



The Physician Work-force Shortage: A Minnesota Perspective

A Minnesota Hospital Association report by Susan H. Klug, MA

Executive Summary

In 2007, the Minnesota Hospital Association Board of Directors engaged in a strategic planning process designed to identify work-force priorities that will position Minnesota's hospitals to succeed in today's challenging health-care environment. As a result of this process, the MHA Board developed consensus around four priority objectives and outlined short- and long-term activities for their achievement.

One of the priority objectives calls for MHA to develop solutions that assess and address hospitals' current and future work-force needs. Demographic trends predict an increase in demand for health-care workers at a time when the industry will experience an unprecedented shortage of workers. The nursing shortage has been well documented, as well as shortages in other health professional areas. There has also been recent debate about a looming physician shortage, and studies on physician supply and demand report diverse predictions, ranging from a surplus of physicians to severe shortages. Physicians play such an important role in the delivery of health care that it becomes imperative to know and understand the facts behind an impending shortage. As a benefit to MHA members, this paper will profile the impact of a diminishing physician supply on access to quality health care in Minnesota hospitals. Following is a summary of the key findings...

Physician supply in Minnesota is diminishing as a result of physician aging and attrition; In addition, fewer young people are entering the medical professions and practice styles are changing. Physician demand is being driven by a number of demographic and economic changes, such as population growth, an aging population and economic factors including new technologies and drug therapies.

Supply and demand challenges in the physician work force unique to Minnesota include:

- 45% of Minnesota physicians are over the age of 50.
- Only 5% of all Minnesota physicians practice in rural counties.
- Rural areas have too few specialists.
- Inadequate physician distribution and supply is becoming a problem in northern and southern Minnesota rural areas.
- The population of Minnesotans over the age of 65 will increase by 58% by 2020.
- Urban inner cities suffer from a lack of primary care physicians.

The consequences of a physician shortage are many, and physician recruitment and retention strategies must be developed for and by Minnesota hospitals to ensure that our state continues to provide the access to high quality care that our citizens have come to depend upon. Therefore, hospital administrators must start now to plan ahead for the long term.

Introduction

In 2007, the Minnesota Hospital Association Board of Directors engaged in a strategic planning process designed to identify work-force priorities that will position Minnesota's hospitals to succeed in today's challenging health-care environment. As a result of this process, the MHA Board developed consensus around four priority objectives and outlined short- and long-term activities for their achievement. These objectives will serve as the focus for MHA work-force development in 2008.

One of the priority objectives calls for MHA to develop solutions that assess and address hospitals' current and future work-force needs. Demographic trends predict an increase in demand for health-care workers at a time when the industry will experience an unprecedented shortage of workers. For example, there has been much recent debate about a looming physician shortage, and studies on physician supply and demand report diverse predictions, ranging from a surplus of physicians to severe shortages. Physicians play such an important role in the delivery of health care that it becomes imperative to know and understand the facts behind an impending shortage.

According to the Minnesota Department of Health (MDH), thirty three percent of Minnesota physicians work in a hospital setting, and a shortage of doctors would impact virtually every aspect of hospital operations (20). As a benefit to MHA members, this paper will profile the impact of a diminishing physician supply on access to quality health care in Minnesota hospitals. Information and insights from a Minnesota perspective will set the stage for future research, education and discussion.

Defining Access in Minnesota

Access to health care is defined as the opportunity or right to receive health-care services, and is typically measured by resource indicators such as health insurance coverage, income, and the availability of system-wide health care and safety net resources. Resources, however, cannot singularly define access to quality health care. Access also includes a number of social, technological and behavioral factors. For example, the aging population is a social demographic that will impact future demand for health-care services, and consumers call for the use of new technologies. Behavioral factors include cultural and personal health practices, and the effects of these practices on the utilization of health-care services. In addition, real or perceived barriers to health care exist across all of the measures, affecting the right of Minnesotans to receive quality care.

Of particular interest to Minnesota hospitals is the ability of our state's population to gain access to system-wide health-care resources. The University of Minnesota's State Health Access Data Assistance Center (SHADAC), funded by the Robert Wood Johnson Foundation, provides information and data to assist states in understanding the various factors associated with access to health care. According to a 2006 SHADAC report, system-wide hospital resources include the number of physicians per 100,000 population, the total number of available hospital beds, the percent of the population with a health-care provider, and the percent of the population that can get medical attention when needed. The health-care system in Minnesota currently exceeds national averages for the following system-wide health-care resources:

- Minnesota averaged 329 physicians per 100,000 people; the U.S. average is 321 per 100,000 people.
- There are 3.1 hospital beds per 1,000 people, compared to a national average of 2.7 beds per 1,000 people.

- Minnesota also fares well in the total numbers of its population covered by health insurance – 91.8% compared with 84.9% nationally.

However, our percent of the population with a personal doctor or health-care provider, 76.7%, is below the national average of 80.0%, and there has been a recent decline in the percent of the population that could get medical care when needed (7). Coverage alone does not guarantee access to health-care services. Key differences, such as the location and availability of services, must also be examined.

The expansion of medical schools and medical school enrollments during the 1980's and 1990's was predicted to lead to a surplus of physicians by the year 2000. In response to this prediction, the Institute of Medicine (IOM) released a report in 1996 calling for a reduction in medical residency slots and funding. At the time, economists were worried about an increase in health-care costs due to an oversupply of physicians. The IOM mandate was successful, and in 2001, the American Association of Medical Colleges (AAMC) and the Council on Graduate Medical Education (COGME) announced that the U.S. physician supply was stable, with adequate numbers to meet the demand (1).

Recent demographic trends, however, have prompted a change in the forecast. The U.S. population is expanding, aging and living longer with chronic conditions. Thus, in 2005, COGME issued a revised report predicting a shortage of 85,000 physicians by 2020 (2). Consequentially, the AAMC called for a 30% increase in medical school enrollments, and in 2006, first year enrollments in U.S. medical schools totaled 17,400 students, up by 2.2% from 2005 (3). This measure is one small step towards the resolution of a growing concern that may affect the entire health-care community.

Reemerging debate regarding the current and future physician workforce offers varied insights. Fitzhugh Mullan, MD, professor of medicine at George Washington University in Washington D.C., states that U.S. physician supply per capita has reached a reasonable level, and that an increase in the development of prominent non-physician roles has contributed greatly to overall delivery. Richard Cooper, MD, professor of medicine and senior fellow in the Leonard Davis Institute of Health Economics at the University of Pennsylvania in Philadelphia, argues that the physician shortage will exceed 200,000 physicians by 2020, and the AAMC measures to increase medical school enrollment are far too low in light of the reality of current demographic trends (2). Dr. David Goodman, a professor of pediatrics and community and family medicine from Dartmouth Medical School, believes that quantity does not necessarily equal quality, "Its not how many physicians there are; it's what the physicians do" (4). His focus is on improved quality and efficiency. Others contribute the physician shortage to a problem of distribution, and not necessarily of supply.

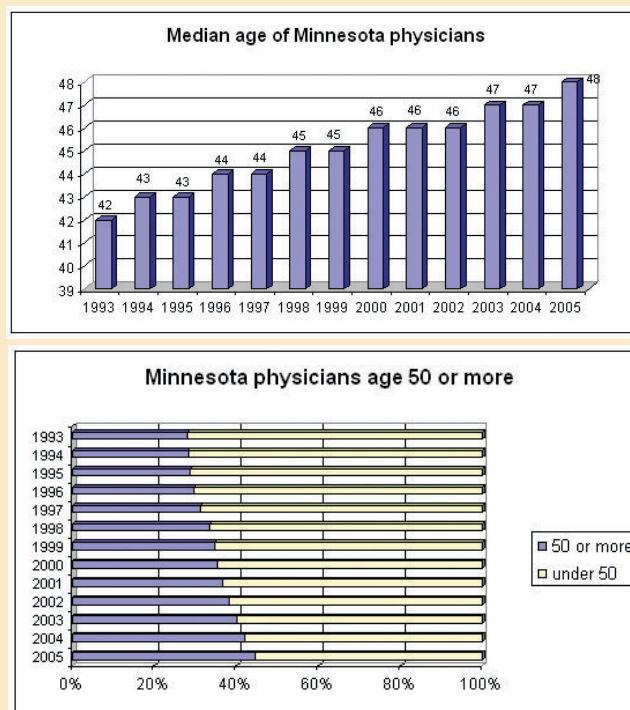
There is a kernel of truth in all of the above arguments, which makes forecasting difficult, if not impossible. A physician shortage of any magnitude will compromise patient access to quality hospital care. Physician supply and demand is based on population growth, an aging population, the expanding economy and changes in physician trends and demographics. Therefore, it is essential for hospital leaders to plan ahead and not rely on past trends to predict future needs (5). Additionally, larger policy discussions on the physician supply debate need to take place at the national and local levels (6). Solutions are difficult to

Physician Supply and Demand

implement and take time, yet across the nation, hospitals in rural areas and urban inner cities are struggling to recruit and retain doctors.

Can Minnesota hospitals continue to meet the medical needs of its citizens if a physician shortage were to occur? A growing body of evidence indicates that the impending physician shortage is due to a number of factors in the supply and demand equation. The physician supply in Minnesota is diminishing as a result of the following factors...

1. Physician aging – In 2005, the MDH estimated that the average age of physicians in MN was 48 years, and the percent of physicians who were 50 years or older was approximately 45% (11).



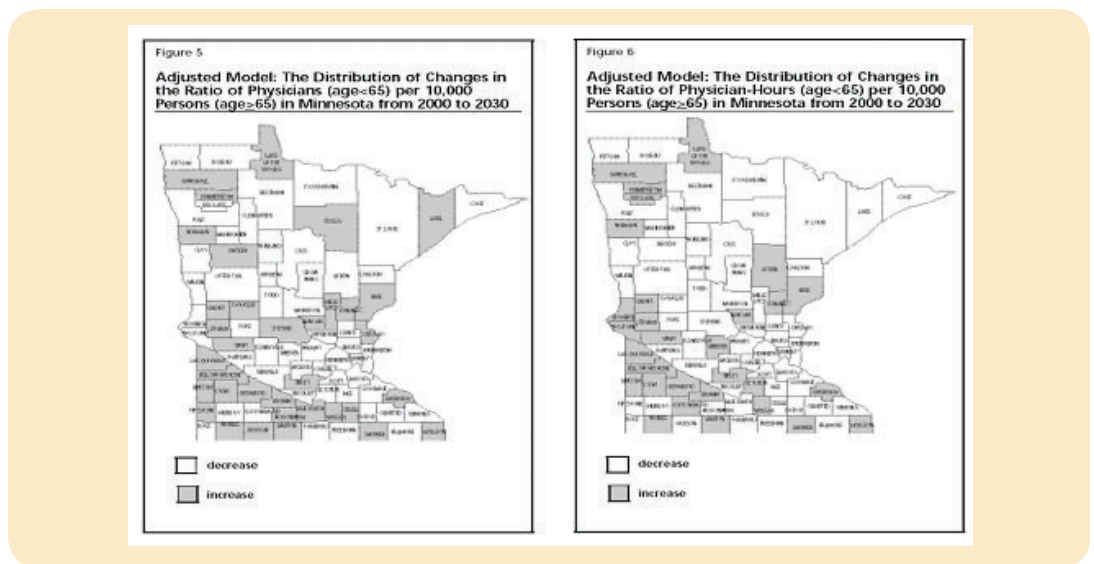
Source: Minnesota Department of Health, Physician Demographics, 2005

2. Attrition – A recent survey by Merritt Hawkins and Associates indicates that 60% of physicians between the ages of 50 and 65 are considering career changes due to general dissatisfaction with their profession (12). Older doctors also tend to work fewer hours per week and see a smaller number of patients.
3. Fewer medical school entrants – In 2003-2004, there were 21 medical students (MD and DO) per 100,000 people in Minnesota; the U.S. average is 26.6 per 100,000 (22). Overall, fewer younger workers are entering the health-care professions.
4. Changing practice styles – Younger doctors place a greater premium on work-life balance and seek regular hours and other benefits typically compensated for in the business sector. They also want to spend more time with each patient and work on average 10% fewer hours, resulting in an overall decline in productivity (12).

5. More female physicians – 50% of the U.S. medical resident pool are female physicians. Women doctors, in particular, seek to balance family and professional responsibilities and work 18% fewer hours per week than their male counterparts (12). In addition, only 16% of female family practitioners under the age of 45 choose to practice in non-metropolitan areas, compared to 24% of male family practitioners (13).
6. Temporary physicians – A burgeoning market for part-time or locum tenens services is a reflection of supply and demand factors.

The increasing demand for physicians in Minnesota is being driven by a number of demographic and economic changes...

1. Population growth – The U.S. Health Resources and Services Administration estimates that the total population of MN is expected to increase by 10% between 2000 and 2020 (8). The population of MN following the 2000 census was 4,919,479; an increase of 10% equals 492,000 more Minnesotans by the year 2020 (9).
2. An aging population – The first of the Baby Boomers will reach age 65 in 2011, and the population of Minnesotans over the age of 65 is expected to increase by 58% between the years 2000 and 2020. Older patients place a higher demand on health-care services due to an increase in chronic disease and more frequent hospitalizations. In addition, a 2004 Minnesota Medical Association report states that over 80% of the population aged 65 and older will be living in counties with decreases in physicians and physician hours per capita (10).



3. Economic factors – New technologies, drug therapies, relative consumer affluence and direct access to specialists is driving an increase in costs and the average annual rate of per person visits to physicians. For hospitals, the rising rate of the uninsured also contributes to the climb in health-care costs due to uncompensated services. And, as the Baby Boomers leave the work force, the health-care industry will be competing with all other industry sectors for employees.

The Rural vs. Urban Debate

In summary, our doctors are aging and exiting the profession at an unprecedented rate. Fewer young people are entering medical school, and there is a general shift towards a greater life-work balance among younger physicians. The supply and demand equation is leaning heavily towards demand, since the aging and expanding population will soon begin to require more health-care services than the physician work force will be able or willing to accommodate.

Other studies and reports suggest that within Minnesota, the physician shortage is a problem of distribution and not necessarily one of supply. For example, the MDH divides state counties into three categories - metropolitan statistical areas (MSAs), micropolitan statistical areas and rural areas. The following MDH geographic breakdown of physician distribution across the state shows a concentration of both primary physicians and specialists in MSAs. Note that 87% of Minnesotans live in MSA or micropolitan areas and have access to 95% of all physicians, while 13% of Minnesotans live in rural areas and have access to only 5% of all practicing physicians.

	Population	Primary Care	Specialists	All Physicians
MSA counties (21)	72%	79%	89%	84%
Micropolitan counties (20)	15%	13%	9%	11%
Rural counties (46)	13%	8%	2%	5%
State total	5,088,006	100%	100%	100%

Rural areas across the U.S. are frequently cited as lacking in primary care physicians. According to Jay Fonkert, Minnesota state demographer, “The good news for rural areas is that 78% of rural physicians practice in a primary care specialty. The bad news is that rural areas have few specialists” (15). While the majority of physicians in rural areas are primary care physicians, there are still too few primary care doctors in these areas to adequately serve rural populations.

It is obvious from the data that rural Minnesota presents unique challenges for our state’s hospitals. Shortages of physicians in rural areas are often due to lower incomes, location, practice setting and demographics. Physicians typically exit medical school with high educational debt, and will often seek employment in areas where they can generate the income necessary to pay off their student loans and establish a lifestyle commensurate with their training. In addition, modern medical school graduates are trained in the latest technologies and may not be adequately prepared to serve in rural areas (18). On the employer side, small rural hospitals have lower volumes and types of procedures, thus limiting a new physician’s opportunity to develop specialized knowledge and expertise.

Rising costs, lower incomes, low population density and an aging population are important market and demographic forces working against rural hospital sustainability. As the general population ages, physicians in rural areas will treat increasing numbers of chronically ill and frail patients who are unable to travel longer distances. In addition, emergency and specialty services cases are often transferred to critical access hospitals or higher volume centers.

The end result is lower patient volume, and low-income, uninsured and older patients that generate smaller reimbursements. If the cycle continues, rural hospitals may eventually close because they are unable to compete. Residents in rural areas who are disabled, poor or elderly would be left without access to emergency or acute care - the location and availability of services and transportation then become significant barriers to access. Communities also suffer since hospitals are not only providers of quality health care - they are among the best employers and citizens as well.

Geographic Information Systems (GIS) offers a slightly different representation of physician distribution and shortages in Minnesota. A report by Thomas Sandberg combines 2005 data on Health Professional Shortage Areas (HPSAs) and provider distribution using 30 by 30 mile GIS grid cells (16). According to this model, inadequate physician distribution and supply is no longer a problem focused on rural northern Minnesota; rural areas in the southern half of the state are experiencing physician shortages as well. Foreign medical graduates, which were once used to fill primary care physician vacancies in MN HPSAs, are increasingly in demand for urban jobs and currently represent 13% of active physicians in the state (21).

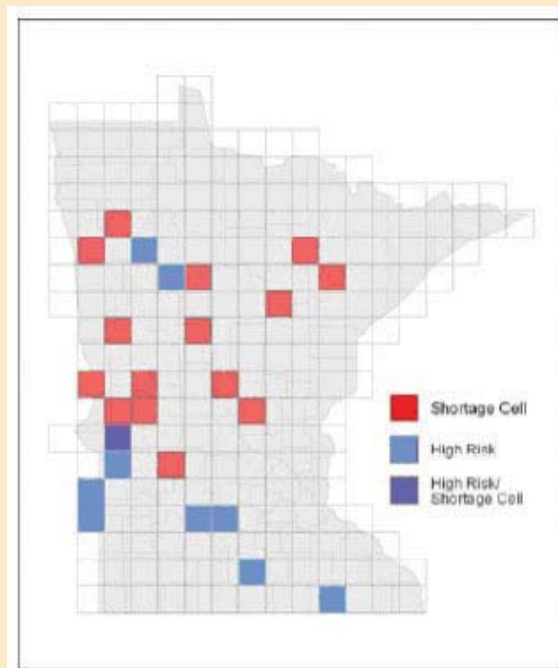
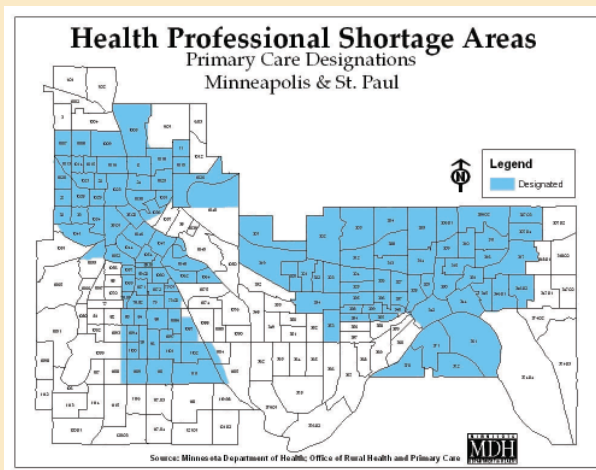
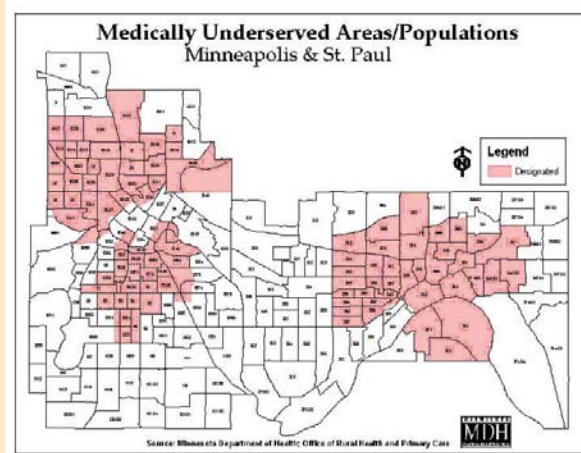


Figure 15. Current shortages and impending retirements.

Source: Sandberg, T.J.

Are urban areas in Minnesota exempt from the situation? Federally designated HPSAs, Medically Underserved Areas (MUA) and Medically Underserved Populations (MUP) exist in the inner cities as well as in rural areas. In the metro area, the cities of Minneapolis and St. Paul suffer from an inadequate supply of primary care physicians, and physicians working in urban settings typically serve populations facing economic, linguistic or cultural barriers to health care (19). As the population of Minnesota continues to diversify, rural physicians currently are or will soon be facing similar population disparities.



Source: MDH, Health Professional Shortage Areas & Medically Underserved Areas, 2005.

Conclusion

Physician supply, demand and distribution facts offer valuable insights for planning and forecasting. While statistics provide excellent data for opinions and policy, a recent article in HealthLeaders News states that standardized formulas often omit input from hospital administrators who must ensure an adequate work force. The article quoted a 2007 survey conducted by AMN Healthcare on behalf of the Council on Physician and Nurse Supply. Over 400 hospital CEOs were surveyed for their opinion on physician and nursing shortages (17). A summary of the survey results is as follows...

1. 86% of hospital CEOs said they are actively recruiting doctors.
2. 81% are seeking primary care physicians; 74% are seeking surgical, diagnostic or other specialists.
3. Most CEOs indicated that doctors were more difficult to recruit than nurses.
4. 82% stated that the U.S. has too few physicians, 95% said that the numbers should be increased.
5. Two-thirds said “The doctor shortage is a serious problem that must be addressed soon.”

Minnesota hospitals can be proud of the services they provide; our state meets or exceeds many of the national standards for system-wide health-care resources, and nationally, Minnesota is considered a leader in health care. However, there are unique supply and demand challenges regarding the physician work force that must be immediately addressed:

- 45% of MN physicians are over the age of 50.
- Only 5% of all MN physicians practice in rural counties.
- The majority of physicians practicing in rural MN are primary care physicians, yet there are still not enough doctors to adequately serve the population.
- Rural areas have few specialists.
- Inadequate physician distribution and supply is becoming a problem in northern and southern MN rural areas.
- The population of Minnesotans over the age of 65 will increase by 58% by 2020.
- By the year 2030, 80% of the population over the age of 65 will be living in areas with a decrease in physicians and physician hours per capita.
- MN urban inner cities suffer from a lack of primary care physicians.
- Urban and rural populations are challenged by economic, cultural and linguistic barriers to access.

The consequences of a physician shortage include limited access to patient care, adverse patient outcomes, burn-out of clinical personnel and medical staff defections (17). Physician recruitment and retention strategies must be developed for and by Minnesota hospitals to ensure that our state continues to provide the access to high quality care that our citizens have come to depend upon. There will be no immediate solutions to the problem, given the time it takes to complete medical education and training, and the number of graduating medical students may not keep pace with future demand. Therefore, hospital administrators must start now to plan ahead for the long term.

What can be done? MHA Work Force Development is interested in working with member hospitals on this issue. As a first step, we recommend organizing a focus group of hospital leaders to discuss the physician supply and demand concerns unique to Minnesota, and to begin the process of identifying potential strategies and solutions for physician recruitment and retention.

We welcome your comments. Please contact Ann Gibson, MHA vice president of work force, at 651.603.3527 or anngibson@mnhospitals.org, or Janna Lise, MHA work force project coordinator, at 651.659.1424 or jlise@mnhospitals.org.

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