

Who Will Care For Our Patients?

2008 Update: Taking Action to Fight a Growing Physician Shortage in Wisconsin



A report by the Wisconsin Council on Medical Education and Workforce

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October 2008

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October, 2008**

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Executive Summary

This report is an update of the 2004 report *Who Will Care for Our Patients?* It reassesses the physician workforce in today's environment, estimates the supply and demand for physician services in 2020 and 2030, and makes recommendations on addressing future shortages.

Current Environment

There is currently a shortage of primary physicians in rural and inner-city areas of Wisconsin. Specifically, there is a shortage of primary care physicians in rural Wisconsin, and in Milwaukee in the Health Professional Shortage Areas.

Estimates of Future Supply and Demand

A number of separate projections of supply and demand were made for the years 2020 and 2030.

- Demand is estimated to increase by 9% to 33% by 2020, and 13% to 65% by 2030.
- Supply is projected to increase by 13% by 2020, and 21% by 2030. A separate projection for primary care physicians shows a 5% increase by 2020, and an 8% increase by 2030.
- The most likely scenario shows a small shortfall in 2030 for all physicians, with the worst-case shortfall of 44%. However, for primary care physicians, the most likely scenario predicts shortfalls of 8% by 2020, and 14% by 2030. The worst-case shortfall is 57%.

Recommended Actions

A number of actions are recommended to address the expected shortage of health care professionals, in particular primary care providers.

- Develop an infrastructure to gather data sufficient to aid in understanding the current and future physician workforce.
- Expand the membership of the Wisconsin Council on Medical Education and Workforce (WCMEW) to include a representative of the inner-city Milwaukee provider community.
- Greatly expand existing tuition reimbursement programs to target primary care physicians and specialists who stay and practice in Wisconsin.
- Lobby Congress to increase the number of Wisconsin residency programs that receive Medicare reimbursement.
- Increase the number of slots at schools producing Advanced Practice Provider (APP) graduates. Recruit, train and mentor APP candidates who will practice in the inner-city areas of Wisconsin's urban areas; in particular, Milwaukee. Break down barriers between medical schools and allied health schools to maximize resources and to eliminate duplicative programs.
- Sponsor or fund research on the medical home model.
- Establish an inner-city version of the WARM program, aimed at recruiting and training individuals who are likely to practice in inner-city Milwaukee.
- Increase Medicaid payment for physician specialist services provided in the inner-city areas of Milwaukee.
- Preserve Wisconsin's favorable malpractice climate.

Introduction

It has been four years since the release of *Who Will Care for Our Patients?*, a report by the Wisconsin Hospital Association and the Wisconsin Medical Society, which concluded that a shortage existed in the physician workforce, and that shortage was expected to worsen. It called for action to address the shortage.

Sufficient time has passed from the release of that report to allow a reassessment of Wisconsin's physician workforce. This report will provide an update, showing how the situation has changed in the intervening period regarding physician supply and demand, providing a new projection of the future physician workforce, and making an evaluation of the progress made on the stated goals.

Also included are summaries of the results of two surveys conducted by the Wisconsin Medical Society. They first surveyed practicing physicians regarding attitudes about their profession and future plans. The second survey was directed at physician leaders and focused on recruitment and retention issues.

Finally, the report suggests potential policy implications and next steps.

2004 Task Force

In 2004, the Wisconsin Task Force on Wisconsin's Future Physician Workforce released a report entitled *Who Will Care for Our Patients?*. The Task Force had been asked to evaluate the current physician supply in Wisconsin, to forecast future supply, and compare those totals to current and future demand.

After reviewing the data, the Task Force concluded that an unmet need existed for physician services and that the problem will likely grow worse in the future unless aggressively managed. The current supply was not sufficient when measured several different ways:

- There was a shortage of primary care physicians in rural Wisconsin and inner-city Milwaukee.
- In general, non-primary specialty physicians were in demand and hard to recruit on a statewide basis.
- General surgeons and radiologists were critically needed in rural areas.

These unmet needs were projected to grow even more in the future. By 2015, we anticipate demand for physicians to grow:

- By an additional 13.5% for primary care physicians
- At rates exceeding 20% for all other physicians

While demand was projected to increase, physician supply is predicted to lag behind due to projected negligible growth in Wisconsin's physician workforce over the next 10 years. This compared to a projected increase in population of 8.8%, with demographic factors expected to drive demand for health care services in excess of that total.

2004 Report - Recommended Actions

The report concluded that action was necessary to address the forecasted shortage and outlined five major goals:

- Create an infrastructure to guide medical education in Wisconsin.
- Enroll students in medical schools who will practice in Wisconsin.
- Develop new care delivery models.
- Attract physicians to Wisconsin and keep them here.
- Target and enhance funding for medical education.

Efforts Toward Reaching Goals

Each of the goals outlined in the 2004 report has seen some activity and progress, as outlined below:

Create an infrastructure to guide medical education in Wisconsin

In late 2004, the Wisconsin Hospital Association, the Wisconsin Medical Society, the University of Wisconsin Medical School (now the University of Wisconsin School of Medicine and Public Health or UWSMPH) and the Medical College of Wisconsin established the Wisconsin Council on Medical Education and Workforce (WCMEW).

The purpose of WCMEW is to act as a catalyst, a convener of constituencies, and a platform for developing public policy regarding physician workforce issues. Over the past four years, the Council has played an important role in raising public awareness about—and finding solutions to—Wisconsin’s physician workforce issues. Much of the effort toward reaching the goals outlined in 2004 has been guided by WCMEW.

Enroll students in medical schools who will practice in Wisconsin

The Wisconsin Academy for Rural Medicine (WARM), a school-within-a-school of the UWSMPH, was established in 2005, and began admitting its first students in 2007. Thirteen students will be enrolled in 2008, and annual enrollment will be increased to reach 25 students in the next two years. This represents an increase of 17% in the total number of medical students enrolled at the UWSMPH.

The Wisconsin Medical Society Foundation, working with WCMEW, developed a program to provide funding for WARM medical students, including a combination of scholarships, fellowships and loans. In the summer of 2008, the first round of fellowships was awarded, with five WARM students having the opportunity to carry out community-based projects.

Develop new care delivery models

During the summer of 2007, WCMEW surveyed the largest Wisconsin medical groups about their experience with Advanced Practice Providers (APPs). The purpose of the survey was to identify how commonly physician practices included APPs in their practice mix. The results of the survey show that the ratio of APPs to physicians in Wisconsin physician practices is about three times the rate in the rest of the country, with Wisconsin averaging 0.27 APPs per physician compared to the national average of 0.1.

The results of the APP survey are being used to encourage medical schools to help inform health systems on the role of APPs and to assist the UWSMPH in developing a team-based medical education model. They also point to a potential workforce need as discussed below in the section entitled *Changes in Care Delivery*.

Target and enhance funding for medical education

WCMEW has worked collaboratively with other organizations to advocate for enhanced Medicaid funding for graduate medical education (GME). The effort included representatives of the medical schools, WHA and the Wisconsin Medical Society, providing testimony to Wisconsin legislative committees as they deliberated on the state budget. While it was not successful in gaining additional Medicaid payment for GME, WCMEW did shine the spotlight on the need for all payers to accept responsibility for funding medical education.

Attract physicians to Wisconsin and keep them here

WCMEW has developed a Web site, www.WisconsinPhysicianCareers.org, that allows Wisconsin health care organizations to post physician position openings and gives physicians in Wisconsin and other states the ability to browse available positions and communicate with those organizations having openings. The target audience includes physicians currently in residency programs in Wisconsin and those who have lived or have received medical training in Wisconsin. As of October 30, 2008, there were over 600 positions listed on the site.

2008 Physician Workforce Environment

Supply and Demand: Methodology and Data Sources

The calculation of an excess or deficiency in physician supply involves the comparison of available physicians to the need for their services.

The current supply was calculated using the 2008 AMA Physician Master File. This database includes information on physicians' specialties and locations of their practices at the ZIP code level. It also indicates how many hours per week each physician spends in practice. Thus the supply is defined as the number of full-time equivalent physicians.

The demand, or need, for physicians is more subjective, and relies mainly on opinion and anecdotal data. This report uses several approaches to make an assessment about need or demand:

- An "expert opinion" approach, where health researchers or payers are asked to provide an opinion about the ideal number of physicians
- Volumes or frequencies of physician job openings
- Opinions on shortages and difficulties in recruitment from the Wisconsin Medical Society's "Physician Leader Survey"

Expert Opinion. An examination of "expert opinion" analyses shows a number of different results. The varied opinions result mainly from different views on the required mix of specialties or assumptions about how many patients can or should be seen (in several cases, results differ depending on whether the population is assumed to be served under a managed care or a fee-for-service environment).

Rather than relying on one set of conclusions about needed physicians, this report uses the average of two sets. The first, Graduate Medical Education National Advisory Committee (GMENAC) Standards, has been used in multiple physician workforce studies for a number of years. The second is from an analysis conducted by L. Gary Hart, et al, in a study of two large group-model HMOs. The results are shown in the table below, and are summarized by specialty area, with the recommendations shown as a ratio of physicians per 100,000 population.

<i>Specialty Area</i>	<i>Physicians per 100,000 Population</i>		
	GMENAC	Hart, et al	Average
Primary/Generalists	66.8	78.2	72.5
Medical Specialists	36.5	22.4	29.5
Surgical Specialists	36.0	39.2	37.6
Hospital-Based	31.3	29.8	30.6
Total	170.6	169.6	170.1

While the recommended mix of generalists and medical specialists differs between the two studies, the overall totals compare well. Using the average “evens out” the differing opinions about the need for primary physicians versus specialists, and splits the difference between the views on fee-for-service and managed care practice requirements.

This average was then multiplied by the county population and compared to the actual physician count (from the 2008 AMA Master File) in each Wisconsin county. The table below provides a summary of the resulting surplus or shortage.

	<i>Surplus</i>		<i>Shortage</i>	
	Number of Counties	FTE Surplus	Number of Counties	FTE Shortage
Primary Specialists	31	994	41	374
Medical Specialists	13	708	59	488
Surgical Specialists	13	356	59	332
Hospital-Based	9	260	63	600
Totals		2,318		1,794

Note: Wisconsin has 72 counties.

As the table shows, there are wide disparities among counties in terms of surpluses or shortfalls in the required numbers of full-time-equivalent physicians. Generally, the surpluses occur in urban counties, while the shortfalls are in rural counties.

One interpretation of these results could be that, on a statewide average basis, there is a more than sufficient supply of physicians to satisfy demand. But in assessing the question of adequacy, one must consider the special needs of those having difficulties in traveling, as well as the benefits of having access to care in one’s own community.

For some specialties, where utilization per 100,000 is low, there is not sufficient population available to provide an adequate number of patients to support a specialist in the immediate area. In those situations, travel or remote access to services (e-medicine or telehealth) may be necessary. But attention must be paid to the infrastructure necessary for adequate access to these specialists, including, for example, transportation or telehealth capability.

For primary care, on the other hand, where ongoing interaction with a patient is a necessary component of managing their health care, one could conclude that there is an unmet need if there are not enough primary care physicians in the locality—in this case, the county. According to the table on the previous page, that unmet need totals 374 primary care physicians in 31 counties across Wisconsin.

Inner-city Milwaukee. Access issues in urban areas are not necessarily related to distance. Other barriers, including income and ethnicity, often prevent access to care to residents in these areas. So even though the populations in the urban medically underserved areas may be quite close to concentrations of physicians, patients will not access that care. The Health Resources and Services Administration (HRSA) tracks Health Professional Shortage Areas (HPSA) in both urban and rural areas. For urban areas, it designates census tracts, often covering very small geographic areas, as HPSAs. For Milwaukee, HRSA has designated 133 such areas and has determined that there is currently a shortage of 20 primary care physicians in these tracts.

Access to primary care in inner-city Milwaukee is typically obtained either through hospital emergency rooms, or (more appropriately) through Federally Qualified Health Centers (FQHC). The five Milwaukee health systems are making a concerted effort to help FQHCs become the main access point for primary care. But they are facing significant challenges in two areas. First, FQHCs are having a difficult time recruiting physicians who are of color or are bilingual, or those with J1 visas who will stay after their required service time. Second, access to specialists is restricted due to inadequate Medicaid payment.

Physician Recruitment. Another measure of demand for physicians is the volume or frequency of physician recruitment activity. While no comprehensive database exists regarding recruitment activity, the MHA Group, the nation’s largest physician recruitment firm, conducts an annual survey of hospitals and physician groups and publishes the listing of their most frequent physician searches. The results for the last six years are shown in the following table.

Top 10 Physician Searches

	2007/08	2006/07	2005/06	2004/05	2003/04	2002/03
Family Practice	492	303	257	156	168	122
Internal Medicine	314	273	274	188	127	113
Hospitalist	208	194	112	62	86	55
OB/GYN	159	111	83	103	107	110
Orthopedic Surgery	145	172	207	210	214	191
Radiology	109	187	237	218	206	230
Psychiatry	106	81	69	80	57	59
Emergency Medicine	90	91	91	47	45	40
Neurology	84	58	69	56	63	44
General Surgery	81	121	165	116	115	84

Source: Merritt Hawkins

While there is some fluctuation among the various specialties over the six-year period, demand for three specialties shows a steady increase: family practice, internal medicine, and hospitalist. The first two are primary care specialties, which reinforces the conclusions stated above about the unmet need for primary care physicians. The hospitalist specialty is somewhat new, and reflects changes in medical care delivery, an area which will be further discussed in the section of this report entitled *Changes in Medical Care Delivery*.

Wisconsin Medical Society CMO Survey. Another source of information on physician supply is the 2008 survey of Chief Medical Officers (CMOs) of physician group practices conducted by the Wisconsin Medical Society. Nineteen CMOs representing a total of over 5,000 Wisconsin physicians responded to the survey. A summary of notable responses is provided below.

- 58% indicated that recruitment was being hampered by an inadequate pool of applicants.
- 63% responded that the supply problem was requiring them to alter the manner in which they deliver services.
 - 26% were limiting acceptance of new patients.
 - 53% said that wait times for appointments had lengthened.
- 74% have changed staffing patterns.
 - 58% have added Advanced Practice Providers.
 - 74% have increased their triage or diverted patients to emergency rooms or urgent care centers.
- 79% have seen an increase in the time required to recruit physicians.

Conclusions Regarding the Current Supply. All three of the examples provide some evidence that a current shortage exists. The first approach arrives at a specific total for primary physicians, computed at 374 FTEs. The MHA data is national, not specific to Wisconsin, but shows that primary physicians are the most sought-after specialty. Finally, while the Wisconsin Medical Society survey results provide a more general overview, they show that the shortage has had an impact on access to—and the delivery of—patient care.

Wisconsin Medical Society Physician Workforce Survey

A key ingredient to understanding the physician workforce environment in Wisconsin is the prevailing attitude of practicing physicians. In order to find out what Wisconsin physicians are thinking in terms of their current practices and future plans, the Wisconsin Medical Society surveyed its members. This was the first comprehensive, statewide survey conducted of Wisconsin physicians. The Medical Society sent surveys to nearly 8,000 physicians and received more than 1,500 responses, for a response rate of 19%. The survey questions covered:

- Physician satisfaction
- Career plans
- Professional liability
- Patient access
- General practice information
- Demographic/practice information

The results of the survey provide insight into the attitudes and intentions of Wisconsin physicians, and will be helpful in development of policy related to our physician workforce. Five issues appear to dominate:

- Over 25% of practicing physicians are dissatisfied with their practice environment, their hours, or their incomes.
- This dissatisfaction is leading between 22% and 26% of physicians to either plan on or consider retirement, or to relocate their practices—either inside or outside of Wisconsin. Fully 46% are at least considering reducing clinical hours.
- 42% of respondents modify the way they practice medicine based on the fear of being sued.
- Access for new and existing patients is an increasing problem, with 35% of physicians indicating that wait times for visits have increased over the past three years. 50 percent of primary care physicians report increased wait time for referring to a specialist. Physician supply and increased time spent on documentation are given as the main reasons.
- The greatest concerns of Wisconsin physicians are over income security, the malpractice environment, and administrative burden.

Medical Education in Wisconsin

Wisconsin has two medical schools, the University of Wisconsin School of Medicine and Public Health (UW) and the Medical College of Wisconsin (MCW). On average, 336 medical students have graduated per year over the past six years (195 for MCW and 141 for UW), and this number has remained consistent for the past 20 years. On average, about 38% of graduates ultimately practice in Wisconsin.

The numbers of graduates have remained steady over those 20 years. But in recent years, a number of noteworthy changes have taken place. First is the Wisconsin Academy for Rural Medicine, described on page 3, which will add 25 medical students to the University of Wisconsin School of Medicine and Public Health. This is the first expansion in enrollment in 20 years, and is expected to increase the supply of physicians who will practice in Wisconsin. The second change is in the specialties being selected by medical students. Fewer students are choosing primary care specialties such as family medicine, pediatrics and internal medicine.

There are 127 accredited residency programs in Wisconsin involving 26 specialties and 1,632 residence positions. Nearly all of the available residency positions are filled each year. In the annual matching, where applicants request placement in the resident positions, Wisconsin's programs typically fill 95% of the available positions. Most are 100% filled, except for family medicine (91%), internal medicine (94%), pediatrics (97%), and general surgery (96%). The percentage matches and the number of available positions for those four specialties have changed over the recent period. The following table summarizes the changes from 2002 to 2008.

	2002			2008		
	Available	Filled	% Filled	Available	Filled	% Filled
Family Medicine	74	45	61%	64	58	91%
Internal Medicine	81	73	90%	83	78	94%
Pediatrics	37	34	92%	39	38	97%
General Surgery	18	14	78%	23	22	96%

The most distinctive change is in the family medicine programs, where the number of positions decreased by 10, but the percentage of filled increase to 91%, or 58 positions. It is more difficult to assess the importance of the changes in Internal Medicine and Pediatrics, because physicians can elect those specialties initially but subsequently move into their subspecialty areas.

Wisconsin's Future Needs

In making projections about future physician supply and demand, this report used the following factors:

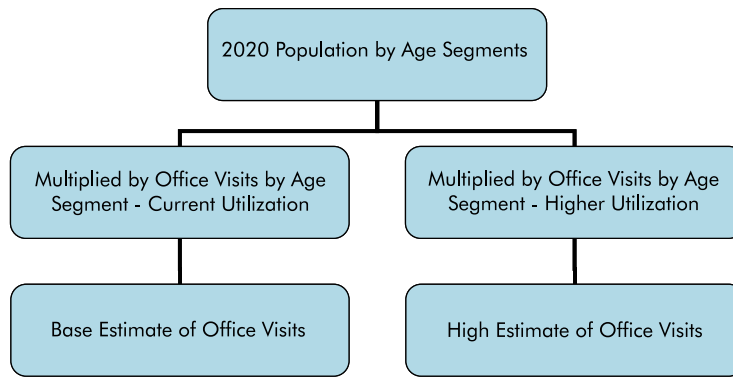
- Factors That Influence the Demand for Physician Services
 - Utilization patterns
 - Population and demographics
 - Technology
- Factors That Influence the Supply of Physician Services
 - How care is delivered to patients
 - Physician demographics and lifestyle expectations
 - Technology
 - The medical education system

Projected Demand

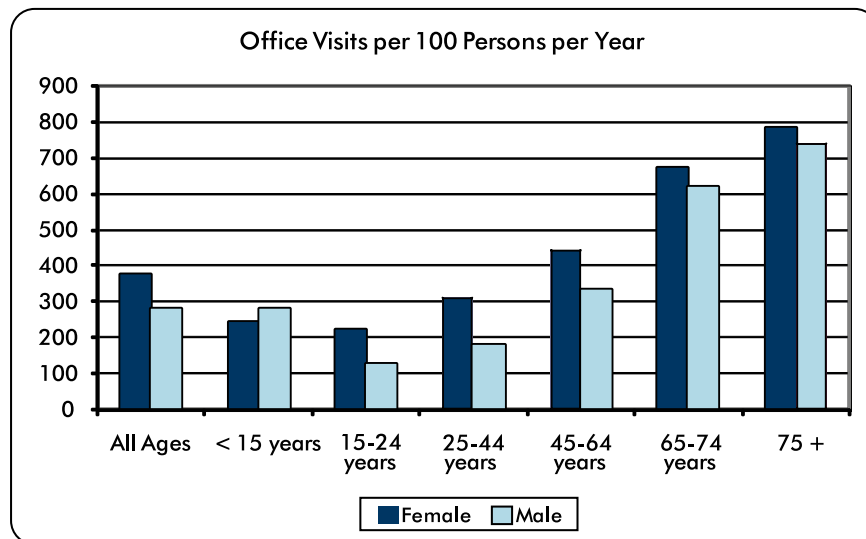
Demand is projected for the years 2020 and 2030 using 2005 national average utilization patterns for physician office visits by population segment (office visits per 100 persons per year) combined with projected populations for those years.

A second projection reflects the increases in utilization, especially in the more aged population segments, that have been seen over the last two decades.

Historically, there has been a dramatic difference in the average number of office visits by age and gender, as shown on the chart below. The baseline projection uses the 2005 averages.



The chart below shows the differences in physician office visit utilization by age group and sex. Utilization by those aged 65 and older is approximately three times the average for those aged 25 to 64.



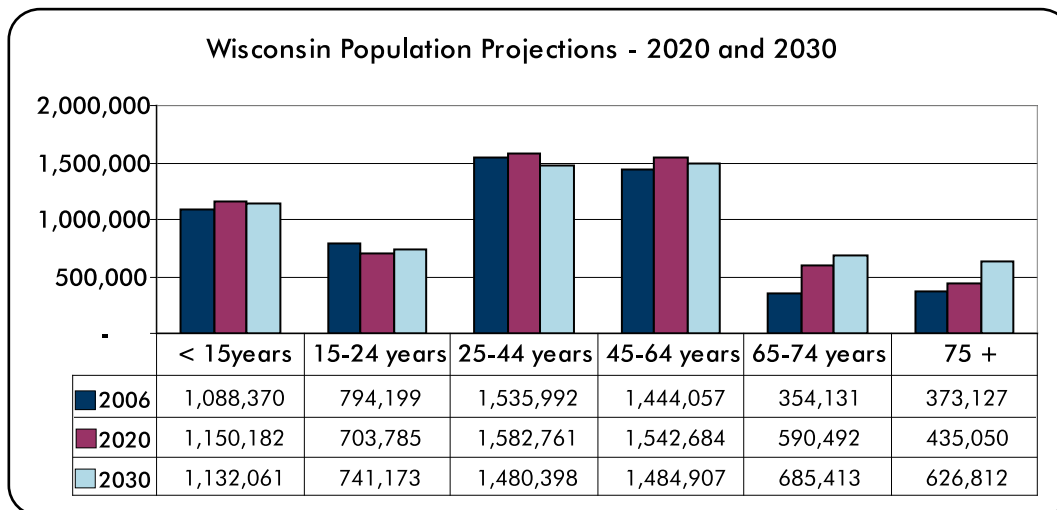
But those patterns have changed over the years. An analysis of office visit data shows the following changes from 1990 to 2005. It shows that, while the utilization patterns have changed little for those younger than 45, there has been an increase of about 1.4% to 2% per year for those aged 45 and older. The total increase for those aged 65 and older was 35% over that time period.

Age Category	Total Increase	Avg. Annual Change
< 15 years	5.9%	0.4%
15-24 years	-14.0%	-1.0%
25-44 years	2.5%	0.2%
45-64 years	22.3%	1.4%
65-74 years	34.8%	2.0%
75 +	34.7%	2.0%

The second projection of demand incorporates the average annual changes shown above.

The demographics of Wisconsin’s population are expected to change dramatically over the next several decades, as the next chart demonstrates.

As the next chart shows, the total population is projected to increase by 7% by 2020 and 10% by 2030. The age categories of 25-44 and 45-64 show decreases in population from 2006 to 2030. On the other hand, the 65-74 and 75+ categories show dramatic increases—94% and 68%, respectively. These are the same age categories that have historically utilized physician services at a higher rate than the average population.



Combining the utilization rates with the projected populations yields the following results:

	Wisconsin Population 2006	Estimated WI Office Visits (thousands)	Wisconsin Population 2020	Estimated WI Office Visits (thousands)	Wisconsin Population 2030	Estimated WI Office Visits (thousands)
Baseline Projections	5,589,876	18,783	6,004,954	21,288	6,150,764	22,906
% Change			7%	13%	10%	22%
Utilization Increase	5,589,876	18,783	6,004,954	24,926	6,150,764	30,912
% Change			7%	33%	10%	65%

Using the baseline estimate, the number of visits is projected to increase by 13% by 2020 and 22% by 2030. But if the utilization of physician services continues to change at rates seen over the past 15 years, the projections increase to 33% for 2020 and 65% by 2030. On the other hand, if utilization decreases, demand is projected to increase by 9% by 2020 and 13% by 2030.

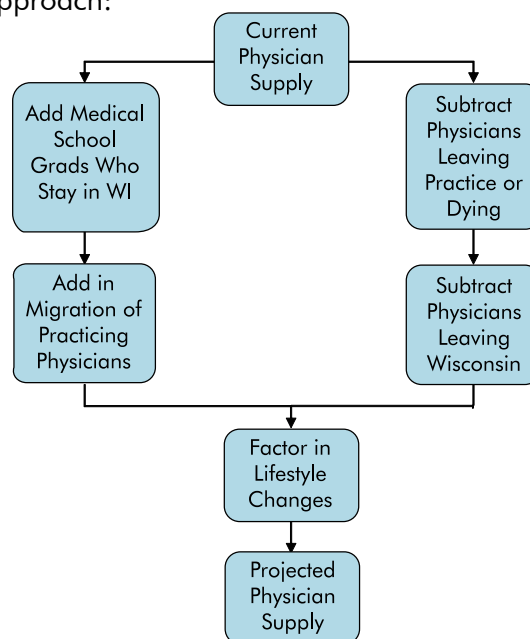
Projected Supply

The projection of the future supply of physicians uses the following approach:

- Start with the current number of physicians practicing in Wisconsin.
- Add graduates from Wisconsin's medical schools that stay and practice in Wisconsin.
- Add physicians who come to Wisconsin from other states.
- Subtract those who leave practice, retire, or move to other states.
- Factor in changes relating to lifestyle expectations.

Data on currently practicing physicians and the Wisconsin medical school graduates is readily available. The remaining factors require estimates, the use of national averages or data from the Iowa Physician Database, which has been collected for the last 25 years.

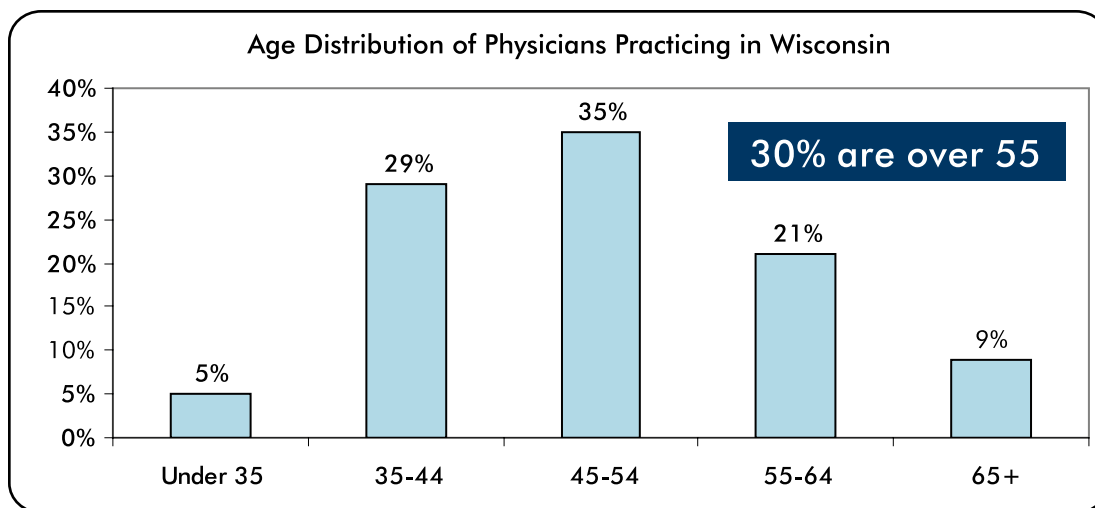
The current number of practicing physicians in Wisconsin is 9,856, which is used as the starting point. The number of graduates from Wisconsin's two medical schools that stay and practice in Wisconsin



has averaged about 133 per year. To that total, 12 WARM graduates are added in the period up to 2020, and 17 per year in the period from 2021 to 2030. Thus, after allowing for the WARM program to ramp up, this estimate assumes about two-thirds of WARM graduates stay and practice in Wisconsin.

The in-migration of physicians from other states is estimated at 5.7% of the existing total per year. This percentage is equal to what the state of Iowa experiences.

Attrition from retirement, death, or other reasons is estimated at 2.6% per year, which is the national average rate. This is validated by the fact that 30% of Wisconsin’s current physician workforce is aged 55 and older, so it is reasonable to project that by 2020, nearly all of those physicians will be retired, at a rate of about 2.6% per year.



The remaining source of attrition is physicians’ decisions to leave Wisconsin to practice in another state. The estimate for that factor is 3% per year. Again, this is the average for Iowa, but it should be noted that the medical liability environment in Wisconsin may have an additional impact on physician attrition not experienced in Iowa.

The factor for change in lifestyle expectations reflects both anecdotal and objective information. Both the annual survey of medical school graduates and the 2008 Wisconsin Medical Society survey of practicing physicians have shown that physicians are more concerned than in the past about quality of life, and expect a better balance between work and leisure.

Those sentiments are reflected in the data. The following table shows how the number of annual work hours by age group has changed over the past several decades.

Age	1985	2002	% Change
<36	2,330	2,080	-11%
36-45	2,370	2,340	-1%
46-55	2,315	2,410	4%
56-65	2,250	2,250	0%
66+	2,065	1,780	-14%

If it is assumed that the work hours for the under-35 age group are maintained and become the norm over the next 30 years, then the average work hours will decline by 3% in the period up to 2020 and by 8% by 2030.

The results of combining all of these factors are shown in the table below. It shows that by 2020 the physician workforce will increase by 13%, and by nearly 21% by 2030.

	Projection Year	
	2020	2030
Practicing in Wisconsin in 2006	9,856	9,856
Graduate from WI Medical Schools and Practice Here	1,740	3,300
From Other States Obtaining WI Licenses	6,742	12,359
Retiring or Other	(3,312)	(6,071)
Leaving Wisconsin	(3,548)	(6,505)
Change in Lifestyle	(344)	(1,035)
Projected Total	11,133	11,904
Change Compared to 2006	13.0%	21.0%
Annual Average Rate of Change	1.0%	0.9%

Comparing the projected number of physicians to the estimated demand for the same periods shows supply meeting demand only at the low end of the projected demand, and then only for 2020.

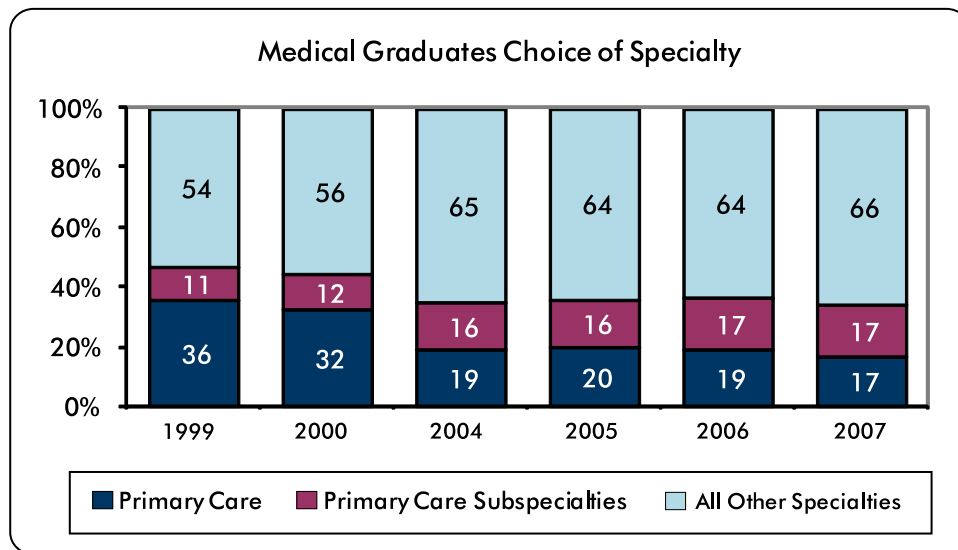
Projection Year	Increase in Demand	Increase in Supply	Surplus or (Shortfall)
2020 Base Estimate	13%	13%	0%
2020 High Estimate	33%	13%	(20%)
2030 Base Estimate	22%	21%	(1%)
2030 High Estimate	65%	21%	(44%)

Assuming the increase in demand is between the low and high estimates, a shortfall in total physician supply is likely.

A second projection, for primary care physicians only, was also completed. The main difference between this projection and the previous one is the expected change in the mix of primary and other specialties.

The best measure of the future mix of specialties is the consensus among medical school graduates about their specialty preference. Each year, the Association of American Medical Schools conducts a survey of medical school graduates (the Graduate Questionnaire, or GQ) and asks their likely choice of specialty area. Historically, there has been a fairly even split between primary and other specialties. However, over the most recent period, GQ results have shown a shift in overall preferences.

As the chart below illustrates, until the year 2000, about a third of medical school graduates indicated a preference for primary care. But for the last four years, only about one in five has shown the same preference. These results are supported by answers that indicate desires for more balanced lifestyles: more leisure time, no on-call responsibilities, etc. Over the long run, this change will result in a shift in the mix of primary care versus other specialties.



If this pattern of specialty choice becomes typical in the future, then the projections above for all physicians need to be modified for primary care. Specifically, the growth in the number of primary care physicians will be significantly less. The table below presents those projections. It assumes that only the medical school graduates in primary care decrease as a percentage of the total. All other estimates remain the same.

	Projection Year	
	2020	2030
Practicing in Wisconsin in 2006	4,660	4,660
Graduate from WI Medical Schools and Practice Here	447	930
From Other States Obtaining WI Licenses	3,187	5,844
Retiring or Other	(1,566)	(2,871)
Leaving Wisconsin	(1,678)	(3,076)
Change in Lifestyle	(152)	(439)
Projected Total	4,900	5,048
Change Compared to 2006	5.0%	8.0%
Annual Average Rate of Change	0.4%	0.4%

If the demand for primary care physicians is assumed to be the same as for all physicians, then the shortfalls will be even greater than for physicians overall.

Projection Year	Increase in Demand	Increase in Supply	Surplus or (Shortfall)
2020 Base Estimate	13%	5%	(8)%
2020 High Estimate	33%	5%	(28)%
2030 Base Estimate	22%	8%	(14)%
2030 High Estimate	65%	8%	(57)%

Changes in Care Delivery

The manner in which health care is provided to patients has not been static over the past several decades. If anything, it is noted for its dynamism. This section of the report highlights several factors that are expected to have an impact on how care is delivered in the future, and how those changes translate into the demand for physician services.

Hospitalists. Although a relatively new phenomenon, the use of hospitalists is rapidly becoming the norm for care of hospitalized patients. It is estimated that there are over 15,000 hospitalists nationwide, treating an estimated 14 million inpatients annually, with an estimated 30,000 by 2010. While there are numerous reasons why hospitals implement hospitalist programs, there appear to be two main objectives:

- Physician retention and satisfaction – increasingly, primary care physicians (PCPs) want relief from around-the-clock responsibilities for their patients who are admitted to hospitals. The overwhelming majority of hospitals that have responded to surveys on this issue gave this as the reason for implementing hospitalist programs.
- Enhanced quality and financial performance – another rationale is that, because hospitalists devote their entire practice to inpatient hospital services, they manage a sufficient number of inpatients to ensure consistency and quality. Available data appears to confirm this:
 - Hospitalists have sustained lower patient length of stay than do PCPs
 - Hospitalists’ average cost per case is less than PCPs
 - Hospitalists’ patient readmission rate is lower than PCPs
 - Hospitalists have sustained lower inpatient mortality rates than do PCPs

The impact of this growing phenomenon on physician supply is not clear at this point, but several observations are appropriate. Because the bulk of hospitalists are trained first as internists, their choice of the hospital medicine specialty further erodes the base of physicians who would otherwise become primary care specialists. Offsetting this somewhat is the favorable impact hospitalists have in retaining primary care physicians in their outpatient clinic roles, a factor that is particularly important in rural areas. Finally, many hospitals are also using Advanced Practice Providers (APPs), under the supervision of a physician, to supplement their hospitalists. This will place greater demand on APPs.

Advanced Practice Providers (APPs). Wisconsin has seen advanced practice providers grow in significance in the delivery of health care services. Advanced practice providers are health care practitioners who provide care to patients under the supervision of a physician, in collaboration with a physician, or independent of a physician. They are beginning to play the role of primary care provider in an increasing number of communities and health systems.

Under the definition of advanced practice providers are two main categories:

- Advanced Practice Nurses, which include:
 - Certified Registered Nurse Anesthetists (CRNA) – specializing in anesthesia care.
 - Certified Nurse Midwives (CNM) – specializing in primary care for women, mainly in perinatal care.
 - Nurse Practitioners (NP) – registered nurses who have received advanced training to provide primary and acute services.
 - Clinical Nurse Specialists (CNS) – graduate-prepared registered nurses who are expert clinicians in a specialized area of care.
- Physician Assistants (PA) – licensed to practice medicine under physician supervision.

The number of individuals in each category is provided below:

Practitioner	Number
CRNA	600
CNM	108
NP	1,200 (est)
CNS	1,400 (est)
PA	1,432

The numbers of Nurse Practitioners and Clinical Nurse Specialists are estimated using national averages.

It is difficult to exactly ascertain the extent to which APPs provide direct patient care or leverage the current physician workforce. But some indication of their roles is provided in the results of the WCMEW survey of large physician group practices referred to in a previous section. In addition to asking how many are employed, the survey also inquired into how APPs are deployed. The following table provides a summary.

Focus of Practice	Direct patient care or education. Rarely case management.
Type of Practice	NPs primary care. PAs 50/50 primary/specialty.
Location of Practice	NPs more likely than PAs to practice in rural areas.

In general, APPs provide direct, episodic primary care, and NPs are the main source for that care. Furthermore, NPs are more likely to practice in rural areas than physician assistants.

It is reasonable to conclude that the demand for APPs will continue to increase. The forecasted shortage of primary care physicians, and the increasingly broader roles APPs will be expected to play (for example, as hospitalists), will mean that APPs will be even more important in the future health care delivery system.

It is important to note, however, that an increase in the supply of APPs sufficient to meet the anticipated increase in demand is far from guaranteed. As was stated in the 2008 WHA Workforce Report, APPs as a group have “raised the standards of training and lifted the bar for credentialing.” While it is important that these professions continue to stay competent in their disciplines, the current movement towards requiring a clinical doctorate level degree for nurse practitioners is not supported by the current infrastructure, including instructors. Until that happens, one must conclude that the increased demand for APPs in the health care workforce will not be satisfied.

Medical Home Model. The “medical home” model is designed to change the way that primary care is organized, delivered, and financed. The model is a “*physician practice that provides comprehensive, preventive and coordinated care centered on their patients’ needs, using health information technology and other process innovations to assure high quality, accessible and efficient care,*” according to the American College of Physician’s definition. The Association of American Medical Colleges has endorsed the medical home model, and plans to incorporate it into recommended medical education curricula.

If this model becomes a common method for delivering health services, it should impact the demand and supply dynamic in several ways. First, because it emphasizes more direct contact between physicians and patients, demands on primary care providers will increase. In addition, if efficiencies and better management of chronic disease are attained, demand for specialists should decrease.

Conclusions and Recommendations

Conclusions

The review of the current physician workforce, future projections, and other potential changes in health care delivery are summarized below.

Current physician workforce environment

- There is a current maldistribution of physicians in Wisconsin, with surpluses in urban areas and shortfalls in rural areas. With respect to primary care physicians, a shortfall of 374 primary care physicians exists in Wisconsin. A shortage of 20 primary care physicians exists in inner-city Milwaukee.
- Openings and searches for primary care, psychiatry, and hospitalist specialties have grown significantly over the past six years.
- Physician practices are having more difficulty in recruiting, impacting access to physicians and the delivery of care.
- Practicing physicians express dissatisfaction with their practices and lifestyles, with many indicating that they will cut back on their practices, relocate, or cease practicing medicine.
- FQHCs are finding it difficult to recruit primary care physicians and obtain access to specialists.

Future projections

- The supply of physicians in Wisconsin is expected to grow at an annual rate of 0.9% to 1% over the next two decades. The growth for primary care physicians is projected to grow at a lower annual rate of 0.4%.
- The conservative projection of demand for physician services is 1.4% per year, with the high-end projected growth at 3.5%.
- The resulting shortfall in supply is projected at between 0% and 44% by 2030, with the shortage for primary care physicians projected at between 8% and 57%.

Changes in health care delivery

- The demand for hospitalists is expected to grow significantly over the next several years, drawing from the primary care physician pool.
- Advanced Practice Providers, already an important element of direct patient care, are expected to be in even greater demand in the future.
- The medical home model, while a relatively new concept, may well improve the management of patients with chronic diseases and their outcomes, but will place a greater demand on primary care physicians.

The base estimate projects a moderate shortfall of physicians relative to the demand by 2030 of 1%, with the high projection at 44%. Taking the mid-point as a likely outcome leads to a shortfall of 23%.

The situation for primary specialties is more dramatic. With the shift in medical school graduate preferences taken into account, the shortfall in primary specialists is projected at between 14% and 57% by 2030. Even the low estimate yields a significant deficit.

Recommendations

The current WCMEW goals will be used for framing the potential actions that might be taken to address the impending shortage of primary physicians over the next two decades:

- **Create an infrastructure to guide medical education in Wisconsin**

WCMEW has served the purpose for which it was created: as a catalyst and platform for moving along the physician workforce issue in Wisconsin. But the lack of detailed data on the existing Wisconsin physician workforce continues to hamper its efforts. *WCMEW should advocate the development of an infrastructure to gather data sufficient to aid in understanding the current and future physician*

workforce. The data collection system in use in Iowa could be used as a model.

Most of WCMEW's efforts have focused on meeting the primary care needs of Wisconsin's rural areas. It also needs to place emphasis on those who live in the inner-city areas, in particular, Milwaukee. *The membership of WCMEW should be expanded to include a representative of the inner-city Milwaukee provider community.*

- **Enroll students in medical schools who will practice in Wisconsin**

Perhaps the most impactful of all of the actions taken since the original *Who Will Care for Our Patients* report was the creation of the Wisconsin Academy for Rural Medicine. When fully implemented, WARM will be training physicians who will likely be practicing in rural areas of Wisconsin.

But as important and positive as this program is, it will not be sufficient to fill the shortage in supply that is projected for physicians, especially primary care specialists. The drop in the percentage of medical school students electing primary care is projected to largely offset the increase in WARM students. More needs to be done to encourage medical students to elect primary care as a specialty, and to encourage both primary and other specialties to stay and practice in Wisconsin. Specifically, since tuition debt is a significant burden for most medical school graduates, *Wisconsin should greatly expand existing tuition reimbursement programs to target primary care physicians and specialists who stay and practice in Wisconsin.*

The best predictor of where physicians will ultimately practice is where they have received their residency training. Wisconsin's residency programs have a high "match rate," meaning that there is high demand from medical school students for residency slots. This would imply that an increase in the number of those slots would likely result in an increase in the number of slots filled, with a high percentage of physicians trained in those slots staying to practice in Wisconsin. However, there is currently a cap on the number of residencies for which the Medicare program will reimburse a hospital's residency costs, thus discouraging increases in the number of slots. *The medical schools, along with Wisconsin's health care professionals, should lobby Congress to increase the number of residency programs that receive Medicare reimbursement.*

- **Develop new care delivery models**

Advanced Practice Providers – It seems likely that, even if the efforts to increase the numbers of primary care physicians are successful, there will still be a shortage. Advanced Practice Providers (APPs) appear to be a potential alternative source of primary patient care. There is already a significant and growing use of APPs in Wisconsin health care systems. Studies have shown that APPs within their scope of practice provide quality care with high patient satisfaction.

But while augmenting physicians with APPs appears to be a logical solution to the anticipated shortfall of physicians, it is not clear that the supply of APPs will grow at a rate sufficient to fill that void. First, the APP demographics are similar to those of the physician workforce. Second, as was stated above, their (APP) professional societies and education establishments are "raising the bar" for attaining the appropriate credentials. Third, there are not adequate numbers of APP candidates of color or with multilingual skills to help fill the needs of FQHCs.

These factors will likely lead to constricting the supply of APPs unless changes are made in the education infrastructure. At the same time, medical schools and APP programs teach the same or similar classes to each student population, often on the same campus. *Increase the number of slots at schools producing APP graduates. Focus on recruiting, training and mentoring APP candidates who will practice in the inner-city areas of Wisconsin's urban areas, in particular, Milwaukee. Break down barriers between medical schools and allied health schools to maximize resources and to eliminate duplicative programs.*

Medical Home Model – The medical home model has been endorsed by the American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Physicians, and the American Osteopathic Association, and has shown promise in enhancing the quality and efficiency of care, especially in management of chronic diseases. The Association of American Medical Colleges, in its endorsement, stated: “With proper research, capital, and operating financial support, medical schools and teaching hospitals should provide research on how best to achieve the goal of providing care in a medical home whether it occurs in academic settings or in the larger community.” The same effort should be undertaken in Wisconsin. Accordingly, *Wisconsin’s two medical schools should sponsor or fund research on the medical home model.* Results of that research could be used to inform current practice as well as help in redesigning medical education curriculum.

- **Attract physicians to Wisconsin and keep them here**

Attract physicians to Wisconsin – Competition between states and regions for physicians within the existing workforce pool will certainly continue, even increase in the future. The new WCMEW web site for recruiting physicians to Wisconsin is expected to enhance the recruiting efforts of Wisconsin health systems. While it is too soon to fully judge its effectiveness, early signs are promising: over 600 positions had been posted within a month of being made public.

Ensure access to physicians in inner-city Milwaukee – As discussed in an earlier section, while there has been a concerted effort on the part of the Milwaukee health systems to help FQHCs become the main access point for primary care, they are facing significant challenges in recruiting primary physicians, and in gaining access to specialists due to inadequate Medicaid payment. *First, the medical schools should establish an inner-city version of the WARM program, aimed at recruiting and training individuals who are likely to practice in inner-city Milwaukee. Second, Medicaid payment should be increased for physician specialist services provided in the inner-city areas of Milwaukee.*

Keep physicians practicing in Wisconsin – There are a number of reasons why physicians cut back on or cease their practices, or relocate to other states. The main reason for ceasing the practice of medicine is retirement. The Wisconsin Medical Society survey showed that significant percentage of respondents indicated that they were considering reducing practice hours or relocating. They also stated reasons why they might discontinue practicing, including malpractice issues, increased documentation and administration burden, further decline in reimbursement/income, and increased hours and/or on-call responsibilities. While it may not be possible to address all of the issues of concern, care should be taken to *preserve Wisconsin’s favorable malpractice climate.*

- **Target and enhance funding for medical education**

The Wisconsin Medicaid program has significantly reduced funding for medical education, leaving commercial payers to take on most of that responsibility. But underfunding medical education runs counter to the state’s own goals, as stated in *Healthiest Wisconsin 2010*. In the section entitled “Reducing Barriers to Access,” one of the strategies is to “assure an adequate supply of primary care professionals.” The state of Wisconsin could help implement that strategy by helping to ensure that medical education, in particular education of primary care professionals, is adequately funded. Specifically, *the Wisconsin Medicaid program should fund graduate medical education and target it at primary care.*

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American College of Physicians

State of Wisconsin Department of Health Services

American Academy of Nurse Practitioners

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