*

The fourth alternative differs from the first three in that it would expand access to graduate medical education (GME) rather than increasing the number of medical seats available to Idaho students. *This option should not be considered as mutually exclusive of the first three alternatives. Indeed, Alternative IV should be considered in tandem with the preferred option for expanding medical school access.*

***Description.*** The most efficient response to the national deficit of physicians is an increase in GME and an increase in the number of residency positions. GME comprises the second phase of the formal education process that prepares physicians for the practice of medicine and includes residencies and fellowships. Increasing residencies is also the best way to retain doctors in specific areas, with more than 47 percent of residents staying in the place of training.[6]

Medicare is the major funding source for residency programs. Medicaid also funds some residency programs, and the Veterans Administration funds residents who are trained in its hospitals. Currently, Medicare funding of GME prevents those hospitals that already have programs from starting new programs or adding new positions. Hospital residency programs do not need considerable hospital resources. Moreover, residency programs are an important added benefit to patient care and hospital growth.

***Examples.*** In 2003, some 713 institutions sponsored 7,954 different specialty programs that trained over 100,000 residents. As described in Chapter 2.0, the only residency programs currently based in Idaho are the Family Medicine Residency of Idaho (Boise) and the Idaho State University Family Medicine Residency (Pocatello). Additionally, rotations of several UW residency programs occur in the state, including the Internal Medicine Residency Program (Seattle and Boise), Psychiatry Residency Program (Seattle and Boise), and the Pulmonary/Critical Care Fellowship Training Program (Seattle and Boise).

***Typical Start-up Investment and Operating Support Requirements.*** GME programs are difficult to fund because of the very heavy reliance on restricted federal funds. GME is primarily financed by Medicare and Medicaid. Some states also make small contributions, as do a number of hospitals and medical schools, which in some areas contribute to satisfying the needs of the programs in different ways. There is a cap on new residency positions for hospitals that already receive federal money. There is no cap for hospitals and universities that do not have existing residency programs or that are willing to finance the direct and indirect costs of training. And for a window of three years, these institutions can develop and fund as many residency slots as they wish, subject always to Accreditation Council for Graduate Medical Education (ACGME) approval.

Medical and surgical services furnished by residents outside of their training programs or outside of the facilities where they train are covered as physician services and are paid on a fee schedule or reasonable basis. Medical and surgical services provided by residents within the scope of their training programs are covered as provider services. It

[6] Association of American Medical Colleges. *Key Physician Data by State.* 2006. Figure 7.

is generally accepted that residents can generate between two and three times their stipends in clinical revenues. Residents may perform diagnostic and therapeutic procedures (e.g., start intravenous lines, insert catheters or tubes, assist at surgery, transport patients, collate patient information, participate in patient resuscitation).

Medicare funds GME in two ways: direct and indirect payments. Direct GME payments cover the direct education cost of residents and fellows and include salary and fringe benefits, supervising physicians' compensation, etc. The total amount of Medicare funding for direct costs in 2004 was $2.7 billion. The U.S. average standard salary per resident is approximately $55,000 with 20 percent fringe benefits, but may vary according to geographic region.

Indirect GME payments from Medicare are for costs associated with residents. Such expenses include ordering of additional tests, extra supplies, longer patient stays, and sicker patients. The total amount of Medicare funding for indirect payments in 2004 was $5.8 billion. Indirect funding also helps offset the care of indigent patients, who are more commonly found in teaching hospitals.

The amount of indirect payment to hospitals per resident varies widely across the country, and many hospitals consider indirect payments as other revenue streams. It is impossible to estimate what a given hospital will generate in indirect payments without knowing the number of residents, number of Medicare patients, number of total patients, and other components of the reimbursement formula.

During the past several years, attitudes have begun to change among many healthcare organizations, which are now more interested in exploring the development of other sources of funding, including hospitals' own budgets and direct state appropriations. Physician recruitment is a problem everywhere and is becoming increasingly costly, with some institutions spending hundred of thousands of dollars per doctor. Also, because the physician shortage is a national problem, the competition among institutions is becoming more intense. Many healthcare executives now understand that residency programs not only improve quality of care and the marketing of institutions, but also may be a cost-efficient alternative to the traditional way of recruiting physicians. Residents trained in an institution will tend to remain there and are prepared to begin delivery of health services as soon as they become certified.

The state of Idaho has a 30+ year history of supporting residency training programs. For the 2007-2008 fiscal year, the two Idaho-based family medicine residency programs received approximately $1.57 million in state appropriations. This amount averages about $32,000 per resident.

# *6.0 ANALYSIS OF ALTERNATIVES*

# 6.0 ANALYSIS OF ALTERNATIVES

In Chapters 4.0 and 5.0, we introduced seven criteria that we would used to assess the four alternatives to expand access to medical education in Idaho. In this chapter, we examine how well the various alternatives meet each criterion.

## 6.1 Impact on Opportunity for Idaho Students

For the student access criterion, our concern is how many first-year medical students can be accommodated by the alternative. Although we suggested a state goal of supporting 80-100 new medical students per year, the student access criterion also can be applied to other target numbers of students that are determined by state leaders.

A new medical school based on the distributive model could easily be designed to handle 80-100 entrants per class. Current first-year enrollments at the existing community-based schools average 81 students, and the median is 72 students. If the state's student access goal fell below this range, the new school alternative would be less viable.

The current package of contract programs for medical education could be expanded to support up to 60 students in neighboring states (Washington, Utah, and perhaps Oregon). Expansion beyond this number would require the development of numerous contracts, which would likely become cumbersome to administer and a challenge to market to students.

Like the new distributive model medical school alternative, a joint medical school that evolved from existing university resources could be designed to handle 80-100 entrants per class. This model becomes less attractive if the total number of students to be served is not large enough to support multiple locations for the first two years of the curriculum.

Expanding access to graduate medical education (GME) programs would have no direct impact on increasing access for students seeking the Doctor of Medicine degree. If plans for providing clinical training to M.D. students were integrated with plans for expanding graduate medical education, stronger clinical training sites for both programs would result. Proposals to expand GME, of course, will compete for dollars that could be used to increase access to undergraduate medical education.

## 6.2 Impact on State Physician Workforce

The physician workforce criterion relates to the number of physicians who are expected to practice in the state after completing the program.

A new state medical school based on the distributive model would permit greater control over how to align educational investment and workforce needs. For instance, Idaho medical educators would oversee the selection of medical students and develop the

curricula, enabling them to design the program in ways that might encourage students to pursue careers in primary care or rural medicine.

The impact of contract programs on physician access would vary according to which medical schools were selected as partners and how the contracts were structured. For instance, an expanded WWAMI program in one or more additional locations, and especially with more in-state clerkship opportunities, would increase the likelihood that graduates would practice in Idaho. The WWAMI program also has had favorable impact on the Idaho physician workforce through placement in Idaho of graduates from other member states. Contracts with other medical schools would have relatively modest impacts on the Idaho workforce unless those schools provided significant instructional opportunities in Idaho or the state developed new incentive programs to encourage medical graduates to return to the state.

A new joint medical school potentially would permit many students to retain connections to their home regions of the state and make them more likely to choose to practice in those areas. Like the new distributive medical school model, a new joint medical education program could design the admissions process and the curricular experiences in ways that would increase the likelihood of graduates practicing in Idaho.

The location of a physician's GME program (i.e., residency training) is thought to be the single most important predictor of practice location. Further, the state could influence the composition of its physician workforce by the types of medical specialties that it chose to sponsor for residency programs.

## *6.3 Challenges to Gaining Accreditation*

The accreditation criterion is an assessment of the perceived difficulty the proposed program would face in gaining needed professional accreditation. In one sense, this criterion addresses the practicality of the alternative.

Recent experiences with the Liaison Committee on Medical Education (LCME) suggest that a new state-supported medical school based on the distributive model of medical education could become accredited after a 3-5 year planning effort. The vast majority of medical schools that have become accredited over the past several decades employ variations of the distributive model, and the merits of this educational approach are recognized by accreditation officials. The difficulty of gaining accreditation could vary somewhat based on which state university was selected to develop the medical education program and the resources that it had available.

No significant accreditation challenges would be expected if the state decided to expand its package of contract programs for medical education. All of the partner schools are already accredited and would face only minimal issues in expanding modestly to accommodate additional Idaho students. The most significant challenge would be for the University of Washington if it agreed to establish an additional site in Idaho. Given the long history of success of the WWAMI program, this challenge would likely prove easy to overcome.

A new joint medical school would probably face considerable challenges, even after the typical 3-5 year planning effort. Barriers to accreditation would be most likely to arise if the new school could not articulate a clear governance relationship among the sponsoring state universities and/or could not assure LCME that equivalent educational experiences were available at multiple sites during both the first two years of the curriculum and the final two years (existing accredited programs have at least some common experiences, such as the second year of the WWAMI program in Seattle).

The state-supported expansion of GME programs into additional areas of medical specialization would require multiple accreditations since each program is separately accredited. Nonetheless, no major obstacles are likely to be encountered.

## *6.4 Time Required for Full Implementation*

The time required criterion refers to the number of years that would be required before the planned program produced a full complement of graduates. This includes both the time spent planning and gaining accreditation and the time spent phasing in the program to full planned capacity.

A new state medical school would probably take 12-15 years to reach full capacity. This estimate is based on the sum of 3-5 years for planning, 4 years for a student to progress through the curriculum, and several years of ramping up entering class sizes to full planned capacity. The time required to reach full size is especially related to the time-consuming endeavor of setting up multiple clinical campuses and selecting community faculty in multiple locations.

By contrast, the time required to expand the number of students served through contract programs would likely be relatively brief, perhaps in the 6-8 year range. Modest growth could be handled almost immediately by WWAMI and the University of Utah. Reaching the full planned capacity of 60 entrants per year would take somewhat longer as WWAMI developed an additional site in Idaho, or as the University of Utah gained its legislative approval for overall expansion of the School of Medicine. The time required to develop a totally new relationship with additional partner institutions would likely be only a couple of years unless the partner institution's ability to handle Idaho students was contingent on completion of its own expansion program.

A new joint medical school would take at least as long to develop as a new distributive school operated by a single state university. Additional time would likely be needed to articulate how the three universities would work together on the joint endeavor and share oversight responsibility for numerous community-based training locations. Moreover, accreditation issues could cause further delay.

The time required to expand GME programs would likely be 2-3 years for start-up for program development, accreditation, and listing with the National Residency Matching Program. Depending on the medical specialties covered by the residencies, an additional 3-5 years would be necessary for a cohort of students to complete the cycle of training.

## *6.5 Start-Up Investment Required*

We define start-up costs as the dollar amount of capital investment that would be required for buildings and major equipment as well as a variety of one-time operating expenses that might be needed for program planning and implementation until full enrollment capacity was reached.

A new state-supported medical school based on the distributive model would likely require a significant investment for program start-up. The average start-up costs of recently opened or planned new programs are in the $60 million range for facilities and an additional $25-$50 million for planning and program development costs above the typical per-student funding rate. The actual amount required from state appropriations for an Idaho university to start a medical school would depend on the possible availability of existing facilities and potential for private giving. Experience elsewhere suggests that the need for start-up support should not be underestimated.

Start-up costs for an expanded package of contract programs would be comparatively limited. Depending on the partner medical schools and the nature of the contracts, relatively modest legal and travel expense might be incurred. If the WWAMI agreement were modified to serve the increased number of students in a new location, approximately $5 million in start-up funding for operations and $1 million for facility renovations could be needed.

A new joint medical school would face a similarly high requirement for start-up funding as a new distributive medical school. Depending of the availability of space at the three universities, the capital investment required might be lower than for developing a larger program at a single location. That is, any of the three universities would be more likely to be able to accommodate 30-35 additional students within existing facilities than it could 100. Moreover, coordination among the three universities would require extra operating expenditures for start-up.

Expansion of GME programs would probably require approximately $2 million in state support for start-up costs. Relatively little dedicated space would need to be developed with state dollars since the programs would be delivered in existing healthcare settings.

## *6.6 Annual Operating Support Required*

The unit of measurement for assessing annual operating support requirements is the projected general fund revenue per student once the program reaches full enrollment capacity. For the purposes of this analysis, we consider the sum of required state appropriations and student tuition and fees.

The annual funding per student from state appropriations and tuition in a new state-supported medical school based on the distributive model is projected to be in the $65,000 - $85,000 range. This projection draws on the experience of established community-based medical schools, recently opened schools, and those that are in the advanced stages of planning. The overall amount of funding for operating support would likely grow in a stair-step fashion, with significant increments of new dollars being

required each time an increase in the entering cohort took place or a new community clinical campus began operation.

Each partner in the package of contract medical education programs has its own set of operating support requirements. The current rate for the University of Utah program is $54,717 per student per year, and the current rate for the WWAMI program is $66,112. Contracts with other medical schools would likely fall in the same price range. One advantage of contract programs is that the state investment can be scaled to a specific number of positions each year rather than involving a long-term commitment for a fixed production level.

The operating support requirements for a joint medical education program would likely be similar to those for a new distributive-model program at a single university. As noted earlier, the typical cost per student per year for these programs is in the $65,000 - $85,000 range. The costs of a joint program might be minimally higher due to additional costs of program coordination.

The funding to expand GME programs are based on the *net* cost per resident instead of the cost per medical student. Residents receive stipends and fringe benefits, and instructional costs (e.g., faculty and program administration) also are incurred. However, these costs are partially offset by revenue generated from the clinical services residents perform. The requirement for state support of the two residency programs based in Idaho averages approximately $32,000 per resident per year.

## *6.7 Economic Impact on State*

The final criterion is based on our assessment of the relative level of positive impact that each alternative might have on the state economy. The economic impact might come from job growth directly related to the instructional program, from the ripple effect as spending by the additional students and employees enters the state economy, from the ability to attract federal and other out-of-state dollars for sponsored research, and eventually from the spin-off activities that would develop based on research results. Additional economic impact would come from the increased numbers of physicians practicing in the state, which has been projected to be in the $800,000 and above range.

The economic impact of a new state-supported medical school based at a single university would likely have the greatest impact of any of the three alternatives to expand access to M.D. training. Not only would most of the state and student dollars be expended in Idaho (either directly or through the ripple effect), but the potential to attract sponsored research dollars would be greatest if the basic scientists could benefit from the synergy of being located in proximity from one another. Unfortunately, schools using the distributive model for clinical training have not been as successful in attracting research support for clinical research as have major academic health science centers. Recent policy changes at the National Institutes of Health, however, are expected to result in a more equitable distribution in the coming years.

By contrast, an expanded package of contract medical education programs would probably have the least economic impact. Since a significant portion of the instruction would take place in other states, much of the faculty and student spending would also

take place outside of Idaho. Importantly, any research activity and spin-off business start-up would likely occur at the home campus of the partner institution. The WWAMI contract leads to more economic activity within Idaho than the University of Utah contract, but its economic impact still falls short of that which would be possible from an in-state medical school.

A new joint medical school should contribute about the same amount of direct and indirect in-state spending for the instructional program as would one based at a single university. Due to the inherent inability to develop large numbers of faculty researchers in a single location, the joint medical school would likely have less potential to attract external research funding.

Expanded GME programs would help keep the dollars spent on the healthcare needs of state residents in the state as the numbers and areas of specialization of the state's physicians developed. If the development of GME programs were closely coordinated with the development of a new in-state medical school, the GME faculty and residents would likely become much more active in research activity.

# *7.0 SUMMARY OF FINDINGS*

# 7.0 SUMMARY OF FINDINGS

In response to the Idaho Legislature's directive to "engage the services of an external, independent consultant to undertake a comprehensive study of the feasibility and viability of offering a medical degree," the State Board of Education enlisted MGT of America, Inc., to assist in the analysis of various approaches to meet student demand for medical education and the state's need for physicians. This report has provided an overview of American medical education, described medical education resources available in the state, and presented comparative statistics on the state's needs for both increased student access to medical education and a larger physician workforce.

In this summary, we review potential state goals related to medical education, describe alternatives for expanding access and the criteria that we used to assess them, and summarize the advantages and disadvantages of the four most promising alternatives.

## 7.1 Findings Related to Need for Access

As documented in previous chapters, we analyzed both qualitative and quantitative data on the demand for physicians and medical education in Idaho in preparation for formulating potential state goals for medical access. In summary, evidence from these qualitative and quantitative analyses reveals that:

- Access to physicians and medical education is *extremely* limited in Idaho, as compared to the nation as a whole and selected state groups.
- Idaho ranks high in the number of physicians age 55 and over, suggesting that retirements over the next ten years will further reduce access to physicians at the same time that a national shortage of physicians occurs.
- The Idaho population base is sufficient to support the clinical components of a medical education program.
- Highly qualified Idahoans are applying to medical schools in greater numbers than are now served by contracted programs in other states.
- Idaho applicants have one of the lowest rates of entrance among students across the 50 states. Given the stronger than average academic qualifications of Idaho applicants, a likely interpretation is that Idaho students are pursuing too few seats in the region to have a high probability of admission.
- Nationally, Idaho ranks ahead of only one state in number of residency seats per capita or in the residency seats per first-year medical school seat. The lack of opportunity for graduate medical education (GME) in Idaho is even more evident when one considers the limited range of core program offerings.
- A number of states less populous than Idaho have supported medical schools for many years, and Idaho is the most populous state without its own medical school.

- Although healthcare is becoming an increasingly important component of the national economy, it is relatively underrepresented in the Idaho gross state product. It appears that a disproportionate share of spending on healthcare is leaving the state rather than being retained in Idaho to help build the state economy.

- With its limited investment in medical education, Idaho is ill-prepared to compete for its share of the rapidly expanding biomedical industry.

## *7.2 Review of Numeric Goals*

Based on our analysis of qualitative and quantitative data, we recommend that Idaho's leaders consider establishing state goals for its:

- Physician workforce.
- Sponsorship of medical school students.
- Sponsorship of medical residents.

Based on an extensive analysis of trends in Idaho's population and comparisons of medical school seats, GME seats, and physicians per capita across the 50 states, we suggest the following goals for consideration:

- Idaho should seek to increase its physician workforce to reach the median of the 50 states. As the state's population ages, the current physician shortage will become even more acute. At recent population and workforce levels, achieving this goal would require a 42 percent increase in the number of physicians. Projected population growth would require additional new physicians to maintain the median rate per capita.

- Idaho should provide medical education opportunities that are adequate to fill two-thirds of the expected vacancies in the physician workforce each year, with the balance being recruited from an increasingly tight national market. Once the workforce reaches the national median, accomplishment of this goal will require support for 80-100 new medical students each year as the state's population continues to increase. This number of medical school seats not only would be aligned with physician workforce needs, but also would provide opportunities for talented Idaho students who are now excluded from medical education.

- Idaho should provide GME (i.e., residency) opportunities at a level commensurate with its support of physician graduates. Otherwise, the state's investment in medical education will be placed at risk as graduates go to other states for residency training with no guarantee that they will return. Support for 80-100 new residency slots will be required each year to achieve this goal.

We recognize that these goals are aggressive and represent significant increases over current levels. Even if state leaders determine lesser goals are more appropriate, we believe the adoption of goals is a critical step in measuring progress toward achieving desired levels of student and physician access in a rapidly growing state.

## 7.3 Review of Criteria and Alternatives

A number of potential alternatives for expanding access to medical education were considered, and four were evaluated in greater depth:

- ***Establishment of a new, university-operated medical school based on the distributive model of medical education.*** This approach assumes that a single state university would be assigned responsibility to develop a new medical education program that would enroll 80-100 students per class. Students would take introductory courses on the university campus for the first two years of the curriculum and would then be distributed to several clinical training sites across the state for clerkships during the third and fourth years.

- ***Expansion of the package of contract programs with medical schools in other states.*** This approach is an expansion of the current contracts with the WWAMI program of the University of Washington and the medical school at the University of Utah. The current number of seats per year for program entrants would increase from 28 to 60. Contracts with additional medical schools would likely be necessary to handle the increased number of students.

- ***Development of a new joint medical school from current medical education resources.*** This approach would draw on the medical education resources of the three state universities which would work cooperatively to create a new medical education program. Under this model, 80-100 new students per year would be admitted. Other than the cooperative governance arrangement and the offering of the first two years of the curriculum in multiple locations, the resulting medical education program would be similar to the distributive model described as the first alternative.

- ***Expansion of graduate medical education programs based in the state.*** This approach should be considered regardless of the alternative selected to serve undergraduate medical (M.D.) students. It calls for the state to support the establishment of residency programs across 5-10 of the medical specialties in greatest demand in the state and to sponsor 80-100 new residents per year in these and the existing programs. The residency programs should be integrated closely with the selected alternative for medical school training.

To provide a structured assessment of the four alternatives, we applied a series of seven criteria. The first two criteria relate directly to the ability of the alternative to have impact on state goals related to medical education:

1. ***Impact on Opportunity for Idaho Students*** – as measured by the potential number of first-year seats that could be made available in an accredited medical school to Idaho residents.

2. ***Impact on State Physician Workforce*** – as measured by the potential number of graduating physicians who would practice in the state, especially in areas of geographic shortage and in needed specialties.

The second two criteria address implementation challenges and, to some degree, consider the likelihood of success.

3. ***Challenges to Gaining Accreditation*** – as measured by the study team's insight into the likely challenges that a medical education program would encounter in gaining status to admit medical students.

4. ***Time Required for Full Implementation*** – as measured by the likely number of years that would be required for the medical education program to produce the planned number of graduates each year.

The final three criteria relate to financial concerns—both the cash outlays that would be required to fund the alternative and the economic benefits that would derive from its implementation.

5. ***Start-Up Investment Required*** – as measured by the expected dollar amount needed for facilities construction and renovation, major equipment, and costs of program development and ramp-up before full enrollment levels are reached.

6. ***Annual Operating Support Required*** – as measured by the combined amount of state appropriations and student tuition that would be required per student per year.

7. ***Economic Impact on State*** – as measured by the study team's assessment of the relative amount of economic activity that would occur in Idaho as a direct or indirect result of the expansion of medical education in the state.

## *7.4 Advantages and Disadvantages of Each Alternative*

Through the establishment of a new, university-operated medical school based on the distributive model of medical education, Idaho would be able to meet a potential state goal of sponsoring 80-100 school students per class. Importantly, the state would gain the ability to implement admissions practices and to develop special curricular and support programs that would be designed to meet Idaho's physician workforce needs and to keep a higher proportion of state-funded students in the state to practice. No major accreditation issues would be expected, but the process of establishing a new medical school is relatively time consuming, and the program would not be fully implemented for 12-15 years. A new medical school, even using the distributive model, could be expected to require a significant start-up investment and to have reasonable demands for ongoing state appropriations and student tuition. A new medical school hosted by a single university would likely have the most favorable economic impact on the state through attracting private and federal research dollars and developing the healthcare infrastructure.

Expansion of the package of contracted programs with medical schools in other states would permit the state to support approximately 60 students per class, assuming the current WWAMI and University of Utah contracts could be expanded and at least one additional relationship be developed with another medical school. This strategy would

entail only minimal accreditation issues, be fastest to implement, involve $5-6 million in start-up investment, and require reasonable levels of state appropriations and student tuition to offset operating costs. The primary shortcoming of this strategy would be the difficulty of linking state investment in medical education to state workforce needs since it is often difficult to attract students back to Idaho after they train in other states and to implement educational experiences targeted at physician shortage areas. Further, this approach would likely result in the least economic growth for Idaho since a substantial portion of the state's investment would be expended in neighboring states.

A new joint medical school that would be developed from current medical education resources in the state's three universities could also meet the potential state goal of 80-100 entering seats per year. Moreover, it would help keep Idahoans in the state after they complete medical school and address the state's physician workforce needs since many students might not even need to leave their own regions of the state to attend college and then medical school. A joint medical education program would likely face the most difficulty in gaining accreditation and, as a result, require the longest time to implement fully. Due to the need to offer introductory courses in multiple locations, significant start-up investment should be expected, and the annual requirement for state appropriations and tuition support would also be somewhat greater than for a medical school hosted by a single university. Finally, the dispersed nature of the delivery model would make it more difficult to assemble a core of faculty sufficient to attract large research grants.

While the expansion of Idaho GME programs would make little direct contribution to any state goal regarding medical school seats, this strategy would have the most favorable impact on the size and composition of the state's physician workforce. Accreditation issues would be unlikely, and the time to implement the programs and see results would be the shortest among the four alternatives. The expansion of residency training programs would entail relatively minimal start-up investment (perhaps $2 million per program area) since current healthcare facilities would serve as the primary training sites. The requirement for state appropriations to offset program operating costs would be modest, due to clinical income generated by the residents and the potential for reimbursement from Medicare and other sources. Expanded GME programs would help build the healthcare infrastructure of Idaho and retain a greater portion of current healthcare spending in the state.

**Exhibit 7-1** presents a summary comparison of the key features of the current and potential approaches to medical education.

**EXHIBIT 7-1**
**SUMMARY COMPARISON OF CURRENT AND ALTERNATIVE MODELS OF MEDICAL EDUCATION**

| Characteristic | Current Programs | New Distributive Model | Expanded Medical Education Contract Programs | New Joint Medical School | Expanded Graduate Medical Education Programs |
|---|---|---|---|---|---|
| *M.D. Programs* | | | | | |
| Number of Students per Class Supported | 20 | 80-100 | 60 | 80-100 | n.a. |
| Total Number of Medical Students Supported | 74-80 | 320-400 | 240 | 320-400 | n.a. |
| Annual Appropriations and Tuition | $53-$70K per student per year | $65-85K per student per year | $65-70K per student per year | $65-85K per student per year | n.a. |
| Start-Up Operating Support | n.a. | $10-20 million | $5 million | $10-20 million | n.a. |
| Start-Up Capital Investment | n.a. | $60-75 million | $1 million | $60-75 million | n.a. |
| *GME Programs* | | | | | |
| Number of 1st-Year Medical Residents Supported | 17 | n.a. | n.a. | n.a. | 80-100 |
| Total Number of Medical Residents Supported | 49 | n.a. | n.a. | n.a. | 320-400 |
| Annual Appropriations | $1.5 million | n.a. | n.a. | n.a. | $10-12 million |
| Start-Up Investment | n.a. | n.a. | n.a. | n.a. | $8-10 million |
| *Access to Physicians* | | | | | |
| Impact on State Physician Workforce | Less Than Half Graduates Return | Greater Impact | Similar to Current Impact | Greater Impact | Greatest Impact |
| *Economic Impact* | | | | | |
| Potential Growth in State Economy | Minimal Current Impact | Greatest Impact | Least Impact | Greater Impact | Greatest if Integrated with M.D. Program |

Note: GME program expansion should be considered in concert with M.D. program expansion.

## *7.5 Observations on Optimizing Each Alternative*

In order to assess each of the alternatives, we needed to make certain assumptions about how the program would operate. These assumptions were based on how similar programs in Idaho and elsewhere currently operate and on interviews with state leaders and medical educators who are familiar with potential program activities.

The potential number of variations within each alternative is infinite. Each alternative, as described, represents a relatively straightforward approach to implementing the model with few optional features. Each one, however, might be made more attractive from Idaho's perspective through changes in the current or planned program delivery model once the state determines its desired course of action.

Should the state choose to pursue a new medical education program to be hosted by a single university, the selected university should work with WWAMI officials to develop a long-term contractual and financial relationship whereby the new program could be supported by the resources of the University of Washington (UW). Idaho has made a significant investment in the WWAMI program over the years, and the UW school of medicine is highly regarded. To the extent possible, Idaho and the new program should continue to capitalize on this relationship.

If the further expansion of contracted programs is to be pursued, Idaho should negotiate for its leaders to play a greater role in admissions and programming decisions, including further expansion of the third- and fourth-year clerkships available in the state. Furthermore, Idaho should consider providing more incentives for graduates of the contracted programs to return to practice in the state.

Should the state opt for a new joint medical education program to be offered cooperatively by the three state universities, one university should somehow be made the first among equals in order to provide strong leadership for the program and the efficient administration of program-wide functions. Additionally, the universities should work with the University of Washington School of Medicine to develop a long-term contractual and financial relationship, as discussed above.

While any approach to expanding GME in Idaho would likely be beneficial, the new and expanded residency programs should be developed in tandem with plans to expand medical school access. An integrated approach to undergraduate medical education and resident training will result in stronger training sites, be more efficient, and contribute to research competitiveness and, in turn, economic development.

# *APPENDIX:*

## *KEY MEMBERS OF MEDICAL EDUCATION STUDY TEAM*

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***J. Kent Caruthers, Ed.D., Project Director.*** Dr. Caruthers is director of MGT's higher education practice and has a distinguished career in college and university planning and financial analysis. He has directed or played a key role in medical school feasibility studies in four other states. Dr. Caruthers also has an extensive background in state-level higher education and policy analysis. He holds his bachelor's and master's degrees in finance and his doctorate in higher education administration.

***Nancy Stepina-Robison.*** Ms. Robison is a partner in MGT's higher education practice. She joined MGT after serving as vice chancellor for the Florida Board of Regents. During her tenure with MGT, she has served numerous clients, including roles as director for our medical education projects with the University of Central Florida and North Broward Hospital District and as a senior member of the project teams for Florida State University, Carilion Health System and the Synergy Medical Education Alliance.

***Cynthia Balogh, Ph.D.*** Dr. Balogh is a partner in MGT's higher education practice and has a broad knowledge of planning, budgeting, and public policy issues. Prior to joining MGT, she dealt with a multitude of higher education related issues for the state of Florida including health professions education programs, workforce preparation, and economic development. At MGT, she has served on medical education projects for the University of Connecticut and Florida State University. Her Ph.D. is in Higher Education.

***Myra Hurt, Ph.D.*** Dr. Hurt is currently associate dean of the college of medicine at Florida State University, after serving as the interim founding dean for more than a year when the college was first established. During her tenure with the FSU college of medicine and its predecessor, the joint UF-FSU Program in Medical Sciences, Dr. Hurt has been responsible for the basic science and clinical curriculum for first-year medical students, admissions, research administration, and outreach for underserved populations.

***Carlos Martini, M.D.*** An independent consultant, Dr. Martini was formerly was the vice president for medical education at the American Medical Association where he was responsible for medical school accreditation. He is currently assisting the University of California, Merced on its medical school initiative. He previously directed the efforts of Florida International University in gaining approval for a new medical school and was the founder/developer of medical schools in Saudi Arabia, Argentina, Uruguay and England.

***Leela Hebbar.*** Ms. Hebbar is a consultant in MGT's higher education practice. She has served on numerous project teams with an emphasis on program planning for workforce needs. Her project assignments include those related growth in the healthcare workforce, minority participation in the healthcare workforce, planning for a new medical school in California, and examining the feasibility of a new higher education center in rural Minnesota. She holds a master's in economics from Rutgers.

***Leah Ewing Ross, Ph.D.*** Dr. Ross is a consultant in MGT's higher education practice. She has worked in a variety of education settings, including private colleges, state universities, and a national higher education association, and has extensive writing and editing experience. In addition, she recently completed studies of the American graduate student experience and of college presidential leadership. Dr. Ross earned her Ph.D. in Educational Leadership and Policy Studies at Iowa State University.