A Work in Progress:
Building Wisconsin's Future Physician Workforce

Wisconsin Council on
Medical Education & Workforce

A Work in Progress:
Building Wisconsin's Future Physician Workforce

August 2016

A report by the Wisconsin Council on Medical Education and Workforce
www.wcmew.org

The Wisconsin Council on Medical Education and Workforce (WCMEW)

Background and History

The Wisconsin Council on Medical Education and Workforce (WCMEW) was formed in 2004 as a response to one of the recommendations from the Wisconsin Hospital Association publication *"Who Will Care for Our Patients?"* That report predicted a future shortage of physicians to serve Wisconsin's citizens and recommended actions to address this concern: specifically addressing medical school enrollment, graduate medical education, changes in care delivery, and the need for a statewide focus on health care workforce policy in Wisconsin.

WCMEW was created to respond to the need for a statewide focus on Wisconsin's health care workforce. The Wisconsin Hospital Association (WHA) and the Wisconsin Medical Society (WMS) coordinated the recruitment of a comprehensive set of stakeholders in health care workforce and education. WCMEW members now include:

- Association of Nurse Educators of Wisconsin
- Medical College of Wisconsin
- Pharmacy Society of Wisconsin
- Rural Wisconsin Health Cooperative
- University of Wisconsin School of Medicine and Public Health
- Wisconsin Academy of Physician Assistants
- Wisconsin Hospital Association
- Wisconsin Medical Society
- Wisconsin Nurses Association

WCMEW functions as a voluntary collaborative, serving as a venue for dialogue, a public platform to highlight health care workforce issues, and a catalyst for creating workforce policy.

In 2011, the Wisconsin Hospital Association published *"100 New Physicians a Year: An Imperative for Wisconsin."* The report predicted a shortage of over 2,000 physicians by 2030, and made recommendations that, while addressing similar issues to those in the 2004 report were more specific and pointed:

- Expand Wisconsin graduate medical education programs
- Increase graduates from Wisconsin's medical schools
- Understand future health care delivery and redesign education and training accordingly
- Strengthen WCMEW

Since the publication of the 2011 report, the Medical College of Wisconsin (MCW) has established two new campuses, in Green Bay and Wausau, and has received accreditation. When fully implemented, the two campuses will graduate a total of 50 physicians a year.

In 2012, WCMEW was instrumental in creating new funding for graduate medical education (GME) in the 2013-2014 biennial budget. The new funding will total $2.5 million per year and has been used to create new GME programs and in the expansion of existing programs. Primary care, psychiatry and general surgery programs, located in rural areas, were targeted for the funding. It represents the first increase in state financing of GME in over 20 years. Since inception, over $6 million of funding has been granted to 11 organizations to create new or expand existing programs, where 63 medical residents will undergo training in the targeted physician specialties of family medicine, psychiatry, and general surgery.

In 2014 and 2015, WCMEW sponsored statewide conferences on team-based care, with over 300 clinicians dialoguing on successes, challenges, and innovative ideas on how to provide high quality and efficiently delivered care in an interprofessional setting.

In late 2014, WCMEW was incorporated, with the Wisconsin Hospital Association, the Wisconsin Medical Society, and the Rural Wisconsin Health Cooperative as founding members. WCMEW has received charitable tax-exempt status from the Internal Revenue Service.

WCMEW Moving Forward

WCMEW has proved to be a positive force in influencing Wisconsin's health care workforce agenda. Nevertheless, ongoing evaluation of its mission and role in Wisconsin's health care workforce will continue. Areas of focus will include:

- The need for a statewide strategy on health care workforce
- The transformation of care delivery in Wisconsin, with increasing use of telemedicine and team-based models of care delivery
- Expansion and strengthening our education and training infrastructure
- Recruitment and retention issues

Table of Contents

Purpose of this Report 1

Executive Summary 2

Review of 2011 Report 4

2016 Report on Wisconsin's Physician Workforce 11

Issues and Recommendations 21

Appendix A 29

Appendix B 31

Purpose of This Report

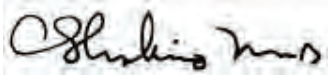
The purpose of this report is threefold: First is a status report on the recommendations outlined in the 2011 report, *"100 New Physicians a Year: An Imperative for Wisconsin."* We will review progress in each of the five areas and evaluate the status. Second, we will make new projections on physician supply and demand, projecting to the year 2035. Third, we will make a new set of recommendations.

Acknowledgements

The Wisconsin Council on Medical Education and Workforce (WCMEW) prepared this report. WCMEW is a collaborative of stakeholders in Wisconsin's health care workforce. Its members include:

- Association of Nurse Educators of Wisconsin
- Medical College of Wisconsin
- Pharmacy Society of Wisconsin
- Rural Wisconsin Health Cooperative
- University of Wisconsin School of Medicine and Public Health
- Wisconsin Academy of Physician Assistants
- Wisconsin Hospital Association
- Wisconsin Medical Society
- Wisconsin Nurses Association

WCMEW members played important roles in the preparation of this report, from reviewing initial outlines to helping craft final drafts. We appreciate their valuable contributions.



Charles Shabino, MD
WCMEW Chair
Chief Medical Officer,
Wisconsin Hospital Association

George Quinn
WCMEW Executive Director

Executive Summary

This report is the second of two reports on Wisconsin's physician workforce. The first was *"100 New Physicians a Year: An Imperative for Wisconsin,"* published in 2011. That report, as well as this one, focuses on the current state of the workforce, how it could change in the future and how that future workforce is likely to meet future patient needs. The policy implications of whether the workforce will meet those needs are weighed, and recommendations on how to take corrective actions are made.

A theme that runs throughout both reports is the connection between the location of the education and training of physicians and where they ultimately practice. The connection is strong, as shown below:

Indicators of Retention for WI Physicians	Percent Practicing in WI
Graduated from WI medical school	37%
Graduated from WI graduate medical education (GME) program	46%
Graduated from both WI med school and WI GME program	71%

The methodology and analysis used in this and the prior report make significant use of the above factors, because they are key predictors of retention and they can be influenced by policy actions.

This report is presented in three parts:

- Summary of the 2011 report and updates on recommendations;
- Projections of physician supply and demand for the year 2035; and,
- New and revised recommendations.

Summary of the 2011 Report

In 2011, the Wisconsin Hospital Association published *"100 New Physicians a Year: An Imperative for Wisconsin,"* which highlighted a projected future shortage of physicians and recommended actions to avert it. The report projected a shortage of 2,100 physicians in primary care, psychiatry, and general surgery by 2030, leading to a conclusion that Wisconsin needed to add 100 physicians a year.

The report listed several areas of focus for stakeholders and policymakers. Key recommendations and their status are below:

- Expand Wisconsin's graduate medical education (GME) programs – $2.5 million in funding was made available in the 2013 state budget for organizations to create or expand GME programs. To date, 11 new or expanded programs are underway with 73 GME positions in primary care, psychiatry, and general surgery.
- Increase the number of graduates from Wisconsin medical schools – The Medical College of Wisconsin (MCW) has established two new campuses, one in Green Bay and one in Wausau, which will each graduate 25 students/year.
- Focus on incentives to attract and retain physicians – The Wisconsin Medical Society surveyed physicians to understand their level of satisfaction with their careers and identify areas for improvement.
- Understand the forces behind care transformation in order to influence education and training of health professionals – The Wisconsin Council on Medical Education and Workforce (WCMEW) has sponsored two statewide conferences on team-based care.
- Strengthen the entities that provide policy guidance to our medical education and training system – WCMEW is now incorporated, has funding, and has an executive director. WCMEW played a leading role in developing a Wisconsin Healthcare Workforce Strategic plan.
- Maintain Wisconsin's balanced medical malpractice system – One of the often-mentioned reasons for physicians relocating to Wisconsin is our malpractice environment. Wisconsin must ensure that it maintains that advantage by preserving Wisconsin's comprehensive and balanced medical malpractice system.

2016 Report

Projections of physician supply and demand were made for the year 2035. The projections yielded shortages of between 883 and 3,756 physicians by 2035. The 2016 projections used methods similar to those used in 2011, but with data more specific to Wisconsin. Supply projections started with the Wisconsin Medical Society 2015 database of active physicians, adding physicians produced by Wisconsin's education and training system and physicians recruited from other states, and subtracting

those physicians who retire or otherwise leave practice. Demand projections use paid claims information from the Wisconsin Health Information Organization as a proxy for physician demand, and when combined with projected population totals for the year 2035, yielded a baseline demand total. Alternate projections were made assuming changes in care delivery and physician lifestyles.

Recommendations From the 2016 Report

I. GME Recommendations

1. Increase the amount of state funding for GME and provide more flexibility for potential use of the funds, including payments to eligible programs to enhance their sustainability.
2. Conduct a survey and study of health care organizations to better understand what is needed to increase their involvement in GME. Use the results to shape future strategies.
3. Work to make expanded federal funding a priority for GME in states currently falling below the national average of federally supported slots.

II. Medical School Recommendations

1. Monitor the expansion of medical school admission and programs at MCW and UW to assess their effectiveness regarding physician retention in Wisconsin.
2. Monitor GME program development to ensure there is sufficient capacity to absorb increases in Wisconsin medical school graduates.

III. Education and Training Infrastructure Recommendations

1. Increase state GME funding and allow for partial use of the funds for creation of additional education infrastructure, including clinical training sites and faculty development.
2. WCMEW should identify barriers to health care professional training, including clinical training sites, faculty development and existing community resources.
3. WCMEW, along with its partner stakeholders, should explore the feasibility of creating additional regional or statewide GME consortia.
4. Explore the feasability of a statewide system to assist schools, residency programs and other professional training programs, health care organizations and students/residents to efficiently schedule clinical rotations.

IV. Recommendations on Retention and In-Migration

1. WCMEW, working with the Wisconsin Area Health Education Centers (AHEC) program, should conduct a comprehensive study of existing programs that expose potential workers to health care. Devise strategies for improvement if necessary.
2. WCMEW should engage medical schools and residency programs regarding selection of students and residents to increase recruitment of those with Wisconsin backgrounds and community connections.
3. WCMEW should conduct a study of physicians who have relocated to other states to understand their reasons. In addition, WCMEW along with its partners should also examine the root causes of physician dissatisfaction with the profession and drivers of burnout.
4. Maintain policies that preserve Wisconsin's attractive malpractice environment.

V. Recommendations on Care Delivery

1. WCMEW should conduct a survey of health care organizations to understand how care is being delivered, and will be delivered in the future, in Wisconsin.
2. WCMEW should conduct a survey of health care organizations to understand the nature and extent of the use of telemedicine in Wisconsin.
3. WCMEW should continue to promote transformation in care delivery; for example, sponsoring annual conferences that disseminate information on team-based care.
4. WCMEW should engage health care educators in Wisconsin to facilitate the inclusion of innovative care delivery models in their curricula.
5. State funding should be made available for collaboratives that wish to create IPE training programs or IP clinical practices.

VI. Recommendation on WCMEW Activities

1. Continuously refine WCMEW goals and activities to maintain consistency with the Wisconsin Healthcare Workforce Strategic Plan.

BOTTOM LINE: Significant progress has been made in expanding medical education and training, but Wisconsin must redouble its GME expansion efforts, continue to build the state's education and training infrastructure, put more focus on retention, and continue to focus on care transformation.

Review of 2011 Report

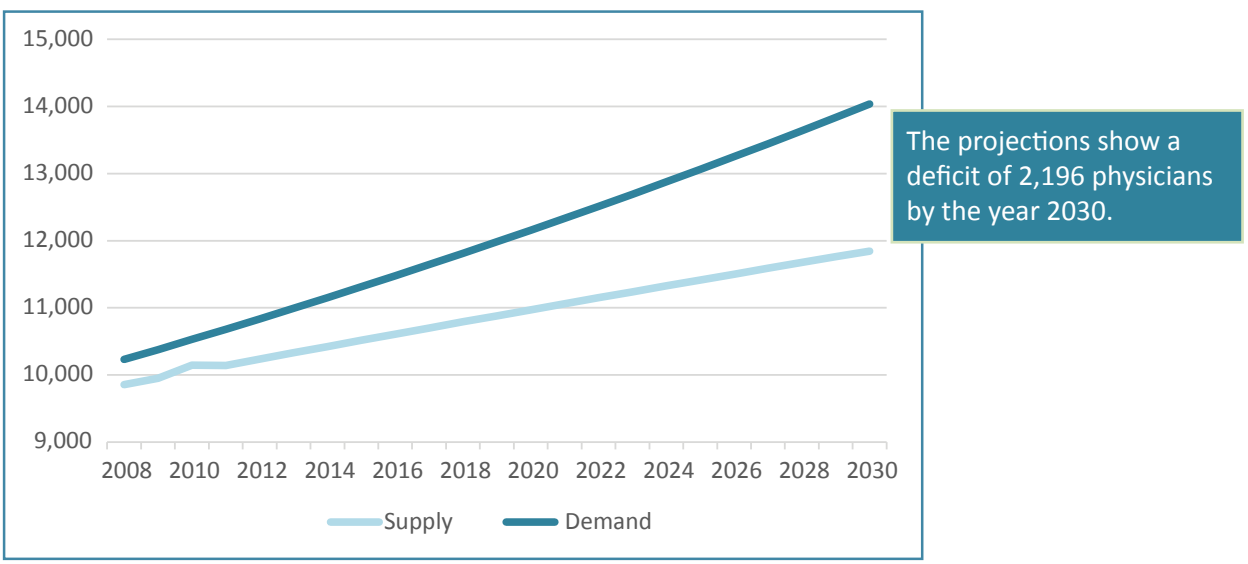
Methodology

The methodology used was twofold. The first projection was of the supply, using a pipeline approach illustrated below.

Demand projections were derived by combining the projected population and demographics with national survey data on physician utilization by specialty and by age band. The total change in population, combined with the higher utilization for those age cohorts that have shown higher utilization, resulted in a higher number of visits than when using population projections alone.

Findings

Combining the supply and demand projections resulted in the following:



Factors Affecting Supply

The major factors affecting supply of physicians practicing in Wisconsin are: the number of physicians graduating from our medical schools, the number of Wisconsin-based graduate medical education positions, the number of patients seen on average, the retirement rate of physicians and/or otherwise leaving practice in Wisconsin, and the ability to attract physicians practicing elsewhere into Wisconsin.

Recommendations

Based on the projections and the factors affecting supply, the authors of the 2011 report recommended the following:

1. Expand graduate medical education programs/positions.
2. Increase the number of medical school graduates.
3. Focus on tuition and tuition-related debt as incentives to attract and retain physicians.
4. Anticipate and facilitate changes in care delivery through dissemination of best practices and influencing changes in medical education and training.
5. Provide an infrastructure and ongoing financial support.
6. Maintain Wisconsin's balanced medical malpractice system.

Status Report

Since the release of the report in 2011, a number of significant developments responding to the recommendations have taken place, which are outlined below:

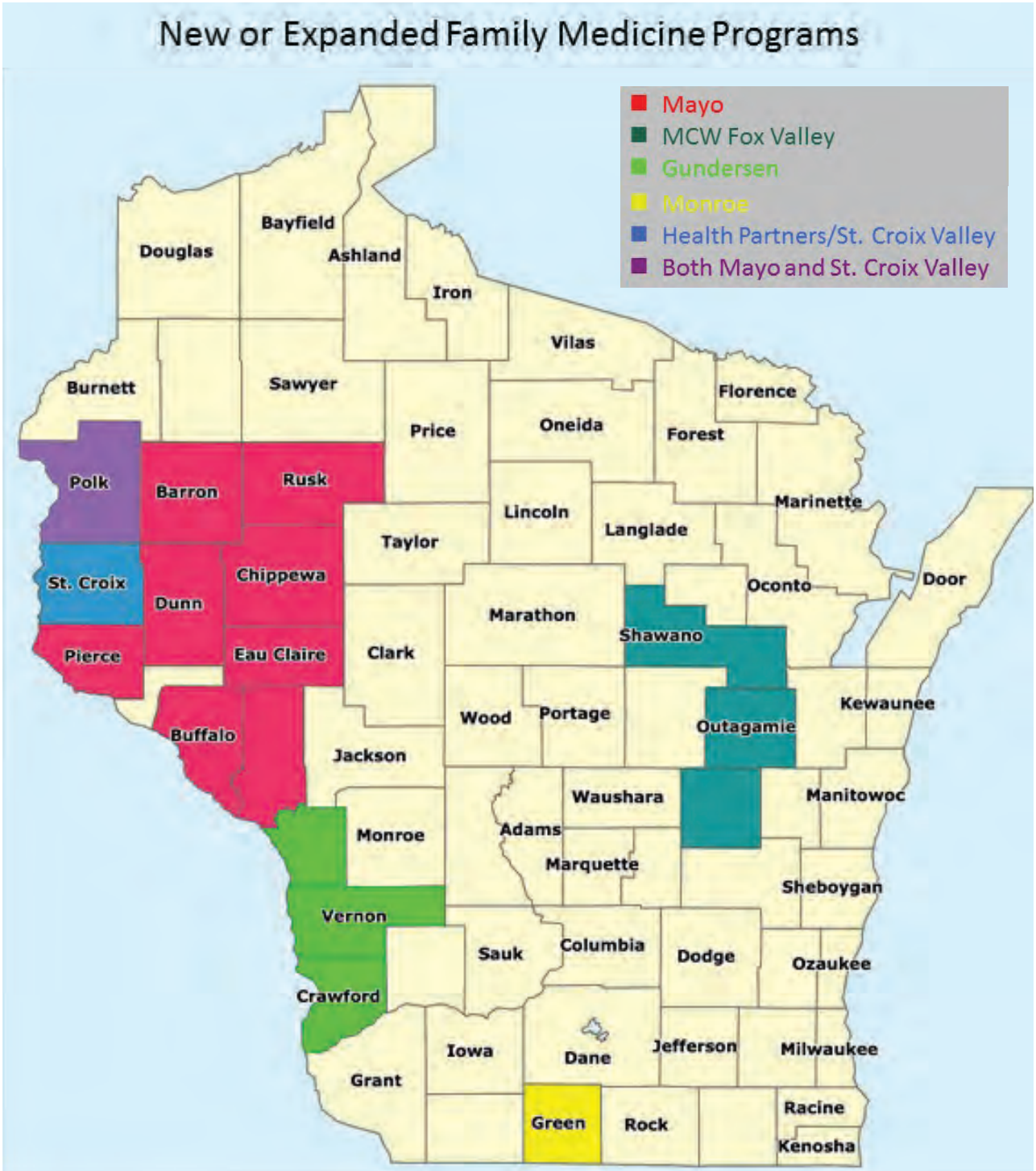
1. Expand Graduate Medical Education (GME) Programs/Positions

The impetus for WCMEW's recommendation to expand GME was the fact that the locations of residency experiences are good predictors of where physicians ultimately practice. Forty-seven percent of Wisconsin's practicing physicians had their residencies in Wisconsin GME programs.

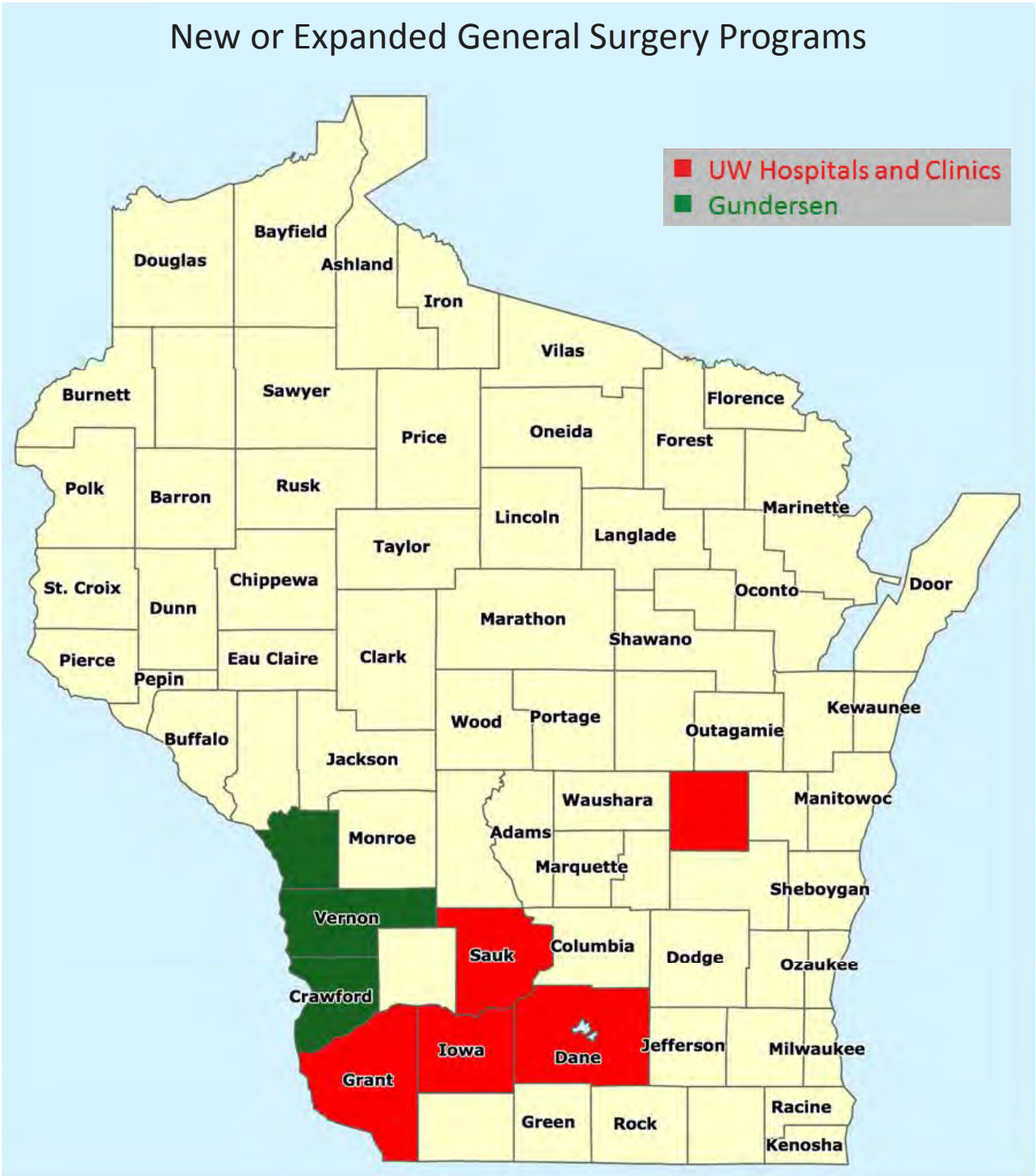
In 2013, using this information, the Wisconsin Hospital Association (WHA) coordinated and led a multi-stakeholder lobbying effort that was successful in having a new GME grant program included in the Wisconsin state budget. Grants were directed toward organizations either expanding existing programs or establishing new ones. The residencies had to be for primary care, psychiatry, or general surgery, and be rurally focused.

This program dovetailed with two existing programs: The Wisconsin Rural Physician Residency Assistance Program (WRPRAP), enacted in 2010 and funded by Medicaid assessments on critical access hospitals; and the Wisconsin Collaborative for Rural Graduate Medical Education (WCRGME). WRPRAP provides grant funding for start-ups, and funds the WCRGME, which provides consulting assistance and ongoing support services to rural hospitals in the GME feasibility process, and in creating infrastructure for GME programs.

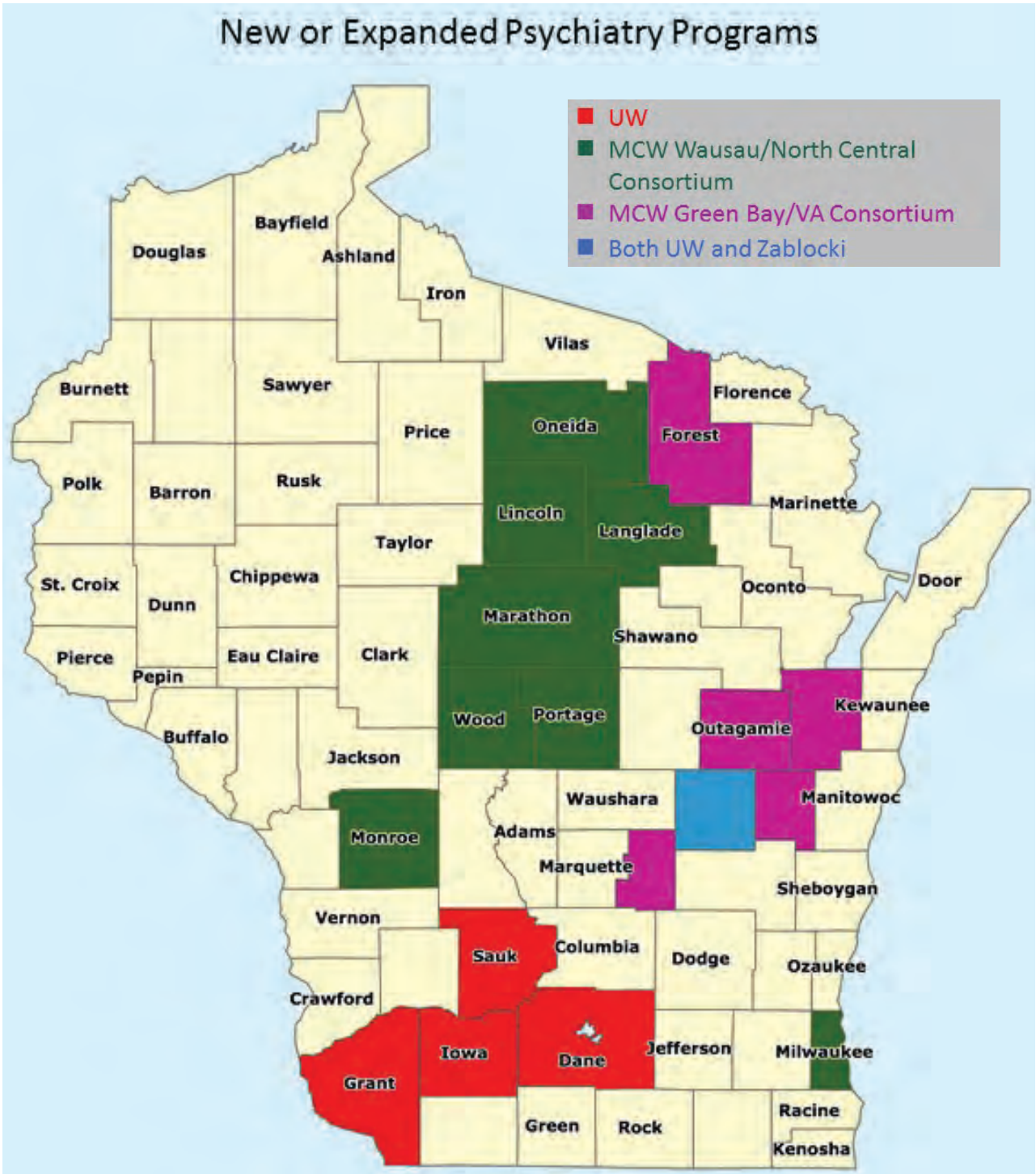
Results thus far have been promising, as the following maps and tables show (see pages 6-8):



Grantee	Grant Amount	Number of Residents	Start/End Dates
Gundersen Medical Foundation	$621,310	6	July 2014 / June 2017
Monroe Clinic	$750,000	6	July 2014 / June 2017
Mayo Clinic Health System	$750,000	15	Jan 2015/ Dec 2017
HealthPartners/St. Croix Valley	$749,000	3	Jan 2016/ Dec 2018
MCW Fox Valley Family Medicine	$669,451	3	July 2014 / June 2019



Grantee	Grant Amount	Number of Residents	Start/End Dates
UW School of Medicine	$573,000	5	July 2014 / June 2017
UW Hospitals and Clinics	$1,125,000	3	July 2015 / June 2022
Gundersen Medical Foundation	$374,935	1	July 2014 / June 2019



Grantee	Grant Amount	Number of Residents	Start/End Dates
MCW/North Central Consortium	$413,200	12	July 2014 / June 2017
MCW Green Bay/VA Consortium	$405,800	16	July 2014 / June 2017
UW Hospitals and Clinics	$899,968	3	July 2014 / June 2020

2. Increase the Number of Medical School Graduates

Expanding medical school enrollments will also increase the number of practicing physicians in Wisconsin – ***provided there are sufficient graduate medical education slots, particularly in Wisconsin, to accommodate the additional graduates***. The 2011 recommendation went further in recommending that any new programs should include curricula and campus locations that would lead to more primary care physicians practicing in rural areas.

In late 2011, the Medical College of Wisconsin (MCW) announced it would be opening two satellite campuses, one in Green Bay and one in Wausau (each expecting an enrollment of 25 students per year), and that it would be designing curricula incorporating interprofessional education. Local community representatives would provide input into admissions policies targeting students with Wisconsin and rural backgrounds. Both campuses appeared to the Liaison Committee on Medical Education to have adequate resources for approval, and in 2015 MCW announced that it had enrolled 26 students, 23 from Wisconsin. Enrollment for the Wausau campus is scheduled for 2016. The number of Wisconsin enrollees for the Green Bay campus is important because the 2011 report showed that, while the overall retention rate for Wisconsin medical school graduates is 38 percent, the retention rate rises to 56 percent if those graduates have a background in Wisconsin prior to medical school.

In addition to the MCW developments, the two existing UW programs, the Wisconsin Academy for Rural Medicine (WARM) and the Training in Urban Medicine and Public Health (TRIUMPH) programs are now fully developed. The WARM program, which has allowed the UW School of Medicine and Public Health (SMPH) to increase its class size, graduates an average of 18 students per year with an average of ten entering Wisconsin GME programs as it grew from five students per year to now 26 students per year. TRIUMPH, which selects students from the existing second-year class of SMPH students, had an average of seven graduates with an average of two entering Wisconsin GME programs, and has now increased to 16 students per year.

3. Focus on Incentives to Attract and Retain Physicians

This recommendation focused on the factors behind attracting and retaining physicians to practice in Wisconsin. In 2014, the Wisconsin Medical Society surveyed Wisconsin physicians and published *"Factors Affecting Physician Satisfaction and Wisconsin Medical Society Strategies to Drive Change."* The report found that, while Wisconsin physicians are satisfied regarding their ability to provide high-quality care, they expressed frustration with the amount of time spent on administrative and documentation tasks.

4. Anticipate and Facilitate Changes in Care Delivery

The goal of this recommendation was to better align education and training with changes in care delivery and to improve the value of care provided to Wisconsin's citizens.

In 2014, WCMEW sponsored a statewide summit on team-based care, where over 200 attendees heard from 54 teams about how they target patient populations, work together in enhancing outcomes and measure results. In 2015, a second conference was held, which focused on population health, the payer perspective and "tools and techniques" used in team-based care.

The Wisconsin Nurses Association (WNA), a WCMEW member and partner, has been a key partner in the team-based care effort. WNA compiled a compendium of the proceedings of the 2014 summit and is developing a Wisconsin-centric definition of team-based care.

Another key partner in WCMEW efforts to facilitate team-based care practice development is the Pharmacy Society of Wisconsin (PSW). Pharmacists are connecting with physicians and other health care providers in the following ways: 1) through delegation protocol development between community-based pharmacies and primary care clinics, 2) through collaborative practice agreements within health system specialty clinics, 3) in efforts to support quality care transitions, 4) supporting inpatient care, and in other evolving practice arrangements, supporting medication

optimization. To facilitate team-based care practice development, PSW has developed and disseminated a delegation protocol/collaborative practice agreement development toolkit. In addition, PSW supports advanced clinical education, education on communication between health care providers and silos of care, and has engaged other health care provider stakeholders in discussions around improving quality medication use and improving transitions of care.

The WNA and Wisconsin Center for Nursing, with support from the Rural Wisconsin Health Cooperative, have worked to encourage nurses to work at the top of their training and licensure to align with the Robert Wood Johnson Foundation and the AARP national "Future of Nursing" initiative.

At the same time, there has been an uptick in the use of Advanced Practice Nurse Prescribers (APNP) in roles such as hospitalists in rural hospitals.

5. Provide an Infrastructure and Ongoing Financial Support

WCMEW has existed since 2004, formed as a response to an earlier WHA workforce report that suggested a statewide effort to coordinate and publicly support a strong Wisconsin physician workforce. WCMEW has worked as a voluntary collaborative convening stakeholders and serving as a platform for policy development. Until 2014, it was not funded and did not have dedicated staffing.

That situation changed when funds were obtained from the dissolution of the Health Insurance Risk Sharing Plan, Wisconsin's high-risk insurance pool. WCMEW was incorporated and has received tax-exempt status from the Internal Revenue Service. The sponsors of the corporation are the Wisconsin Medical Society, the Wisconsin Hospital Association and the Rural Wisconsin Health Cooperative. The Board of Directors has retained an executive director. With these changes, WCMEW is now on a more sustainable course.

A second significant development was Wisconsin's involvement in the National Governors Association Healthcare Workforce Policy Academy. The purpose of this project was to assist states in the creation of health care workforce strategic plans. Wisconsin was one of six states receiving grant funding for this project, which lasted 18 months and culminated in a strategic plan for Wisconsin (see APPENDIX B).

WCMEW, working with other workforce stakeholders, played a leading role in the project. Largely as a result of this leadership, Wisconsin's governor assigned WCMEW to coordinate the implementation of the plan. This will significantly enhance WCMEW's participation in Wisconsin's health care workforce initiatives. In addition, this process led to the integration of the longstanding Wisconsin Health Workface Data Collaborative into WCMEW.

6. Maintain Wisconsin's balanced medical malpractice system.

Wisconsin must maintain those policies and characteristics in which Wisconsin is comparatively more attractive as a place to practice medicine. One of the often-mentioned reasons for physicians relocating to Wisconsin is our malpractice environment. Over time, Wisconsin's Legislature has worked to maintain that advantage over other states by preserving Wisconsin's comprehensive and balanced medical malpractice system. That base of stability has enabled Wisconsin to proactively focus on additional efforts to add new physicians to Wisconsin.

2016 Report on Wisconsin's Physician Workforce

The main purpose of this 2016 report is to assess the future physician workforce as projected to 2035, compare the supply to the projected demand and recommend appropriate actions in light of the findings.

There are several differences between the data sources and methods used in this report compared to those used in 2011. First, physician supply data was obtained from the database maintained by the Wisconsin Medical Society (WMS). The database includes all active Wisconsin physicians and includes details on demographics and practice location. This differs from the American Medical Association (AMA) data used in the 2011 report. The WMS data was used because practice locations were available and because WMS is constantly updating the information. The AMA data is somewhat more static and only has mailing addresses.

Second, current physician utilization data, derived from paid claims information in the Wisconsin Health Information Organization (WHIO) database, was used as a proxy for physician demand. This method was used instead of the data used in the 2011 report because it uses Wisconsin-specific data as opposed to data from national surveys on physician utilization.

Third, the methodology makes specific adjustments to modify projections for lifestyle changes and changes in care delivery. The modifications are derived from surveys and studies on these topics. At each stage of the analysis, where potential assumptions included a range of options, the more conservative options were chosen.

A more detailed description of the methodology can be found in Appendix A.

Updated Projections

Methodology

The projections will be made through the year 2035, or 20 years into the future. This timeframe is chosen because it roughly approximates the time required to educate and train physicians. Depending on the outcome of the projections, recommended actions are necessary in the near future that will have an impact on the physician workforce in 2035.

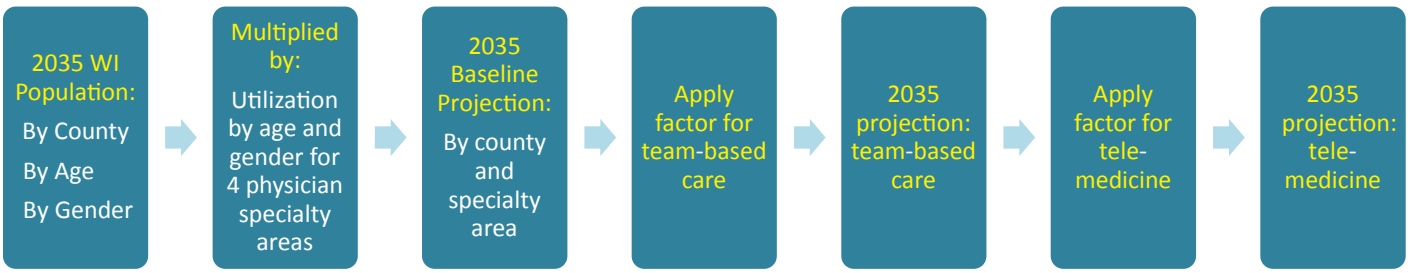
Supply – The methodology for projecting supply will use a "pipeline and productivity" approach, starting with the current supply, adding new physicians from either our education and training programs or those entering from other states, subtracting physicians who leave the state or are leaving practice, and factoring in productivity changes. A graphic representation is shown below.

The key questions to be answered in making projections on supply include:

1. What is the total number of physicians practicing in Wisconsin? What are the demographics in terms of age and gender? What is the employment status?
2. What are the factors that would increase supply? How will increasing the number of medical school slots impact supply? The number of GME slots? How much continued success will Wisconsin have in recruiting physicians from other states?
3. How will the number of physicians retiring or otherwise leaving practice affect the total? What are the demographic and other factors that would impact those numbers?
4. How will changes in lifestyle and demographics impact the number of patients seen by the average physician?

Demand – The demand for physicians is calculated using a method that combines projected population, by age and gender cohort, with Wisconsin-based medical care usage for the commercial insurance, Medicaid, and Medicare population. The commercial and Medicaid data was extracted from the Wisconsin Health Information Organization (WHIO) database of paid claims for a significant portion of Wisconsin's insured population. Medicare data reflects both WHIO Medicare supplement policy paid claims and CMS data for Wisconsin. This method was used because it incorporated Wisconsin-specific utilization data, while the method used for the 2011 report incorporated national survey data.

The diagram below illustrates the method.



Key questions for the demand projections include:

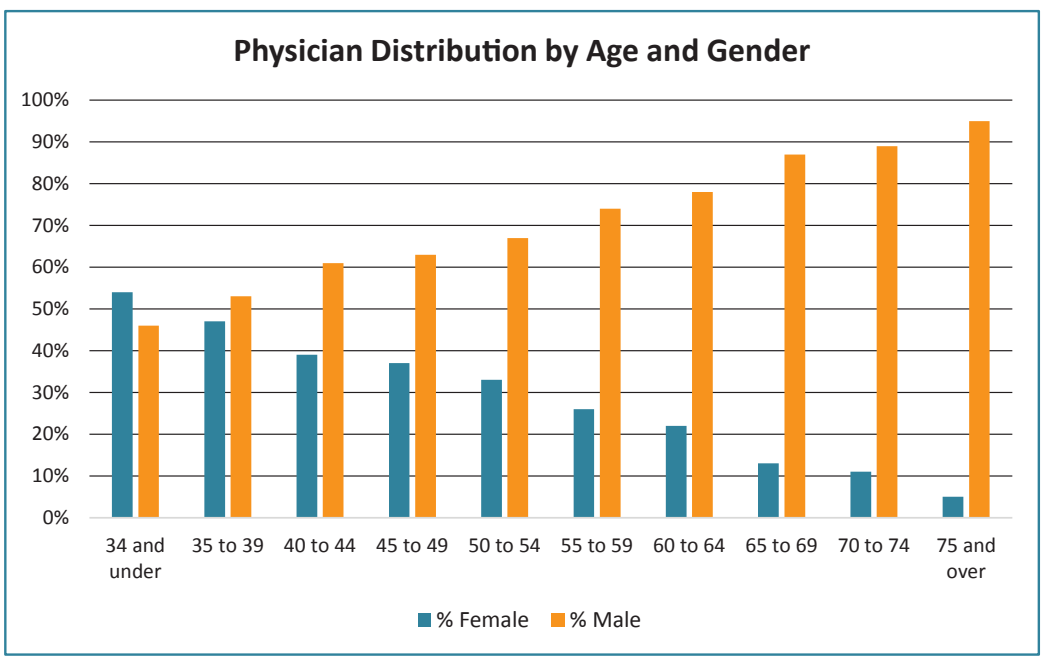
1. What is the projected population of Wisconsin in 2035 by age, gender and county?
2. How do the current utilization patterns by age, gender and physician specialty area affect the projected demand?
3. How will ongoing changes in care delivery affect the projections? What impact will the continuing movement in team-based care have? Telemedicine?

We have made and stated our assumptions below based on the best currently available forecasts. In addition, when multiple options were available in making our assumptions, we used those considered the most conservative.

Projections – The graphs below provide the projections for supply and demand.

Discussion of Supply Projections

Base Year – The current number of physicians was derived from the Wisconsin Medical Society (WMS) database of active Wisconsin physicians. The total was then grouped into categories of Primary Care, Other Medical Specialties, Surgery Specialties, and All Other Specialties using classifications the Association of American Medical Colleges has utilized for its workforce studies. The classifications are shown in Appendix A. The graph below provides a summary by age and gender.



Wisconsin Medical School Production – Estimates were derived by using current medical school enrollments of 753 for the University of Wisconsin School of Medicine and Public Health (UW) and 849 for the Medical College of Wisconsin (MCW), and assuming they will continue to graduate a combined average of 400 students per year. The retention rate (graduates who chose residencies in Wisconsin) from the WMS data of 38 percent for graduates from UW and MCW was applied to these totals and projected for 20 years. The distribution of specialties across the total is based on historical averages.

Added to that total were three new or recently-implemented programs, initiated by the UW, MCW and the State of Wisconsin, that are meant to increase the number of physicians practicing in underserved areas of the state.

- The WARM/TRIUMPH programs were established in 2006 as a separate track within the UW Medical School, and incorporate separate curricula, student recruitment and placement of clinical experiences for students, with the objective of having the graduates practicing in underserved areas. The results for the latest five years show that 55 percent of the WARM graduates and 27 percent of the TRIUMPH program graduates are in Wisconsin residency programs. Those averages were applied to the total number of graduates per year—18 for WARM and seven for TRIUMPH—to arrive at a 20-year projected total.
- In 2011 MCW established two new campuses, one in Green Bay and one in Wausau, with a targeted enrollment of 25 students each. The programs will be three years in length with a community-based curriculum. The Green Bay campus has been approved, and in 2015 enrolled 26 students–23 from Wisconsin. The Wausau campus has been approved and will be matriculating students in 2016. The estimated output and retention rate for each is as follows: for the Green Bay campus, 25 graduates per year with a 60 percent retention rate; for the Wausau campus, 25 students per year was used as a conservative estimate, with a 60 percent retention rate.
- In 2013, a new program was included in the state budget that will provide grant funding to organizations for expansion of existing graduate medical education (GME) programs or the creation of new ones. To date, 11 hospitals and health systems have received funding for programs that will ultimately produce 28 GME graduates per year in primary care, psychiatry and general surgery. The retention rate was estimated at 70 percent. ***It is important to note, however, that these 11 new programs are the only ones included in our 20-year projections. In keeping with the conservative nature of all other estimates, this report assumes NO NEW programs will be implemented after the first 11. More discussion about this is in the conclusion and recommendation sections.***

Note: The retention rates stated above are contingent on continued expansion of GME programs in Wisconsin. If that expansion does not keep pace with increases in medical school graduates, the estimated retentions will not be obtained.

Turnover – Recruitment and outmigration estimates were derived by using the estimates from the 2012 report, "Wisconsin Physician Workforce Report," published by the Wisconsin Area Health Education Centers (AHEC). The report derived the estimates using physician licensure data obtained from the Wisconsin Department of Safety and Professional Services (DSPS). For the recruitment estimate, the authors averaged the number of newly Wisconsin-licensed physicians not graduating from a Wisconsin medical school after their assumed residency period. This report applies a percentage of 2.4 to the existing physician totals to arrive at a yearly – and 20-year – total for recruitment into Wisconsin.

Outmigration data is not available either from the licensure system or from the WMS data. The estimate for this report was based on the average of the AHEC report estimate of two percent and the estimate used in the 2011 WHA report. The AHEC estimate was based on their 2011 physician survey that indicated two percent of physicians were planning to move out of state within two years and the estimate from the WHA report was based on data from other Midwest states.

The total for retirement, 3,069 physicians over the 20-year period, was derived from the WMS database, assuming that physicians over 75 would be retiring after each five-year period.

The recruitment total falls short of the outmigration total by 1,087. As other states ramp up their initiatives to retain physicians, whether through increasing medical school size or expanding their GME programs or loan repayment programs, Wisconsin will have difficulty in replenishing all of its physician losses in the future. In addition, the projections for recruitment and outmigration assumes policy factors, such as a state's medical malpractice environment, are maintained in Wisconsin and do not change in other states that compete with Wisconsin for physicians.

Changes in Lifestyle and Patient-related Activities – The number of full-time equivalent physicians available includes not only the number of physicians, but also the number of hours spent working and seeing patients. Important factors include:

- Physician age and gender
- Desire for a better balance between work and personal life
- The amount of time spent in activities other than face-to-face encounters with patients

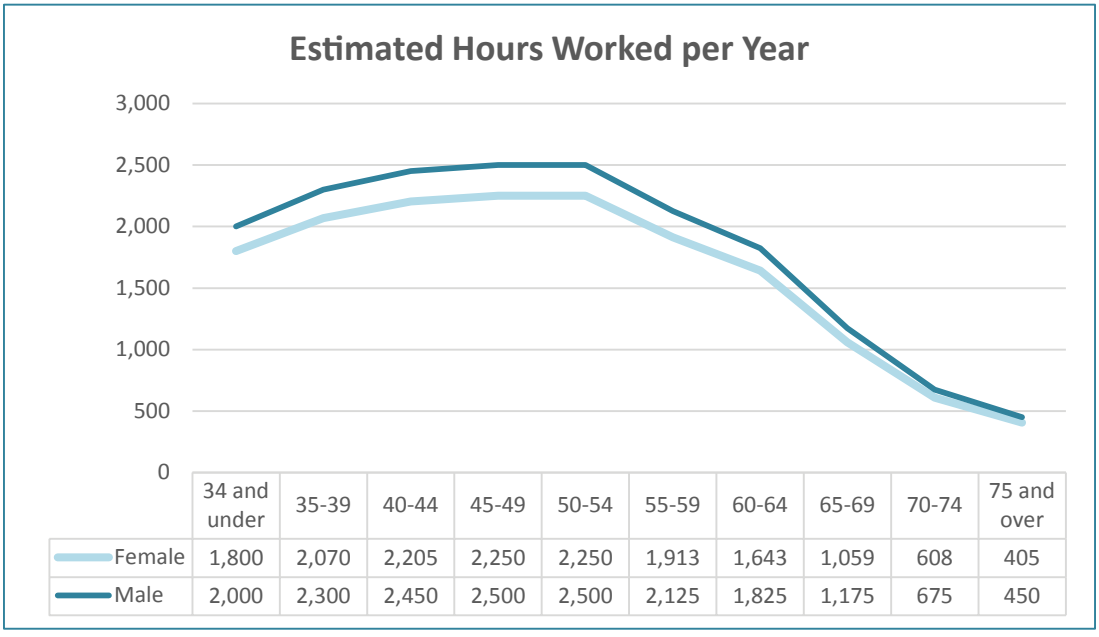
Changes in Lifestyle

While physicians continue to work, on average, over 50 hours per week (53.8 hours for Wisconsin physicians, according to the 2011 AHEC survey), the average has been declining for decades. The two main factors appear to be age and gender differences and changes in the perspectives of younger physicians regarding the balance between work and personal life.

On the other hand, while the desire for a more balanced work/personal life will mean fewer hours worked on average, millennials have been shown to be more adept at and accepting of technology than prior generations. They also have been characterized as being more comfortable working in collaborative environments. Both of these characteristics point toward greater efficiencies in the health care delivery system.

In the 2015 Association of American Medical Colleges (AAMC) Publication *"The Complexities of Physician Supply and Demand: Projections from 2013 to 2035,"* the authors examine the age/gender and balanced lifestyle issues. First, in focusing on age and gender, they found "female physicians worked about five fewer hours per week than their male counterparts through age 54, but among those age 55 and older worked only about one to two fewer hours per week than males of similar age and specialty." They also found that "the AAMC's Center for Workforce Studies comparing self-reported hours worked per week from the 1980 Census to hours reported in the 2009-2011 files of the American Community Survey suggest that male physicians age 26-35 worked 5.4 fewer hours per week in 2010 relative to 1980. Hours worked per week for physicians above age 35 were similar between 2010 and 1980. A 3.5 decline in hours worked per week was observed among women physicians age 26 to 35 when comparing 1980 to 2010 hours worked patterns, though among female physicians above age 35, hours worked were higher in 2010 versus 1980." Finally, the AAMC reported that physicians under age 35 would continue to work seven fewer hours than earlier age cohorts.

The 2012 AHEC report, using results from its physician survey, arrived at a similar conclusion regarding hours worked by age and gender. This report combines the AHEC analysis and other studies, such as those cited above, and assumes that female physicians work 10 percent fewer hours per year across all age bands. The graph below illustrates:



	34 and under	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75 and over
Female	1,800	2,070	2,205	2,250	2,250	1,913	1,643	1,059	608	405
Male	2,000	2,300	2,450	2,500	2,500	2,125	1,825	1,175	675	450

This report uses the assumptions summarized above relative to hours worked by cohort and gender and applies it to Wisconsin data. We estimate that the 20-year impact will be a decline of 13 percent by 2035 in the average number of patients served per physician.

Changes in Patient-related Activities

While the average number of hours worked has declined, so too have been the number of hours physicians spend in seeing patients during those hours. Over the past decade or two there has been a decrease in this number, with the main causes asserted to be:

- Implementation of electronic health records (EHR)
- The dramatic increase in quality improvement initiatives
- Physician payment reform, most notably in the Medicare Program

Each of these initiatives imposes its own – many times new and unique – documentation requirements, placing greater demands on physician time. Several studies have examined the impact, which are outlined below:

- The Wisconsin Medical Society (WMS), in their 2015 study entitled "Factors Affecting Physician Satisfaction and Wisconsin Medical Society Strategies to Drive Change" found that 39 percent of Wisconsin physicians had experienced a decrease in direct patient care hours over the previous year, with only 15 percent seeing an increase. This compared with a 30 percent decrease in patient care hours in the 2009 WMS study (23 percent had seen an increase). Much of this decrease was attributed to increased documentation requirements from electronic health records.
- The Physicians Foundation, in their 2012 report "A Survey Of America's Physicians: Practice Patterns And Perspectives" compared both hours worked and patients seen per day for the years 2008 and 2012. Hours worked dropped from 56.9 in 2008 to 52.9 in 2012, a 10.4 percent decrease, while patients seen per day decreased from 23.4 to 20.1, or 16.6 percent. There was a greater decrease in patients seen than in hours worked, meaning either that the average visit time increased or that physicians were engaged in other non-patient activities. Since the vast majority of the literature indicates that visit times have not increased, one could assume that the decrease in visits was caused by increases in non-patient activities.
- A comparison of the 2011 and 2016 editions of the Medscape "Physician Compensation Report" shows a decrease in the percentage of physicians spending over 45 hours seeing patients, from 42 percent in 2011 to 38 percent in 2016. The percentage that spent at least 10 hours on administration and paperwork increased from 51 percent in 2011 to 57 percent in 2016.

Each of these studies, while having somewhat different definitions and measures, indicates a general trend toward increasing time spent on administrative matters and decreasing time spent seeing patients. The negative impact on physician satisfaction has been well documented, and needs to be part of any physician workforce strategy. One of the recommendations of this report centers on physician satisfaction and its impact on retention.

The long-term impact on physician productivity is a separate question. Since this report projects physician supply 20 years into the future, a conclusion regarding the long-term trend in administrative versus patient time needs to be drawn. The following factors are considered:

- Initial loss of productivity during implementation
- Long-term impact of implementation
- Generational differences in adoption and facility with EHR and other technology

Initial loss of productivity – numerous studies have documented loss of physician productivity during, for example, the implementation of electronic health records[1,2,34]. Productivity losses during the initial stages have been estimated between 8 and 33 percent. Certainly, the loss of physician productivity during, and for a period of time after, implementation should be considered as part of the cost.

In assessing **long-term impact**, one must consider:

- Physician productivity over the long-term
- Data accessibility and communication
- Affect on quality of patient care and overall health care efficiency

Long-term impact on physician productivity – conclusions regarding the long-term impact on physician productivity are mixed. For example, a 2015 American Medical Association survey of physicians[5] reported that: "43 percent said they had yet to overcome the productivity challenges related to their EHR system." On the other hand, a *Journal of Medical Informatics* report that studied the impact of one EHR implementation[6] showed an increase in physician productivity as measured in relative value units, a commonly-used definition of physician service volume. It appears that at least some of the differences in productivity outcomes are due to implementation issues, where inadequate planning or lack of flexibility in implementation was at fault.

Affect on quality of patient care and overall health care efficiency – once again there are conflicting findings. For example, a 2011 report by the U.S. Department of Health Services National Center for Health Statistics (NCHS) on a survey of 3,180 physicians found that:

- A majority of adopters reported having accessed a patient's chart remotely (74 percent) and having been alerted to critical lab values (52 percent) by using their EHR system within the past 30 days.
- A majority also reported that using their EHR system had resulted in enhanced overall patient care (74 percent)

Alternatively, the University of California – Davis study cited above concluded that: "on one hand, present-day EMR systems do not produce the kind of productivity gain that could lead to substantial savings in health care; at the same time, EMRs do not cause a major productivity loss on a sustained basis, as many physicians fear."

Generational differences in adoption and facility with EHR and other technology – younger physicians, those who are 45 years and younger, are more comfortable with and adept at using technology. For example, the NCHS study cited above found that while 54 percent of all physicians had implemented EHR, only 49 percent of physicians over the age of 50 had done so, compared to 62 percent for those younger than 50. And almost all physicians under the age 35 (95 percent) use a smartphone for professional purposes, according to Kantar Media[7]. The same survey showed that older physicians are far less likely to use both smartphones and tablets devices for work; 64 percent of physicians over the age of 60 use smartphones and 48 percent use tablets. This facility with technologies such as EHR and the Internet shown among younger physicians should begin to show increased efficiencies and enhanced quality as this younger generation becomes the majority practicing medicine.

Taking into consideration all three of the factors outlined above, this report concludes that, while the implementation of EHR and other efforts to improve quality and accountability may impact productivity in the short run, there should be no continued long-term effects that need to be incorporated into the physician supply projections.

---

1 Hemant K.Bargava: Electronic Medical Records and Physician Productivity: Evidence from Panel Data Analysis

2 DesRoches CM, Campbell EG, Rao SR, et al. Electronic health records in ambulatory care—a national survey of physicians. N Engl J Med. 2008;359(1):50-60.

3 AHRQ Publication no. 11-0081-4-EF• October 2011

4 University of California—Davis. "UC Davis study finds e-medical records have varying effects on productivity." Dec. 2010

5 "Physician Use of EHR Systems 2014": AMA, 2015.

6 Physician Productivity and the Ambulatory EHR in a Large Academic Multi-Specialty Physician Group-International Journal of Medical Informatics

7 Kantar Media, 2016.

Estimated Physician Supply in 2035

The table below combines the physician supply factors outlined above to arrive at an estimated number of physicians in the year 2035:

Supply Scenarios	Total
2015 Total	12,934
20-year Impact of the Following Factors:	
Wisconsin Medical Schools Retention	3,053
GME Program Retention - Non-WI Medical School	1,293
Add:	
WARM/Triumph	248
New MCW Campuses	328
New and Expanded Residency Programs	249
Recruited from Other States	7,604
Subtract:	
Leaving Wisconsin	- 8,690
Retiring	- 3,069
Lifestyle Changes	- 1,926
2035 Base Estimate	13,949
2035 Estimate Including Lifestyle Changes	12,023

The baseline estimate for 2035 is 13,949 FTE physicians, or an increase of 8 percent, while the estimate that includes lifestyle changes is 12,023, **or a decrease of 7 percent**.

Discussion of Demand Projections

Beginning Total – The same number of physicians is used as a starting point in this analysis as in the supply discussion. The current number of physicians was derived from the Wisconsin Medical Society (WMS) database of active Wisconsin physicians. The total was then grouped into categories of Primary Care, Other Medical Specialties, Surgery Specialties, and All Other Specialties using classifications that the Association of American Medical Colleges has utilized for its workforce studies. The classifications are shown in Appendix B.

Estimated Current Physician Shortages – The Health Resources and Services Agency (HRSA) has determined there is a shortage of 187 primary care physicians and 45 psychiatrists in Wisconsin. This report adds those totals to the beginning physician counts to arrive at the base demand before any modifications.

Change in Demand Due to Population and Demographic Changes – The method used in this report starts with data from the Wisconsin Health Information Organization database, for paid claims from October 2013 through September 2014. It includes data from 2.9 million commercial and Medicaid members of Wisconsin health plans, with over 12 million services. This utilization data is expressed in a service-per-member-per-year format and is segmented by Primary Care, Other Medical, Surgery, and All Other physician categories.

Services Per Member Per Year by Age and Gender						
		Primary Care	Other Medical	Surgical	All Other	All
Age Band	**Gender**	**Average Services PMPY**	**Average Services PMPY**	**Average Services PMPY**	**Average Services PMPY**	**Average Services PMPY**
0-17	F	2.34	0.33	0.27	0.74	3.68
	M	2.34	0.34	0.27	0.77	3.72
18-24	F	1.43	0.33	0.85	1.14	3.74
	M	0.81	0.22	0.22	0.67	1.93
25-44	F	1.88	0.57	1.31	1.66	5.42
	M	1.19	0.38	0.32	0.83	2.73
45-64	F	2.40	1.09	0.99	2.18	6.66
	M	2.12	1.01	0.70	1.36	5.19
65-74	F	3.12	1.94	1.49	2.48	9.03
	M	3.32	2.16	1.39	2.20	9.07
>=75	F	4.69	2.82	1.92	3.01	12.44
	M	4.51	3.63	2.08	3.25	13.47
Totals		**1.96**	**0.60**	**0.65**	**1.25**	**4.46**

Source: Wisconsin Health Information Organization database; WHA Information Center analysis.

The data shows varying amounts of services between age and gender segments, which are consistent with other analyses of utilization patterns across populations. Note the significantly higher utilization rate for ages over 65.

This matrix was then applied to both current and projected 2035 populations for Wisconsin by age and gender bands. The population table is presented below.

Age Band	Gender	2015 Population	2035 Population	Percent Change
0-17	F	718,045	769,320	7%
	M	751,455	806,085	7%
18-24	F	186,270	185,860	0%
	M	194,615	195,560	0%
25-44	F	705,445	745,110	6%
	M	726,500	783,180	8%
45-64	F	804,080	730,060	-9%
	M	801,685	752,460	-6%
65-74	F	259,920	365,835	41%
	M	242,665	348,010	43%
75+	F	234,885	447,545	91%
	M	157,450	347,245	121%
Totals		**5,785,030**	**6,478,305**	**12%**

Source: Wisconsin Dept. of Administration, 2015 Analysis.

Note that while the total population increases by 12 percent, the populations in the 65 and over age bands increase 69 percent. In contrast, the 45 to 64 age bands decrease by 1 percent. **In other words, the working age populations are decreasing at the same time the 65+ populations – those that place the greatest demand on health care services – are dramatically increasing.**

The increased population in the 65 and over age band combined with the higher physician utilization for those segments leads to a projected increase in physician demand significantly greater than the overall population increase, as illustrated below.

	Projected Increase in Services				
Overall Population Change	Primary Care	Other Medical	Surgical	All Other	All Physicians
12%	20%	32%	24%	20%	25%

These percentages were used to calculate a base assumption for 2035.

Incorporating Changes in Care Delivery – The transformation of health care delivery will have an impact on the need for physician services. The continuing movement toward integrated and team-based care, the advent of retail clinics, the increasing use of advanced practice clinicians, and telemedicine are likely to increase efficiencies, accelerate the elimination of ineffective clinical practices, lessen the need for face-to-face encounters with physicians, and enhance overall quality and patient experiences.

Quantifying the impact of those changes, however, will be complex. The transformation of care has taken different paths among states and regions. Wisconsin is widely considered to have a relatively mature delivery system with regard to those changes, meaning that while we still have improvements to make, the impact on future demand will be less dramatic than in other parts of the country. The approach used in this report will incorporate Wisconsin experiences into studies that have looked at the issue from a national perspective.

Impact of More Integrated and Team-Based Care – Wisconsin has already seen a significant shift in the way care is delivered, moving from a largely physician-centric model to one that incorporates other health professions as part of a team. These models are being driven by considerations of both cost and quality, as payers are pushing for greater value and patients are increasingly becoming more consumer oriented.

However, the impact of the changes thus far has not been quantified, nor is there an adequate measure of what percentage of ambulatory care is being delivered through these new models, although recent studies and developments provide an overview. A recent national survey by The Commonwealth Fund found that about 30 percent of primary care providers have practices that would qualify as a patient-centered medical home. A similar percentage are involved in accountable care organizations (ACO). Wisconsin has two major ACOs, providing care to several hundred thousand patient members.

In addition to primary care, other specialties are also involved in team-based care, in many cases focusing on certain patient populations or cases, such as joint replacements. In 2014 and 2015, WCMEW sponsored team-based care conferences that highlighted the diversity of models currently in place in Wisconsin. But there has been no comprehensive survey of Wisconsin providers about the nature and extent of their involvement in team-based care. The Association of American Medical Colleges (AAMC) recently provided an estimate of the potential savings from integrated and team-based care[8].

Lacking firm data but also recognizing that Wisconsin has an already robust team-based care environment, this report assumes conservatively that two-thirds of the potential savings are still obtainable, as shown on the next page:

8 AAMC: "The Complexities of Physician Supply and Demand Projections – 2016 Update"

Potential Impact of Team-Based Care on Physician Demand*					
Specialty Area	**National Base**	**Suggested High Level**	**% Potential Decrease**	**Estimated WI Level**	**% Potential Decrease**
Primary Care	292.3	270.8	-7.4%	278.0	-4.9%
Other Medical	152.5	147.3	-3.4%	149.0	-2.3%
Surgery	180.5	179.2	-0.7%	179.6	-0.5%
All Other	281.4	267.6	-4.9%	272.2	-3.3%
Total	906.7	864.9	-4.6%	878.8	-3.1%

*Expressed in terms of physicians per 100,000 population.

One final note on team-based care: the proliferation of this care delivery model is to a large extent dependent on health care system leadership and the willingness of team members to collaborate and share in decision making. The fact that millennials as a group have been shown to have a collaborative work style and will make up the bulk of the health care workforce bodes well for the future of team-based care.

Impact of eHealth and Telemedicine – The use of telemedicine is expected to leverage physician resources for all specialties. Gains in efficiencies through consumer use of e-health, changes in workflow, and increased use of remote/asynchronous care are expected to lower the demand for physician services.

One recent analysis was presented in an article in *Health Affairs*[9]. After a comprehensive review of the literature, the authors estimated how the use of various health information technologies could impact the demand for physician services in the future. The authors estimated that "if health IT were fully implemented in 30 percent of community-based physicians' offices, the demand for physicians would be reduced by about 4-9 percent. Delegation of care to nurse practitioners and physician assistants supported by health IT could reduce the future demand for physicians by 4-7 percent. Similarly, IT-supported delegation from specialist physicians to generalists could reduce the demand for specialists by 2-5 percent. The use of health IT could also help address regional shortages of physicians by potentially enabling 12 percent of care to be delivered remotely or asynchronously."

Estimated Impact of IT Use on FTE Physician Requirements	Assumes WI at 50% Moving to 70%
Gain in Efficiency	
Consumer Use of E-Health	1.0%
Workflow Changes	2.0%
Support of Delegation	
From Physician to Midlevel	2.0%
From Specialist to Primary	1.0%
Increase in Remote/Asynchronous Care	
Remote Care	1.0%
Asynchronous Care	2.0%
Total	9.0%
Eliminate Duplication with Team-Based Care	6.0%

These estimates were based on moving from a position of making no use of the technologies to two scenarios of 30 percent or 70 percent. This report assumes that Wisconsin is currently at 50 percent and will be able to attain 70 percent utilization by 2035. It also eliminates the delegation savings. Since this report includes a separate estimate for team-based care, the analysis assumes that those savings are incorporated into the integrated and team-based care estimates.

9 Issue 32 Number 11 (2013) *"The Impact Of Health Information Technology And e-Health On The Future Demand For Physician Services"*

The following table combines all of the assumptions regarding demand and shows the resulting alternative scenarios.

Demand Scenarios	Total
2015 Beginning Total	12,934
Add Existing Health Professional Shortage Area Deficits	231
Add Increases Due to Population and Demographic Changes	2,995
Base Estimate for 2035	16,160
Incorporate Changes in Care Delivery:	
Integrated and Team-Based Care	15,641
Telemedicine	15,253

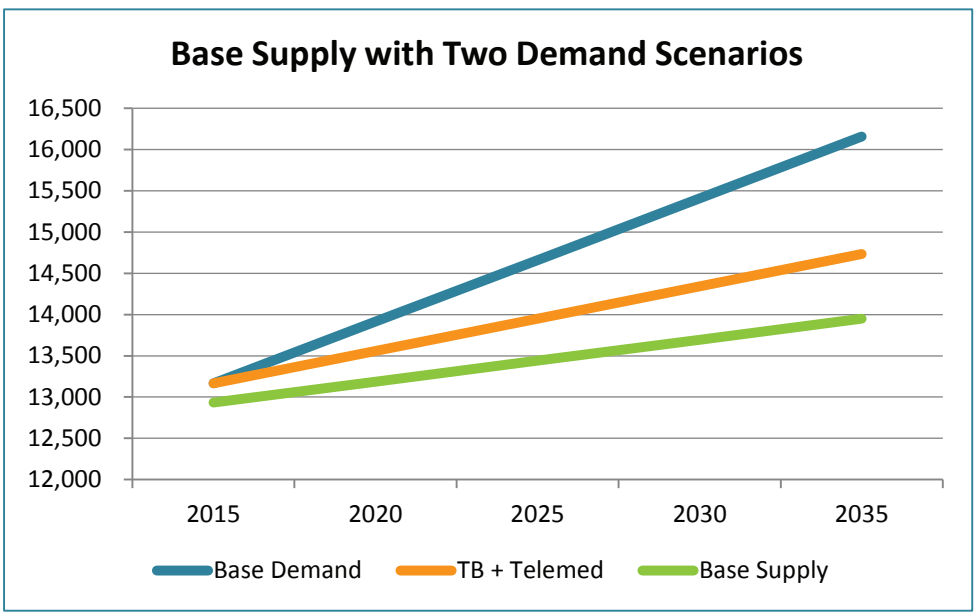
The baseline estimate for demand in 2035 is 16,160, or a 23 percent increase. The increase in demand when incorporating changes in care delivery drops to 19 percent for team-based care, and to 16 percent with the fuller utilization of telemedicine.

Issues and Recommendations

The analysis shows a projected baseline shortfall of 2,211 physicians by 2035, and 4,138 if assumptions about lifestyle changes are included. Results are summarized below. To fully analyze potential policy implications, we consider questions such as:

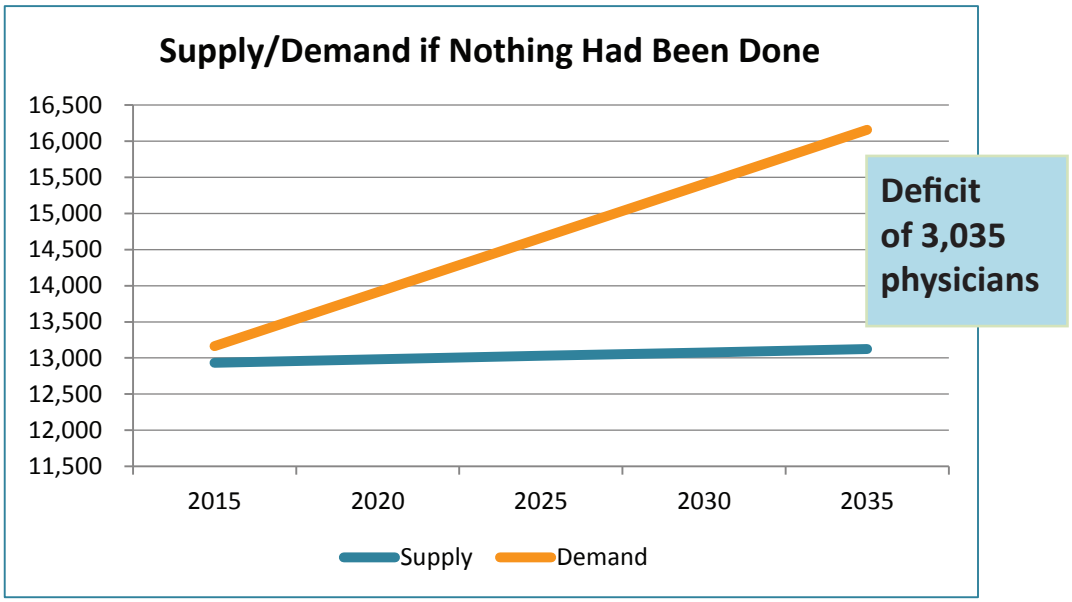
- What are the potential affects of team-based care and telemedicine on future demand?
- What impact have recent workforce expansion efforts had thus far on physician supply?
- How would a continued decrease in the number of patients seen by the average physician affect the projections?
- What would be the impact of redoubling efforts to expand graduate medical education?

First, a set of baseline scenarios is illustrated:



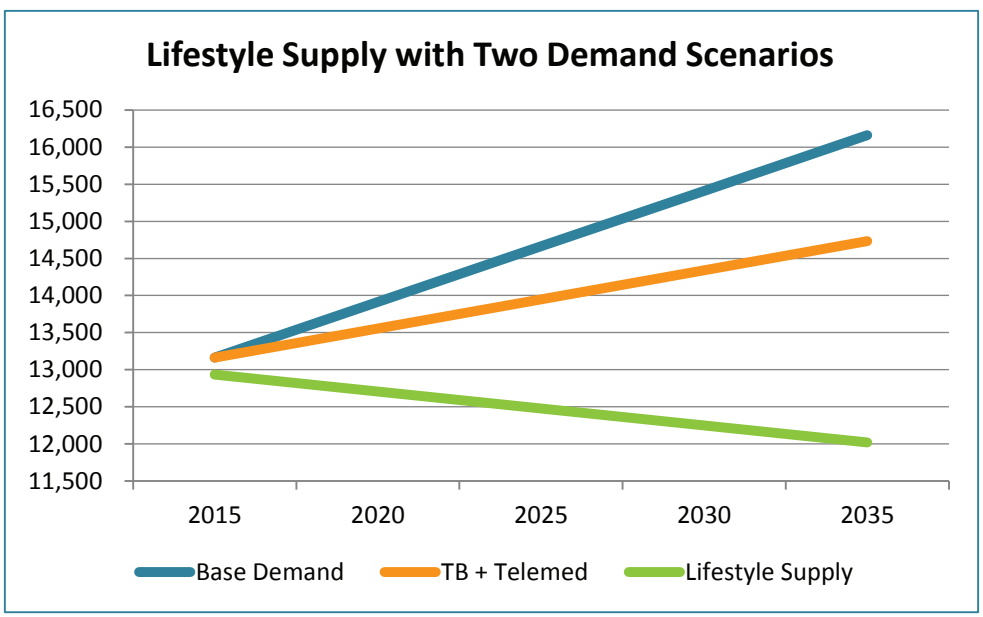
In these scenarios, the baseline deficit is 2,211 physicians. The shortfalls would be mitigated somewhat by changes in care delivery, but would nevertheless result in a shortage of 785 physicians after combining team-based care and telemedicine changes.

A key policy question is "what would the impact be if no new initiatives – medical school or GME expansions – had been undertaken?" The chart below shows the impact.



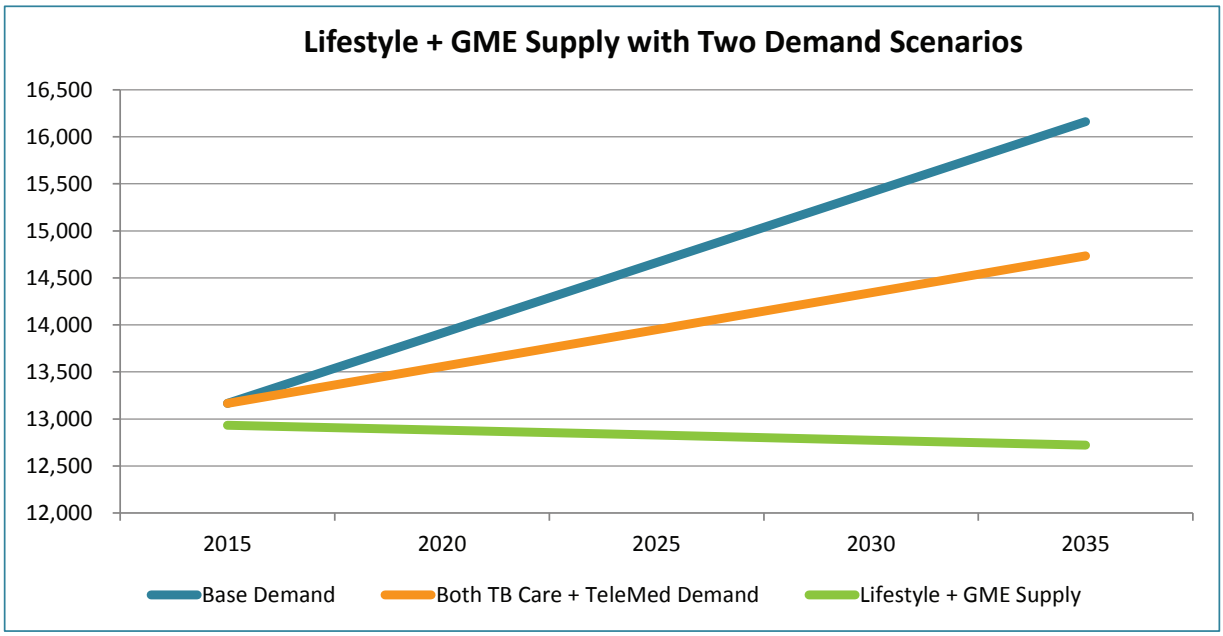
This scenario suggests an even greater baseline deficit, by over 800 physicians. Clearly, the efforts thus far to expand Wisconsin's physician workforce – the medical school expansions and the GME expansions – show a positive impact on supply.

A second set of scenarios assumes that the full effect of lifestyle changes will be reflected in the supply projections. Specifically, the average number of patients seen will decline to the point that the number of full-time equivalent physicians DECLINES over the 20-year period. The chart below shows the scenarios under this assumption.



If the lifestyle change estimates are used the deficit is 4,138. Increased use of team-based care combined with telemedicine reduces it to 2,711, but it still leaves significant gaps.

The gap could be significantly reduced if GME expansion continued over the next 15 years at the same rate as over the past five years. As mentioned earlier, the baseline projections assume no more GME expansion after the current programs are implemented. If, however, the expansion continues at the same rate, a significantly different projection results, even assuming the lifestyle assumptions. This set of scenarios is shown below.



The projected supply is raised to 12,722, while the combined team-based care and telemedicine demand projections are maintained at 14,733. This lowers the gap to 2,011.

Actions Necessary to Address Shortfalls in Physician Supply

Any actions to address the anticipated shortfall should examine the main factors impacting physician supply in Wisconsin:

1. The number of physicians trained in Wisconsin graduate medical education (GME) programs.
2. Physicians educated in Wisconsin medical schools.
3. Attractiveness of Wisconsin as a place for physicians to continue to practice (retention) and to come to practice (in-migration).
4. The number of physicians needed to care for Wisconsin residents (changes in care delivery).

GME Training in Wisconsin

Wisconsin has 1,888 residency positions, or 32.8 per 100 thousand population, according to a 2015 AAMC publication. This compares to the U.S. average of 36.9. As outlined in the opening section, there is an expansion currently underway, largely financed by the newly-available State funding of $2.5 million per year, together with funding from the hospitals and clinics making investments in expanding GME slots in Wisconsin. The new positions will total 73, with annual graduates of 22 (about a 4 percent increase), with about 13 being retained on an annual basis, or 260 over 20 years. This additional amount is already reflected in the base estimate.

The increase currently underway will bring the ratio to 34.1 per 100 thousand population. To bring the ratio to the national level would require an additional 155 positions, or more than double the expansion currently underway. At the current retention rate of 45.7 percent, this increase would yield an additional 70 physicians per year, or 1,400 over 20 years. Higher retention rates from GME programs would also yield more physicians, as discussed further below.

Recommendations on Expanding GME Programs in Wisconsin

The efforts thus far in expanding GME programs represent a good start, but Wisconsin needs to increase its efforts. Additional funding from the State of Wisconsin will be vital in this effort because sustainability of new and existing programs continues to be threatened by a lack of consensus about GME at the national level. But there also needs to be a better understanding of what drives organizations to become involved in GME, and more importantly, why organizations have not become involved up to now.

In addition, we should not forget the major role that the Medicare program plays in funding GME. Efforts should continue to make the case for adequate funding from the Medicare program, and support GME reform that will meet the needs of the citizens of Wisconsin and the United States.

GME Recommendations

1. Increase the amount of state funding for GME, and provide more flexibility for potential use of the funds, including payments to eligible programs to enhance their sustainability.
2. Conduct a survey and study of health care organizations to better understand what is needed to increase their involvement in GME. Use the results to shape future strategies.
3. Work to make expanded federal funding a priority for GME in states currently falling below the national average of federally supported slots.

Medical Education in Wisconsin

Wisconsin's two medical schools, the Medical College of Wisconsin (MCW) and the University of Wisconsin School of Medicine and Public Health (UW), currently have a total enrollment of 1,604, graduating about 400 students per year. With the opening of two new MCW campuses in 2015 and 2016, an additional 150 students, or 50 graduates per year, is anticipated. This would bring the medical school enrollment ratio to 30.3 per 100 thousand population. The national average is 34.0.

But more important than the aggregate numbers is the question of whether the graduates of those schools are addressing important workforce issues. Before adding any more medical school positions, we should examine whether the medical schools are adequately meeting stated needs for Wisconsin. In particular the design of the two new MCW campuses is expected to dramatically increase the number of instate admissions and thus significantly increase the overall retention rate of MCW graduates.

Recommendations on Medical Education

The development of the new MCW campuses is underway, and their performance should be monitored over the next several years in terms of producing physicians that ultimately practice in Wisconsin. The other programs targeted at increasing the number of physicians practicing in underserved areas of Wisconsin are the UW's Wisconsin Academy for Rural Medicine (WARM) and the TRIUMPH program aimed at providing access to inner city residents. The WARM program has had success in retaining physicians in rural Wisconsin with a 55 percent retention rate, and should be expanded. The TRIUMPH program, on the other hand, has been less successful, retaining only 27 percent in Wisconsin. More study of this program should be done before making further changes.

We also recognize that, simultaneous with expanding medical school enrollment, there must be an expansion of publicly funded residency slots so future physicians who are educated in Wisconsin train in Wisconsin and ultimately practice in Wisconsin. Otherwise, we will be merely educating physicians who are likely to practice in other states. We should closely monitor both the expansion of medical school positions and graduate medical education slots to ensure there is an appropriate balance between them.

Medical School Recommendations

1. Monitor the expansion of medical school admission and programs at MCW and UW to assess their effectiveness regarding physician retention in Wisconsin.
2. Monitor GME program development to ensure that there is sufficient capacity to absorb increases in Wisconsin medical school graduates.

Recommendations on Health Care Workforce Education and Training Infrastructure

While the developments in building out our undergraduate and post-graduate medical education infrastructure are very positive, we also understand that expansion of medical school positions and graduate medical education slots both come with increasing demands on existing clinical resources, particularly in rural areas.

An integral part of physician education and training is exposure to real-life clinical settings, meaning that local health care providers and institutions need to make their staff and patients available to students and residents.

In addition, both medical students and residents in post-graduate training need the guidance of teachers and preceptors, who in the community setting are practicing physicians. These physicians need to make time available on their schedules for these efforts, and must be trained to be teachers.

The impact on rural providers, having fewer resources than those in urban areas, is more acute. We are already seeing some communities having difficulty in creating the necessary infrastructure as the new GME programs and medical schools ramp up their initiatives.

Finally, in addition to physicians, other health care professionals need similar patient experiences and faculty, making the issue even more complex.

Education and Training Infrastructure Recommendations

1. Increase state GME funding and allow for partial use of the funds for creation of additional education infrastructure, including clinical training sites and faculty development.
2. WCMEW should identify barriers to health care professional training, including clinical training sites, faculty development, and existing community resources.
3. WCMEW, along with its partner stakeholders, should explore the feasibility of creating additional regional or statewide GME consortia.
4. Explore the feasability of a statewide system to assist schools, residency programs and other professional training programs, health care organizations, and students/residents to efficiently schedule clinical rotations.

Physician Retention and In-Migration

An important factor in building and sustaining the physician workforce is the ability to retain physicians at any stage of their career, from medical school to residency training and throughout their professional practice. Following are some key statistics comparing Wisconsin's experience to the rest of the U.S.

	Number Graduated from Med School in State and Practicing in Same State		Number Graduated from Public Med School in State and Practicing in Same State		Number Graduated from in State GME Program and Active in State		Graduated from Medical School and GME in State and Active in State	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S.	244,040	38.7%	162,408	46.8%	378,604	47.2%	161,418	66.8%
Wisconsin	4,468	37.4%	2,306	42.9%	5,758	45.7%	2,595	70.6%

Source: AAMC 2015 Physician Workforce Databook

Wisconsin's retention statistics are less favorable than the national average in all respects except for the population of physicians who graduated from both the Wisconsin medical schools and GME programs.

Statistics on retention of active Wisconsin physicians after their residency are not available. But the factors that influence physician decisions regarding relocation – from a national perspective – are available from a number of surveys and studies. Family considerations, weather, and geography are examples of factors that influence where a physician chooses to practice but are outside of the control of stakeholders. However, other factors that could be influenced by stakeholders are also important. Areas such as practice climate (flexible scheduling, qualified supportive staff, access to patient information, timely feedback on tests, etc.), integrated care (physician employment, ACOs, physician leadership development opportunities), and state-level regulatory and legal environment (licensure, malpractice environment) are areas to focus on from a policy perspective.

The malpractice environment in particular is a factor impacting retention and in-migration that can be most readily impacted by policy decisions. Just as surveys show that a state's litigation environment is an important factor in the decisions businesses make when deciding where to locate, a state's medical liability environment affects physician decisions to practice in a particular state.

In 2012, economists John Perry and Christopher Clark published a report in the journal Business Economics examining medical malpractice liability reforms and physician migration[10]. They concluded:

> "We find robust evidence that noneconomic damage caps impact physician populations. This finding is present in the majority of the prior literature….The inference from this work is that physicians are less likely to move away from states and more likely to move to states that have implemented certain medical malpractice liability reforms.
>
> If medical malpractice climates are important to a physician (whether in reality or in perception), one would see physicians voting with their feet in response to changes in the severity of malpractice climates….Our analysis of individual physician migration decisions shows that physicians do 'vote with their feet.' In our preferred specification, we find that states that have implemented noneconomic damages caps, joint and several liability reforms, and patient compensation funds see their physicians move away less frequently than states that do not have these reforms.
>
> We estimate that the marginal effect of a state implementing noneconomic damages caps is a reduction in the probability of a physician moving out of state of about 0.8 percentage points – which translates to a 35 percent decrease in the probability that a physician moves to another state."

Accordingly, a state's medical liability system affects its ability to compete with other states in attracting and maintaining sufficient numbers of physicians to provide high-quality, accessible health care to a state's residents.

Other research has similarly found that states that have enacted medical malpractice reforms such as noneconomic damage limits experience greater growth in physician supply (3% on average) than states without such limits[11]. As an example, the state of Texas enacted medical malpractice reforms including a noneconomic damage cap in 2003 and has seen significant growth in physician supply:

> "Overall, Texas has enjoyed a 61 percent greater growth rate in newly licensed physicians in the past four years compared to the four years preceding reforms. Since 2003, Texas has added nearly 5,800 more physicians with in-state licenses than can be accounted for by population growth.... The ranks of high-risk specialists have grown more than twice as fast as the state's population. Pediatric sub-specialists have grown ten times faster than the state's population. The number of geriatricians has more than doubled....The ranks of rural obstetricians have grown nearly three times faster than the state's rural population….Forty-six counties that did not have an emergency medicine physician now do. Thirty-nine of those counties are rural. Fifteen counties that did not have a cardiologist now do. Fourteen of those counties are rural[12].

10 Perry, John, and Clark, Christopher. 2012. "Title." Business Economics, 47(3): 202-213.

11 Kessler, Donald P., William M. Sage & David J. Becker, "Impact of Malpractice Reforms on the Supply of Physician Services," JAMA (June 1, 2005), at 2623. http://lib.ajaums.ac.ir/booklist/jama_June-21_6.pdf.

12 Texas Medical Association, "Proposition 12 Produces Healthy Benefits." http://www.texmed.org/tortreform/ (updated Aug. 28, 2013, accessed Nov. 17, 2014).

In contrast, in Illinois, "[h]alf of all graduating medical residents or fellows trained in Illinois leave the state to practice medicine elsewhere, in large part due to the medical liability environment in Illinois," according to a report by Northwestern University published just months after the loss of a short-lived noneconomic damages cap in 2010. The report warned that Illinois could face a shortage of physicians, especially in rural areas, as new physicians continue to flee to states like Wisconsin given the "toxic medical malpractice environment" in Illinois[13].

Recommendations on Retention and In-Migration

In all but one area, Wisconsin is lower than the national average for retaining physicians educated or trained in the state. Policies in our medical schools and residency programs affect these totals, but efforts at the pre-college and medical school levels are also important.

Regarding the post-residency stage of Wisconsin practicing physicians, more can be learned about attitudes that could affect a physician's desire to relocate or leave practice entirely. The Wisconsin Medical Society, in a recent study of physician satisfaction, found that while Wisconsin physicians were positive about their practice environment and the ability to provide high-quality care, they are feeling burned out from increased administrative burdens and are less likely to recommend the profession to those looking to enter the field.

But while these findings show why a physician might decide to leave practice entirely—an important factor especially related to physicians in the latter stages of their careers—they do not provide information on why Wisconsin physicians would relocate to other states. More information on these factors can help Wisconsin better understand outmigration to other states.

What is known about Wisconsin's practice environment is largely favorable. Wisconsin shows a highly degree of integrated delivery systems, a significant percentage of employed physicians and a favorable malpractice environment.

Recommendations on Retention and In-Migration

1. WCMEW, working with the Wisconsin AHEC program, should conduct a comprehensive study of existing programs that expose and encourage potential workers to the health care field. Devise strategies for improvement if necessary.
2. WCMEW should engage medical schools and residency programs regarding selection of students and residents on how to increase recruitment of those with Wisconsin backgrounds.
3. WCMEW should conduct a study of physicians who have relocated to other states to understand their reasons. In addition, WCMEW along with its partners should also examine the root causes of physician dissatisfaction with the profession and drivers of burnout.
4. Maintain policies that preserve Wisconsin's favorable attractive and balanced malpractice environment.

Changes in Care Delivery

There is a general consensus that patient care delivery is being rapidly and significantly transformed in Wisconsin. The goals of enhanced quality and value are largely driving this change, together with technology improvements and the desire for providers to have more fulfilling professional experiences. But while there is an abundance of anecdotal evidence of this transformation, little information is available about its exact nature and extent. Nor is there a consensus about how these changes should be made part of the education and training of the health care workforce.

Another aspect of this issue relates to education and training. Inter-professional education (IPE), where health care professionals learn in a collaborative, team-based environment, has not been the method most commonly used for training. Anecdotal information gained from WCMEW's team-based care conferences, among other sources, indicates that much of the organizational and implementation work in developing teams takes place at the point when teams are created, not during the education or training experience.

13 Northwestern University News, "Graduating Doctors Flee Illinois, Cite Malpractice Policy: Illinois Faces Critical Physician Shortage, New Study Warns" (November 11, 2010). http://www.northwestern.edu/newscenter/stories/2010/11/doctors-flee-illinois.html.

A lack of IPE during education and training results in:

- A training experience that does not prepare professionals for the clinical environment that they are increasingly likely to be expected to work within.
- Inefficiencies and confusion for clinical sites and faculty in scheduling and workflow.
- Duplication of efforts if clinical teams are ultimately created – retraining would be necessary.

Logically, IPE should be the more common method for education and training, but currently educational institutions and clinical sites are not making great use of the method.

Recommendations on Care Delivery

Without a good understanding of how care delivery is changed, stakeholders and policymakers are unable to monitor its effect and make recommendations. In addition, without adequate feedback to education and training institutions, curricula and clinical rotations may not reflect real-life professional experiences.

Recommendations on Care Delivery

1. WCMEW should conduct a survey of health care organizations to understand how care is being delivered, and will be delivered, in Wisconsin.
2. WCMEW should conduct a survey of health care organizations to understand the nature and extent of the use of telemedicine in Wisconsin.
3. WCMEW should continue to promote the transformation of care delivery; for example, sponsoring annual conferences that disseminate information on team-based care.
4. WCMEW should engage health care educators in Wisconsin to facilitate the inclusion of innovative care delivery models in their curricula.
5. State funding should be made available for collaboratives that wish to create IPE training programs or inter-professional clinical practices.

WCMEW Activities

WCMEW has continuously evolved over the past ten years, and must continue that evolution to remain vibrant and relevant. Changes in structure and format, while retaining its core mission, will be necessary.

Recommendations on WCMEW Activities

After taking a leading role in the development of the Wisconsin Healthcare Workforce Strategic Plan, WCMEW is well positioned to continue as a platform for workforce policy development. In order to facilitate that effort, WCMEW needs to continue to refine its goals and activities.

Recommendation on WCMEW Activities

1. Continuously refine WCMEW goals and activities to maintain consistency with the Wisconsin Healthcare Workforce Strategic Plan.

APPENDIX A

Technical Notes

Current Physician Data

For the count of physicians actively practicing in Wisconsin during 2015, the report utilized data obtained from the Wisconsin Medical Society (WMS). WMS maintains this database for a number of purposes, including member relations and marketing programs and services. WMS obtains data from the Wisconsin Department of Safety and Professional Services (DSPS) on newly-licensed physicians. In addition, WMS has field staff that visit clinics and physician offices. It also surveys physicians to obtain demographic and other information. The process is outlined below.

Society data management processes (multi staff member responsibility) for new and current WI physicians (includes members and non-member data):

- Regularly scheduled external data sources (Department of Safety and Professional Services; National Provider Index; AMA)
- Quarterly system rosters
- Annual membership profiles
- Annual dues process
- Annual insurance renewal process
- Internet-based verifications (websites)
- Ad hoc updates via communication venues
- Ad hoc updates from field staff

Data fields and elements in the database are as follows:

Fields	Data Elements
Personal Information	First Name Middle Name Last Name Suffix Date of Birth Gender Affiliated County Medical Society
Professional Information	Primary/secondary/tertiary Specialty Medical Education Number Medical School Medical School Grad Date Residency/Fellowship Training Residency/Fellowship Training Grad Date WI License Number WI License Status WI License Granted Date NPI Number Board Certifications

Fields	Data Elements
Practice Information	Office/Practice Name (Company) Address City State Zip (nine digits) Office phone Office fax Second Practice Address Info
Contact Information	Email Address Home Address

The resulting database is both detailed and up to date, making it a robust source for physician data analysis.

Physician Specialty Classifications Used in This Report

For purposes of grouping physicians into specialties for analysis, this report uses the classification system utilized by the Association of American Medical Colleges (AAMC) in their physician workforce studies. It classifies physicians into four categories:

1. **General primary care** – general and family practice, general internal medicine, and general pediatrics;
2. **Medical specialties** – cardiovascular disease, gastroenterology, internal medicine subspecialties, nephrology, pulmonology, and other medical specialties;
3. **Surgery** – general surgery, obstetrics and gynecology, ophthalmology, orthopedic surgery, otolaryngology, thoracic surgery, urology, and other surgical specialties; and,
4. **Other patient care** – anesthesiology, emergency medicine, neurology, pathology, psychiatry, radiology, and other specialties.

This approach allows for comparisons across broad categories of patient care without having to build overly complex and detailed models. The same classification system was used in creating demand scenarios.

Physician Demand Methodology

The report uses paid claims for health care services from the Wisconsin Health Information Organization (WHIO) as proxies for physician demand. The paid claims were from commercial and Medicaid populations, with dates of service October 1, 2013 through September 30, 2014. The number of covered lives totaled over 2.4 million (1.5 million commercial lives and 900,000 Medicaid covered lives), with the number of physician services totaling over 12 million.

The services were grouped into the physician classifications explained above and were segmented into age and gender cohorts. Services were expressed as numbers of services per member per year. The data from each separate coverage population was combined into one service utilization matrix and normalized to the proportion of each to the total Wisconsin population.

APPENDIX B

National Governors Association Healthcare Workforce Policy Academy Final Wisconsin Healthcare Workforce Strategic Plan

Executive Summary

Under the National Governor's Association Health Workforce Policy Academy, Wisconsin has committed to identifying creative and innovative solutions to ensure that a sustainable pipeline of appropriately-skilled health care workers are able to continue providing high-quality health care now and in the future.

In Wisconsin and nationally, the health care workforce is aging, and there is a critical need to ensure skilled workers are being trained in primary care, nursing, support roles, and many other professions integral to modern health care. Wisconsin is committed to implementing creative ideas that have shown promise, including streamlining licensing requirements, making better use of workforce data to develop supply and demand projections for health care professions, and finding new, more efficient models of care.

Through the Policy Academy, Wisconsin has identified four core areas: data, work redesign/changes in care delivery, pipeline, and mental health. Each core area is focused on a series of actionable goals that will show real gains in strengthening Wisconsin's ability to collaborate and support health care provider needs for skilled workers:

1. **Data:** Developing a framework to collect, analyze and report on health care workforce data from both government and health care stakeholders is critical to understanding the current and future needs of health care providers. This includes a review of the health care licensing process and obtaining data from multiple sources for a proactive designation of Health Profession Shortage Areas (HPSAs) within Wisconsin. In the simplest form, we want better supply and demand side data. We want to know both where health care professionals are practicing, the patient population they are reaching, and where there are areas where patients do not have reliable access to care.
2. **Work Redesign:** We want to develop best practice models that make it easier to establish a team-based care service delivery model within health care provider systems throughout Wisconsin. The goal of team-based care is to streamline and improve care for health care consumers by delivering care in a more coordinated and cooperative model. The other aspect focused on was examining how we can streamline regulations to make licensure easier for medical professionals, and how to make it easier to practice telehealth to enable providers to better reach rural and other underserved areas.
3. **Pipeline:** Maintaining a health care education curriculum that builds on the various aspects of this plan and advances in service delivery and technology is critical to ensure the workforce in Wisconsin is well prepared today and in the future. Core components in this area include the development of a structure that increases collaboration and coordination for clinical training of students in health care professions, encourages creative strategies to increase recruitment of individuals to health care professions with current or future labor shortages, and aligns community and provider needs with the current and prospective health care professionals seeking work. We also seek a more coordinated approach to getting K-12 students interested in medical careers.
4. **Mental Health:** Recent efforts in the state budget and legislative packages have placed a renewed emphasis on increasing access to mental health for underserved individuals. We need to evaluate progress in getting these new efforts up and running and identify remaining gaps. We will also assess how telehealth and proactive designation of HPSAs will better enable us to serve Wisconsinites with mental health needs.

The Wisconsin Council on Medical Education and Workforce (WCMEW) is coordinating the implementation of this plan in concert with the Governor's Office. This will enhance coordination and provide a single point of accountability. WCMEW includes stakeholders representing a broad spectrum of Wisconsin's health care workforce and has successfully completed several multi-stakeholder initiatives.

WCMEW members include health care providers, educational institutions, and other stakeholders in Wisconsin's health care workforce. Organizations represented on the Council include:

- Wisconsin Hospital Association
- Wisconsin Nurses Association
- Medical College of Wisconsin
- Pharmacy Society of Wisconsin
- UW School of Medicine and Public Health
- Wisconsin Academy of Physician Assistants
- Rural Wisconsin Health Cooperative
- Wisconsin Medical Society
- Association of Nurse Educators of Wisconsin
- Wisconsin Staff Physician Recruiters
- State of Wisconsin (Governor's Office)

CORE AREA 1: Data

Group/individuals responsible for work on this core area:

This initiative grows out of the work of the Wisconsin Health Workforce Data Collaborative (WHWDC) which consists of the following members: Area Health Education Centers, the Department of Health Services (DHS), the Department of Safety & Professional Services (DSPS), the Department of Workforce Development (DWD), the Rural Wisconsin Health Cooperative, the Wisconsin Council on Medical Education & Workforce (WCMEW), the Wisconsin Center for Nursing, the Wisconsin Hospital Association, the Wisconsin Medical Society (WMS), the Wisconsin Nursing Association, the Wisconsin Office of Rural Health, the Wisconsin Primary Health Care Association, and the Wisconsin Technical College System. This collaborative promotes the collection, analysis, forecasting and reporting of data regarding Wisconsin's health care workforce to support data-driven decisions regarding health care workforce needs for Wisconsin health care employers.

WCMEW and its partners have more than a decade of experience in health care data collection, warehousing and analysis. The Wisconsin Hospital Association Information Center (WHAIC), one such partner, collects hospital data. WHAIC privacy and security practices have been reviewed and approved to be HIPAA-compliant by external auditors. Additionally, DWD and the WMS have both agreed to provide workforce data to WCMEW to enrich the existing data. One of the benefits of this policy academy was bringing groups such as WMS and DWD together to get a better understanding of data they already collect and how that can be better coordinated and analyzed.

As part of this project, the WHWDC has been reorganized as a committee under WCMEW to increase coordination of health care data collection activities. This will allow the collection of additional information to improve designation of health profession shortage areas within Wisconsin and to increase utilization of health workforce data in policy decisions.

Summary vision for Core Area #1: Data

The ongoing collection, objective analysis, forecasting and regular reporting of health care workforce data that plays an instrumental role in the development of a sufficient and sustainable health care workforce in Wisconsin.

Overview of issue

Wisconsin's health care professions education programs, health care employers and public agencies face many challenges in obtaining sufficient workforce data and labor market projections to inform decisions regarding the preparation, retention and distribution of a robust health care workforce. This lack of knowledge is a barrier to ensuring the supply of appropriately skilled and licensed workers matches the needs of employers now and throughout the future.

Wisconsin needs to gather appropriate health care workforce data on a consistent basis; link the data with local and regional labor markets; use modeling to forecast supply, demand and geographic distribution for occupations; regularly update supply and demand projections; and disseminate information to employers, academic institutions, the Legislature, state government and other important stakeholders.

Core elements of the infrastructure necessary to implement workforce data collection and analysis include:

- Systems for collecting both supply and demand data for the health care workforce;
- The capability to forecast future need, particularly in professions that have the longest training time;
- A secure system to maintain confidential data over time to facilitate longitudinal analysis and evaluation of forecasting methodology; and,
- A collaborative model for collecting and analyzing workforce data that builds on the expertise of many participating organizations.

Five-year vision for Core Area #1: Data

- A collaborative environment that continues to build on working relationships among the members of the WCMEW Data Collaborative.
- An ongoing process for collection, analysis, and dissemination of supply, demand, and distribution data as a foundation for research, including projections of workforce needs under alternate scenarios.
- A well-established program of ongoing research that will enable us to document changes in health care delivery and make timely adjustments to workforce projections.
- Better understanding of the dynamics of workforce supply by discipline, sector (e.g. office and hospital based patient care, public health, community health) and urban/rural distribution.
- Ability to adapt data collection and analysis strategies to fit the changing organization of health care delivery.
- Public policy decisions informed by accurate and up-to-date workforce data.
- An established series of re-licensure questionnaires and provider organization surveys with three to five years of data on health professionals in the state.
- Annual reports on status of health workforce in each region of Wisconsin. Regular projections and re-evaluation of future health workforce needs in each region of the state.
- A well-established system for proactive designation of health professions shortage areas that maximizes state and federal recruitment/retention incentives.

Action steps/timeline/resources for each strategy in Core Area #1: Data

Short-term Goals: 1 to 3 Years

Goal 1: Defined Structure			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. The WCMEW Data Collaborative, working with the WCMEW Council, will fulfill this role.	Ongoing WCMEW activity.	Existing WCMEW resources.	The WCMEW Data Collaborative, working with the WCMEW Council, has a defined work plan and budget to significantly contribute to the fulfillment of this Action Plan. *See the flow chart (page 31) for a visual description.*

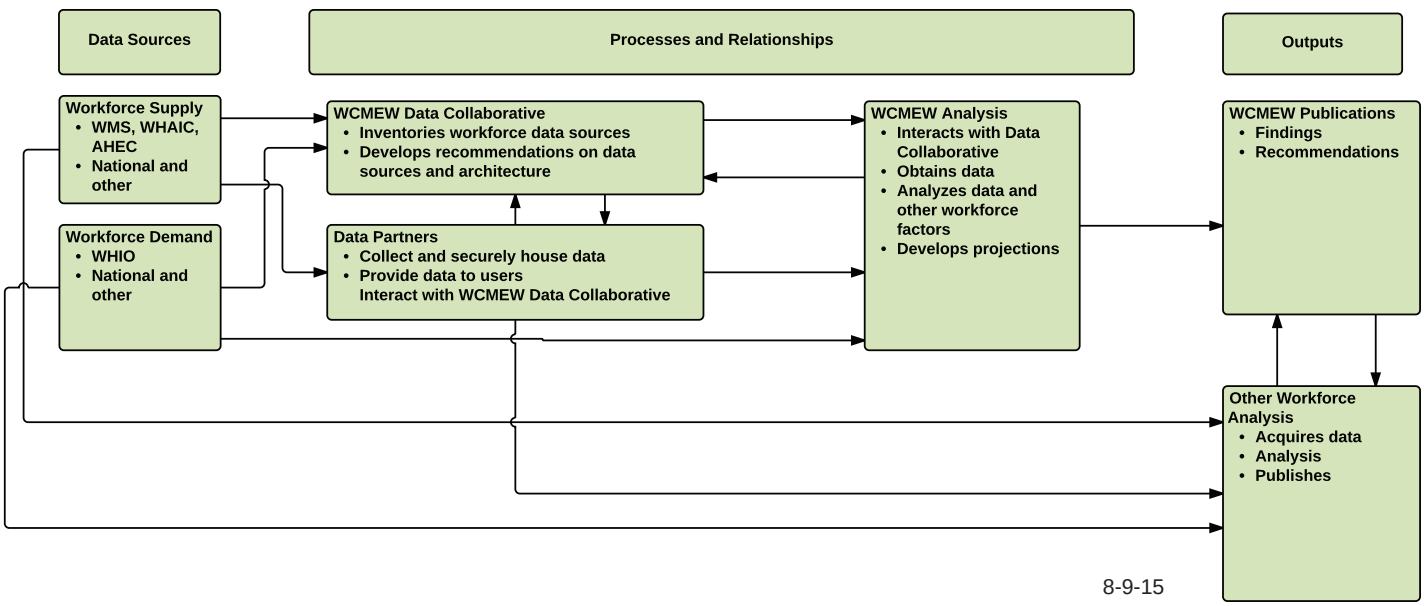
Goal 1: Defined Structure			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
2. Work with regional health workforce alliances. 3. Work with health care provider organizations. 4. Work with primary care office to meet state's need for data gathering from providers for HPSA designation.	Establish relationships with other organizations by 6/30/16.	Existing WCMEW resources.	Additional organizations participate in the Data Collaborative or address elements of the Action Plan independently.

Goal 2: Inventory of Supply and Demand Data			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Prepare an inventory of data resources that includes a list of workforce data elements available from sources in the attached document and details about access to the data.	WCMEW Data Collaborative completes initial inventory by 6/30/16.	Existing WCMEW resources. Additional resources to obtain data as necessary.	• Completed inventory of data available from DSPS, DHS, WHA Information Center, the AMA Master file, Wisconsin Medical Society, DWD, Health Resources and Services Administration (HRSA), and CMS. • Completed inventory of current licensure and recruitment and retention survey activities.
2. Consistently explore what might be available in utilization/claims data to inform health workforce studies.	WCMEW Data Collaborative prepares analysis by 12/31/16.	Existing WCMEW resources.	• Access to claims data if necessary for workforce information. • Data from health professions education and training programs.

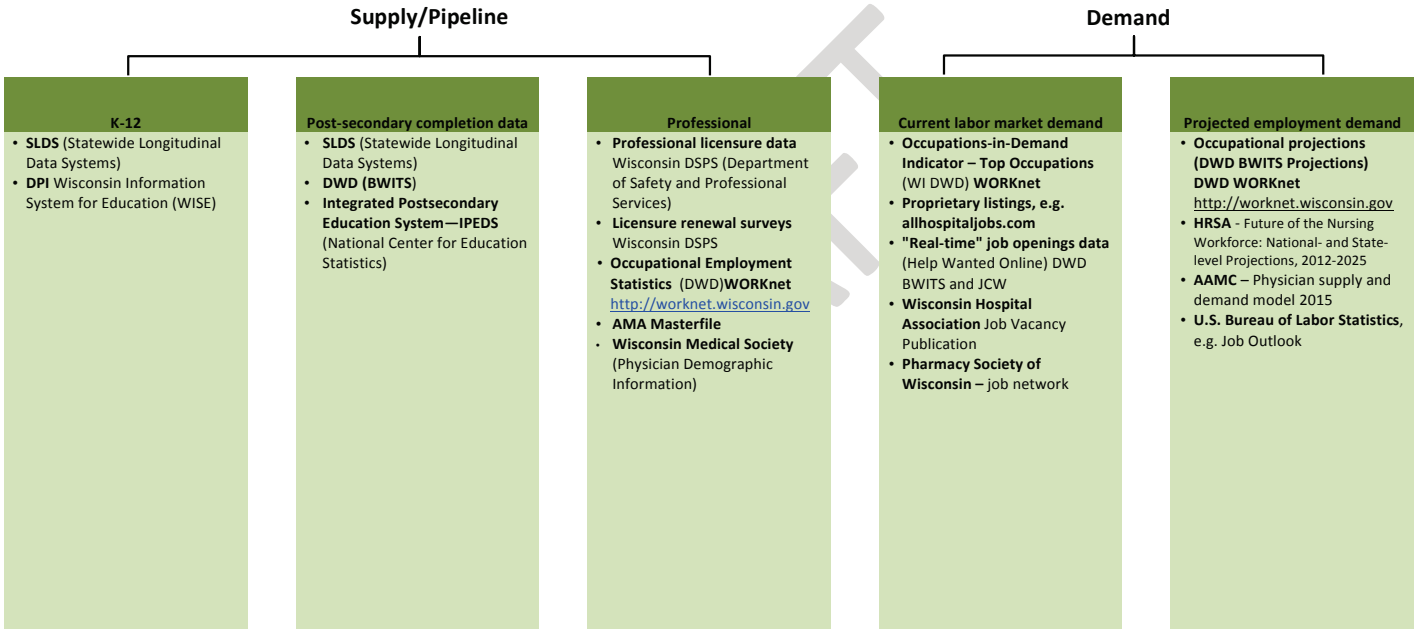
Goal 3: Best Use of License Renewal			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Identify the information that is available in electronic format from initial licensure and or certification. 2. Understand DSPS process and timeline for license renewal. 3. Develop a system for preparing additional questions to be included at time of license renewal that provides for input and feedback from professional organizations and other users of the data, but is rigorous in limiting the focus of additional questions to specialty, location of practice, and FTE employment.	WCMEW Data Collaborative, working with DSPS, DWD, and DHS, completed by 9/30/16.	Existing WCMEW resources and as appropriate from DSPS, DWD, and DHS.	An inventory of data elements available in the basic licensure file and those elements available to researchers in electronic format.

Goal 3: Best Use of License Renewal			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
4. Gather and collate data from licensure renewal process.	WCMEW contracts with survey company.	Estimated at $35,000.	• A schedule established for implementation of re-licensure surveys and/or health system surveys and a clear process for questionnaire development, data storage, access, and analysis. • A plan for regular communication of survey results in a format that assures that individually identifiable information is not released.
5. Review HRSA minimum data set suggestions and compile a composite list of the data elements we want to collect, as a starting point for developing profession-specific questionnaires.	WCMEW report by 9/30/16.	Existing WCMEW resources.	Listing of essential data elements.

Goal 4: Analysis and Recommendations			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Collate data, make projections, and draw conclusions.	Completed annually.	Existing WCMEW resources. Review by third parties as necessary.	Projections of supply of, and demand for, multiple health care practitioners.
2. Working with the WCMEW Council, draft policy recommendations and prepare reports.	WCMEW draft by 12/31/16.	Existing WCMEW resources.	Reports directed to the public and policymakers including policy recommendations.



Workforce Data Sources



CORE AREA #2: Work Redesign/Changes in Care Delivery

Group/individuals responsible for work on this core area:

Members of the National Governor's Association (NGA) Policy Academy core group, working with groups such as the WCMEW Team-Based Care Workgroup.

Summary vision for this goal

Review, facilitate dialogue about, and encourage the development of team-based care delivery models and other changes in the organization of health care delivery and how these changes affect workforce needs, clinical training opportunities, and needed changes in the regulatory environment in order to ensure that the future health care workforce meets patient care needs.

Overview of issue

Health care silos, current payment models and regulatory hurdles may hamper the ability to shape the health care workforce to be responsive to future patient needs. Gaining a better understanding of the future of care delivery will allow regulatory agencies and policymakers to facilitate the development of a health care workforce and health care delivery models that can be responsive to the future needs of Wisconsin's residents. In order to make progress toward any health care work redesign ideas or concepts that can build on Wisconsin's successes, those who actually provide that care are key to identifying what currently works and what could be improved. Any redesign should maximize Wisconsin's successes, with potential evolution embraced through broad stakeholder adoption to ensure the best chances for positive outcomes.

Work redesign and coordination of care efforts are important in the new regulatory environment with newly-insured individuals entering the health care system and a greater need for coordination to mitigate workforce needs. The health insurance industry and organizations like the Wisconsin Statewide Value Committee (SVC) articulate how health plans are optimizing and incentivizing provider networks to provide efficient, high-value care.

Wisconsin health care professional organizations and health care education programs are embracing new care delivery models. As an example, mid-level providers are shifting care management to credentialed health care providers who can support efficient care specialization by physicians. In addition to other models being reviewed by the SVC and State Health Innovation Plan (SHIP) work groups, the Wisconsin Pharmacy Quality Collaborative (WPQC) has worked to bridge silos by engaging pharmacists who are practicing at the "top of their license" in a team-based care model to improve the value patients receive from their medications, decreasing overall health care costs. Because pharmacists have a unique understanding of medication effects and interactions, they are in a unique position to provide patient feedback and physician counseling that can lead to better patient outcomes. Additionally, health care organizations are working on innovative telehealth programs as a cost-effective way to provide care when physical access may be limited.

Five-year vision for Core Area #2: Work Redesign/Changes in Care Delivery

- Stakeholders implement needed changes in care delivery, informed by data projections and the efforts of this group. This will include a wider understanding of Wisconsin's current health care successes and areas of possible improvement.
- Identify and act on opportunities to streamline certification and licensure processes and address policy changes necessary to expand team-based care models and health professionals practicing at the "top of their education."
- Ongoing discussions regarding technology, policy, education, and workforce barriers that may impede the continuation or expansion of evidence-based health care delivery models that improve the value payers and patients find from the health care they purchase.
- Sustained decision-making reflecting the inclusion and involvement of appropriate stakeholders, including providers, employers, academic/training programs, and the patient.

Action steps/timeline/resources for each strategy in Core Area #2: Work Redesign/Changes in Care Delivery

Short-Term Goals: 1 to 3 Years

Goal 1: Understand New Service Delivery Models and Implications for Workforce Development			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Gather information from literature, white papers, and stakeholders on team-based care practices in Wisconsin and elsewhere.	WCMEW Team-Based Care Work Group completes initial inventory by 6/30/16.	Existing WCMEW resources.	Inventory of practices, impacts on quality, etc.
2. Support statewide conferences on team-based care to hear from constituencies about their challenges and successes.	WCMEW sponsored a conference in 2014 and is working on another for 2016.	Existing WCMEW resources.	Compendium of conference proceedings shared widely.
3. Survey health care systems to understand their perspectives and expectations on team-based care.	WCMEW Team-Based Care Work Group completes initial survey by 3/31/16.	Existing WCMEW resources.	Survey results presented and discussed by WCMEW Council. Findings incorporated into future planning.

Goal 2: Facilitate Incorporation of Team-Based Care Into Education and Training			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Begin discussions with educational institutions. This includes updating curriculum and training programs to better incorporate team-based care.	WCMEW Team-Based Care Work Group holds discussions with educational institutions by 6/30/16.	Existing WCMEW resources.	Common understanding of challenges, opportunities, and resource requirements.
2. Ensure that the evolving care delivery system provides adequate training and mentorship opportunities.	WCMEW Team-based Care Work Group holds discussions with health care systems by 6/30/16.	Existing WCMEW resources supplemented with additional partners.	Adequate training sites and team-based care curriculum.
3. Facilitate the development of education and toolkits (sharing best practices) to support the development and expansion of team-based care.	WCMEW Team-based Care Work Group by 12/31/16.	Estimated at $20,000.	Accessible toolkits, either electronic or hard copy.

Goal 3: Facilitate Continuation, Expansion of Evidence-Based Care Delivery Improvements			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Based upon information gathered in Goal 1 of this Core Area, discuss how existing care delivery models that show improved health care value to payers and patients could be continued or expanded for Wisconsin Medicaid patients and those with private insurance.	Consider team-based care practices identified in Goal 1 and, as appropriate, engage stakeholders to see how these programs could be more broadly disseminated in Wisconsin.	• DHS, Medicaid staff, health care providers. • Consider grant funding and/or Medicaid policy change.	Identification of programs, if they exist, that could be continued or expanded. Novel health care delivery model included in State Health Innovation Plan and as a DHS priority program.
2. Review the technology developments in telehealth, current landscape of telehealth service provision, and opportunities for leveraging this care delivery model to bring care to Wisconsin residents who might not otherwise have access.	WHA has convened a telehealth work group.	WHA telehealth work group.	Formation of telehealth work group. Revision of policies around telehealth service provision.

Goal 4: Ensure Behavioral Health Emphasis			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Expand WCMEW Council to include behavioral health representation.	WCMEW adds behavioral health representation	Existing WCMEW resources.	Appropriate emphasis to behavioral health on issue development.

CORE AREA #3: Pipeline

Group/individuals responsible for work on this core area:

Members of the NGA Policy Academy core group, working with the Wisconsin Council on Medical Education and Workforce (WCMEW).

Summary vision for this goal

Health professions education, training and recruitment programs will produce the next generation of providers in sufficient numbers, appropriately distributed, and with the knowledge, attitude, leadership ability and team-based care skills to meet Wisconsin's needs in a changing health care delivery environment.

Overview of issue

The pipeline core area focuses on the education and training processes:

- K-12 – programs that get students interested in a health care career.
- Tech College (two-year) – programs that provide certifications and degrees for health care professions like CNAs, LPNs, and others.
- University (four-year) – health care degrees at higher practice levels, which often require additional postgraduate training.
- Graduate education – training at the highest level of practice, including medical doctors and advanced practice nursing.
- Postgraduate training – residencies, internships and other on-the-job training.

Goal 1: A Health Care Workforce Sufficient in Number and Appropriately Distributed to Meet Projected Need in All Areas of the State			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Expand graduate medical education (GME) programs in primary care and other specialties needed in rural and underserved areas, such as general surgery and psychiatry.	WCMEW Postgrad Work Group activities to bolster funding and encourage health systems to be involved. Expand infrastructure, including faculty.	Existing WCMEW resources. Infrastructure needs include faculty to train students and curriculum available.	Continued and expanded funding in the State budget. Support to recruit, train, and retain community-based faculty.
2. Increase use of targeted admissions strategies to improve matriculation of students from rural and underserved communities into health professions programs.	Ongoing WCMEW discussions with relevant schools.	Existing WCMEW resources.	Increased numbers of matriculants from underserved areas of the state.

Goal 1: A Health Care Workforce Sufficient in Number and Appropriately Distributed to Meet Projected Need in All Areas of the State			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Support intern and mentoring programs for new Physician Assistants and Advanced Practice Nurse graduates to gain experience needed for practice in underserved areas.	AHEC and WCMEW Postgrad Work Group, working with relevant schools and health systems, help to develop and expand programs. Report progress annually.	WCMEW, AHEC, health systems, and schools.	Incentives to practitioners and provider organizations to encourage their participation in student clinical training. Support to recruit, train and retain community-based faculty.
2. Expand number of training sites and make most efficient use of existing training sites.	WCMEW Postgrad Work Group, working with health systems, develops a roster of training sites; annually report. Create an electronic repository of training sites by 9/30/16.	WCMEW, AHEC, health systems, and schools. Possible licensure costs for training site management.	A web-based central repository of clinical training site availability, or a system of regional coordination, to serve training programs and students seeking sites, as well as sites seeking to efficiently manage placement requests. Support to recruit, train and retain community-based faculty.
3. Identify technology needed to address distance learning and other resource-shortage areas.	WCMEW Postgrad Work Group, working with WHA telehealth work group, by 12/31/16.	Estimated at $30,000.	An inventory of available technologies and how to access them.
4. Organized effort to make K-12 health care related programs available statewide.	Working group with AHEC, WCMEW, DPI, and DWD, and DSPS, with an initial draft recommendation by 12/31/16.	Possible state funding or grants.	Statewide inventory of programs currently available to help develop plans for expanding access to other areas.

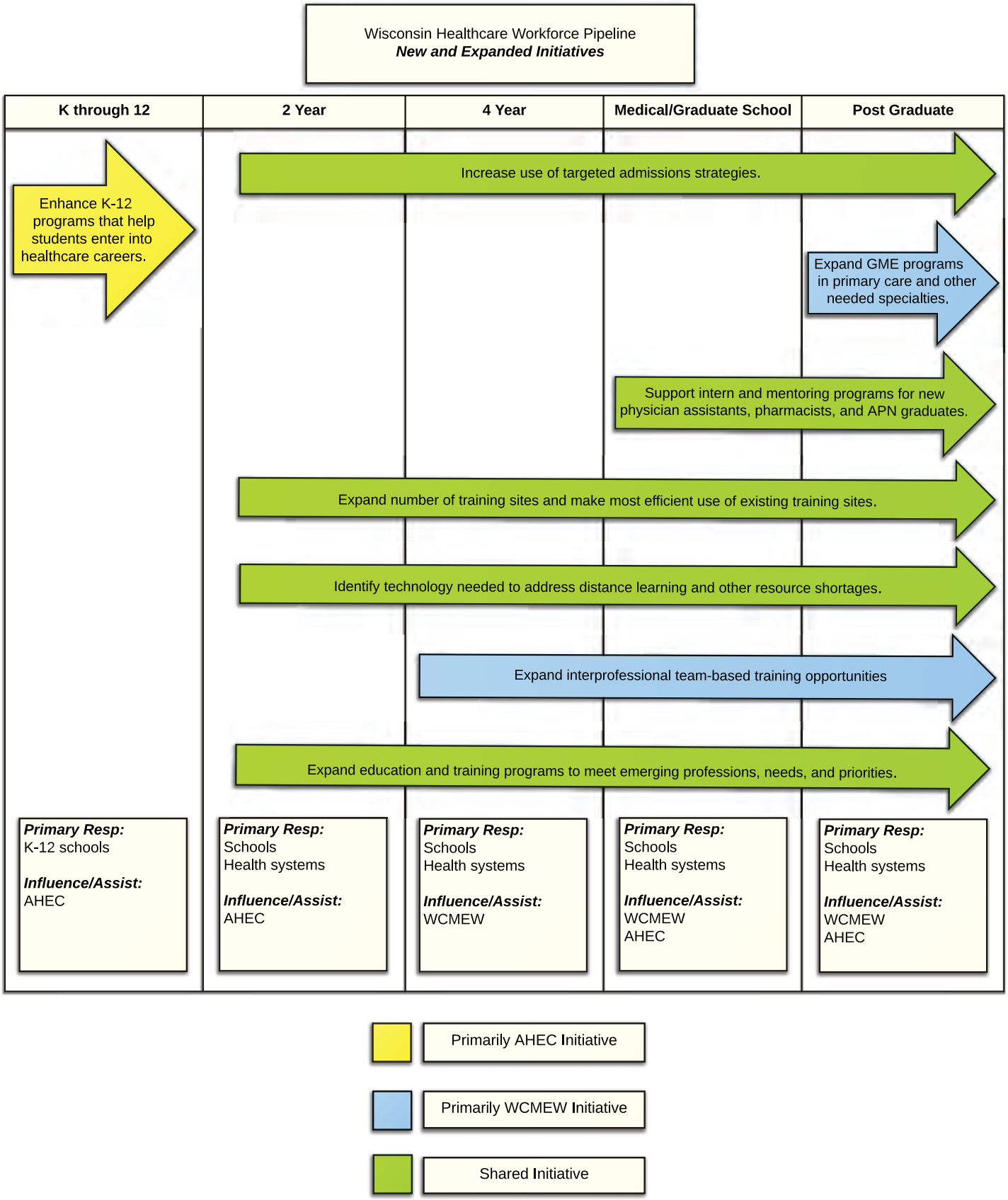
Current pipeline challenges include:

- Ensuring an adequate supply of primary care providers and distributed into rural and underserved areas.
- Education and training based on traditional care delivery methods, rather than team-based approach.
- Effective utilization of distance learning technology to meet training needs.
- Patchwork of K-12 programs related to health care careers.
- Lack of strategies to identify and produce professionals in emerging fields.
- Pipeline data integrating with current and projected workforce data in order to enable a meaningful comparison.

Five-year vision for Core Area #3: Pipeline

- Effective strategies in place to enhance workforce capacity and distribution in underserved areas.
- Effective collaboration between academic programs and provider organizations to make most efficient use of clinical training sites and to maintain an adequate number of community faculty.
- Incorporation of team-based care curriculum into education and training programs.
- Effective use of technologies, including distance education, to increase the availability of training opportunities in certain fields or areas of the state.
- Organized effort to make K-12 health care related programs available statewide.
- Continual monitoring of trends in health care delivery to identify emerging professions.
- Academic programs, health care organizations, and policy-makers making effective use of improved workforce data and projections to inform their decisions on program expansion, curriculum design and continuing education.

- The diagram below provides a visual representation of the new initiatives and responsibilities, overlaid onto the health care workforce pipeline.



Action steps/timeline/resources for each strategy in Core Area #3: Pipeline

Short-term Goals: 1 to 3 Years

Goal 2: A Health Care Workforce with Appropriate Training to Function Effectively in a Changing Health Care Delivery Environment			
Strategies	**Action Steps**	**Resources Needed**	**Outcome Measures**
1. Expand interprofessional team-based training opportunities, including emphasis on mental health services.	WCMEW and AHEC.	Existing WCMEW resources.	An inventory of academic interprofessional programs and training sites. Enhanced AHEC Interprofessional Case Competition activity. Interprofessional curriculum at two-year and four-year colleges and medical schools, and incorporated into post-graduate training.
2. Expand education and training programs to meet emerging professions, needs and priorities.	Research and WCMEW discussions with relevant schools.	Existing WCMEW resources.	A system to monitor emerging trends in health care delivery.
3. Enable greater ability for career ladder upward mobility to meet changing health care population needs.	WCMEW and AHEC, working with State agencies, by 12/31/16.	Existing WCMEW resources.	Recommendations for statutory and regulatory changes.

CORE AREA #4: Mental Health

Group/individuals responsible for work on this core area:

Members of the NGA Policy Academy core group, working with the Wisconsin Council on Medical Education and Workforce (WCMEW).

Summary vision for this goal

Wisconsin will have a behavioral health workforce that is optimally integrated with primary and acute care and is positioned to offer accessible, evidence-based behavioral health care in places that previously lacked sufficient providers.

Overview of issue

At the state level, Governor Scott Walker and the state Legislature have recently embarked on improving mental health service delivery. The Governor and Legislature included nearly $30 million in state funding, the largest investment in over 30 years. Additionally, the Legislature augmented these efforts with the work of the Speaker's Task Force on Mental Health. These initiatives build on proven, evidence-based strategies, expand successful programs and address the most urgent needs identified by consumers, providers and advocates.

Items included in the state budget:

- Expansion of Coordinated Services Teams – Providing care for children with behavioral health issues and are targeted to children and families involved in two or more systems of care (such as mental health, long term care, juvenile justice, child welfare, substance abuse, or special education), and who have complex needs.
- Comprehensive Community Services - A publicly operated program for adults and children with mental illness. Most services are provided in home and/or in the community as opposed to a clinician's office, but are reimbursable by Medicaid.
- Peer-Run Respite Centers - An innovative service delivery designed to improve quality of life and reduce emergency room visits. The services are delivered by people who themselves have been successful in the recovery process. The services are community-based, residential settings that offer a small number of beds to people before or during a crisis situation, or to those people having difficulty coping with mental illness.
- Established the Office of Children's Mental Health – To more effectively coordinate state resources designed to improve children's mental health.
- Covering in-home counseling for children as a Medicaid benefit.

Items in the Speaker's Mental Health Task Force Legislative Package include:

- Grants for mobile health and crisis intervention units – To help communities have the resources they need to provide counseling and help for people experiencing a mental health crisis
- Establishing a child psychiatry hotline – To help provide expertise to primary care physicians in the area of psychiatry
- Creating a primary care and psychiatry shortage grant program

These new mental health initiatives will require a robust mental health workforce. Because one main initiative of our workforce efforts is to better incorporate mental/behavioral health care into the overall health care team, we did not come up with specific tasks as part of this core area. Instead, the overall plan reflects various efforts to ensure we sufficiently grow the mental health workforce. What follows in the five-year vision serves as an index to where various mental health provisions appear in our overall plan.

Five-year vision for Core Area #4: Mental/Behavioral Health

- Better understanding of where there are the most significant gaps in mental health practitioners and patient demand, particularly in the area of child psychiatry. (Data)
- Enhance mental/behavioral health services delivered in a team-based care way, including the expanded use of peer specialists along with other emerging professions. (Work Redesign/Changes in Care Delivery)
- Expand GME in the area of psychiatry. (Pipeline)
- Better interprofessional training, with an emphasis on mental health. (Pipeline)
- Better understanding of the role telehealth can play in increasing availability of mental/behavioral health care. (Work Redesign/Changes in Care Delivery)

PO Box 259038, Madison, WI 53725-9038
(608) 268-1823
wcmew.org

TG-07252016-1300