

# Building a Health Care Workforce for Wisconsin's Future:

*A Progress Report on Hospital Need and Program Capacity  
for Five Key Health Care Occupations in Wisconsin*



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October 2006

A report by the Wisconsin Hospital Association

## Executive Summary

The Wisconsin Hospital Association has successfully raised awareness of current and future health care workforce shortage issues. In this report, WHA reviews the current status of five key occupations that remain difficult to fill in hospitals; reports on the response by education programs and institutions; and outlines efforts needed to meet future workforce needs.

Workforce projections indicate that many workers will be needed for both replacement and new positions. Those predictions, added to current difficulties in recruiting for and filling some vacant health care positions, indicate that increasing school capacity is critically necessary to ensure an adequate workforce. This report points out the following challenges to maintaining a sufficient workforce:

1. The greatest challenge facing the delivery of health care in Wisconsin is the ability to increase the number of pharmacists that are being educated in Wisconsin.
2. The capacity to educate physicians, registered nurses, and physical therapists must likewise be increased, or demand will not be met in the future.
3. The availability of radiologic technologists must be carefully monitored.
4. Attention must be paid to the distribution of all health professionals.

Open dialogue must be maintained between health care employers and the educational programs that create the health care workforce. Both are critical participants in this conversation.

## Introduction

Over the past few years, the Wisconsin Hospital Association has successfully raised awareness of current and future health care workforce shortage issues. Early on, the Association identified the need for changes in how potential health care professionals were recruited to, admitted into, and graduated from the educational system. As a result of these concerns, WHA has worked closely with educational institutions to encourage and foster changes that will expand and accelerate our educational facilities' ability to meet health care industry workforce needs in Wisconsin.

This, the fourth Wisconsin Hospital Association report on the health care workforce:

- Reviews the current situation in five occupations;
- Reports on the response by educational programs and institutions; and,
- Identifies work that remains to be done.

Current projections by the Wisconsin Department of Workforce Development (DWD) indicate that hospitals, nursing homes, and ambulatory care facilities, when combined, are the second largest employment sector in Wisconsin. Over 200,000 people work in health care facilities in Wisconsin. By 2012, the number employed in this sector is projected to be over 290,000, and will make it the largest employer sector. This growth of more than 30 percent is the largest for any occupational group in Wisconsin and will lead to serious shortages in many health care positions.

In this report, WHA addresses five occupations that hospitals today identify as the most difficult to fill or are at risk for future shortages. Those occupations are:

- Pharmacist
- Physical Therapist
- Radiologic Technologist
- Physician
- Registered Nurse

## Pharmacists

Several factors have combined to create an increased demand for pharmacists in Wisconsin. The aging of the workforce and of Wisconsin's population are two factors, but the most important factor has probably been the amazing increase in the utilization of prescription medications in this country. According to the Kaiser Foundation, from 1994 to 2005, the number of prescriptions purchased increased 71% (from 2.1 billion to 3.6 billion), compared to a U.S. population growth of 9%. The average number of retail prescriptions per capita increased from 7.9 in 1994 to 12.3 in 2005. Dispensing is only one component of a pharmacist's workload, and other components, such as educating patients, addressing other health professionals, and monitoring benefit reimbursement systems, have grown at the same rate.

Like many other professions, the availability of pharmacists is not solely a question of the number of practitioners, but also of their work habits. New graduates today are often most interested in jobs that allow flexibility in scheduling. More professionals are interested in part-time positions. Similar to other professions, a significant number of Wisconsin pharmacists are older and interested in working fewer hours as a prelude to retirement. Health care, with its evening and weekend schedules, is a perfect fit for part-time work, and in fact needs employees who are interested in and want part-time work to fill a seven day/24 hour schedule. Unfortunately, the fact that pharmacists, already in short supply, are working fewer hours amplifies an already difficult staffing situation.

The only school in Wisconsin that prepares pharmacists is the University of Wisconsin-Madison. In 2005, the Department of Regulation and Licensing reported 6,214 pharmacists licensed in Wisconsin. In June of 2004, the UW granted 139 PharmD degrees. The number of students admitted in the pharmacy program has remained stable since 2001, even though the number of applications has been growing for a decade.

The increasing amount of work, pharmacists less interested in working longer hours, and lack of increase in the number of pharmacists being educated in Wisconsin have combined to create a difficult situation. It is increasingly difficult to fill pharmacist positions in hospitals. Because most hospitals employ a relatively small number of pharmacists, a single vacancy can create a crisis in coverage. Some WHA member hospitals report that it can take up to a year to recruit a pharmacist, making this one of the most difficult positions for hospitals to fill today.

It is critical that Wisconsin take action to increase the number of pharmacists in practice before it becomes nearly impossible to meet demand. Improving the supply of pharmacists available to work in Wisconsin hospitals can be addressed in a variety of ways. The two most obvious possibilities would be increasing class size in the UW Madison School of Pharmacy and opening or creating a new Pharmacy program at another Wisconsin educational institution. There are many more interested applicants than can be admitted to the current single program, so a potential pool exists. It is important that both of these options be pursued. The demographics of Wisconsin residents and medication utilization practices make it clear that the need for pharmacists is not short-term and that it requires more pharmacists than the current environment can provide. During the time it takes for these options to be explored, endorsed and implemented, other opportunities must be investigated.

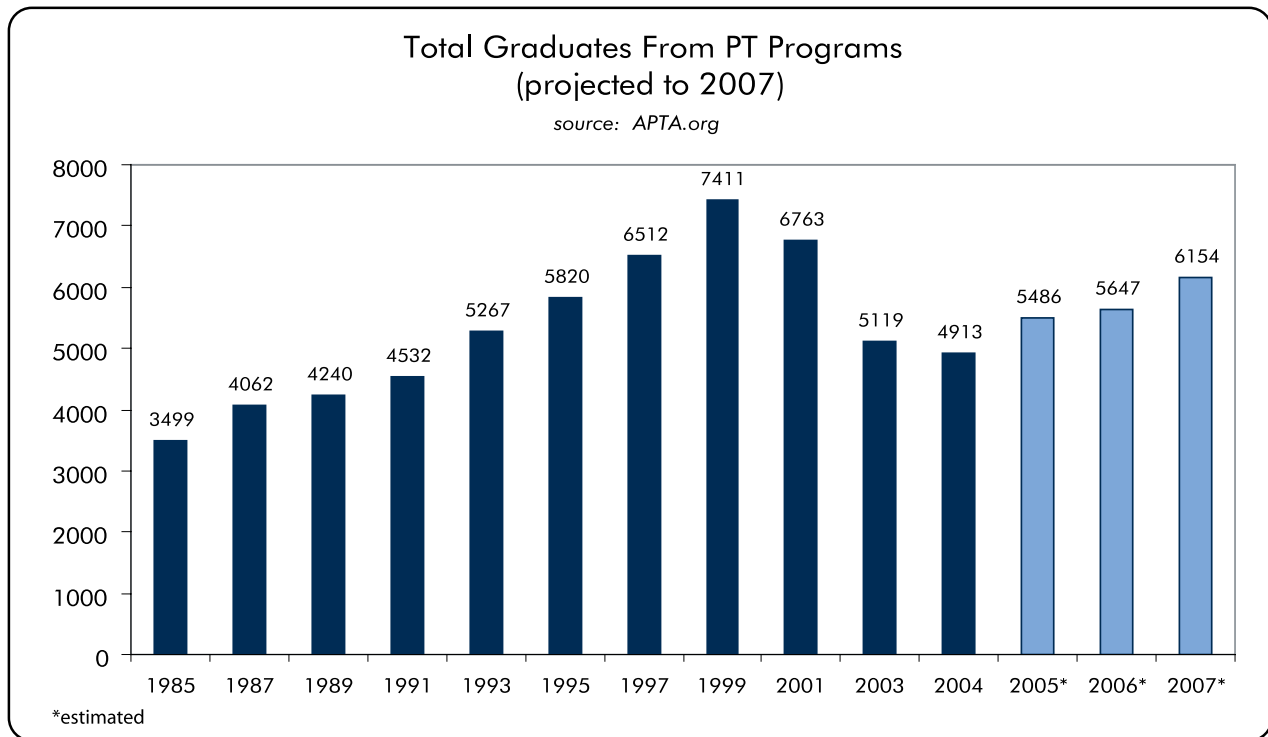
- Most graduates of the UW program remain in Wisconsin to practice, but could more be recruited to Wisconsin practices?
- Could hospitals be more successful in recruiting graduates who currently move into other types of pharmacy positions?
- New graduates are more abundant in states that have multiple programs, so recruitment opportunities must be explored that would attract those new graduates.

## Physical Therapists

Physical therapist positions, along with pharmacist positions, are the most difficult to fill in Wisconsin hospitals. Several factors contribute to this situation. Several years ago the federal budget reduced payment for physical therapy services. As a result of that change, fewer PT services were utilized, student interest fell off, and enrollments declined. While the federal government has reversed that action, current graduation rates still reflect that downturn.

Recently, however, interest in the occupation is returning with a corresponding increase in class size. Results of that growth will not be reflected in the workforce for several years. Also, most programs in Wisconsin are moving toward a Doctorate in Physical Therapy. These programs require more credit hours and take longer to complete. There is a one-time drop off in gradations as that change is implemented. Longer programs are more expensive for students. Longer, more costly programs are not as attractive to students looking to enter the workforce quickly. Still, all programs report significant student interest in this occupation, as the employment outlook is positive for graduates.

The American Physical Therapist Association anticipates graduations to grow over the next years. The Association predicts the following number of graduations in the country:



The Department of Regulation and Licensing reports that there are 4,763 physical therapists licensed in Wisconsin. Currently there are five Wisconsin programs that graduate physical therapists: Carroll College, Concordia, Marquette University, University of Wisconsin-La Crosse and University of Wisconsin-Madison. These programs currently graduate about 180 physical therapists per year. The University of Wisconsin-Milwaukee has created a new site to prepare these professionals and has, this year, admitted 24 students to that new program.

These programs have intensive clinical requirements and hospitals are a major source of those experiences. Michele Thorman, president of the Wisconsin Physical Therapy Association, indicates that the Association understands that hospitals are having difficulty filling PT positions, especially in rural areas. The Association feels that the shortage will lessen as more new graduates emerge from Wisconsin programs. Thorman recommends that hospitals communicate with schools that are preparing physical therapists to discuss clinical work sites,

clinical experiences and clinical preceptorships to assure that clinical opportunities are available for students. Action steps to assure an adequate supply of physical therapists include:

- Creating interest in physical therapy careers. This occupation does not have the issue with waiting lists that some other health care occupations do. Recruitment is necessary to create the interest required to grow programs.
- Encouraging and supporting incumbent employees who wish to become physical therapists.
- Communicating workforce needs and supporting capacity increases in Wisconsin schools.

The demand for additional educational capacity for physical therapists is not as clear as with pharmacists. Wisconsin has several educational programs with a new site recently accepting its first students. While it is currently very difficult to recruit and hire physical therapists, student interest, an increase in enrollments and a new education program create optimism that this difficulty can be resolved.

## Radiologic Technologists

Wisconsin has 21 programs that prepare radiographers. Ten are located within the Wisconsin Technical College System, with an additional 11 programs residing within health care facilities. These programs rely heavily on clinical experience because students must complete a specific number of procedures to fulfill their clinical education.

Local technical college districts have been very responsive to the demand for these professionals. Technical college programs tripled their enrollment and doubled their graduations between 1996 and 2005. Program size is stable at the current time. Data from the WHA personnel survey and communication with members indicates that the vacancy rate for radiologic technologists appears to have peaked in 2002 and that those positions are relatively easy to fill at this time. Positions for specialty technologists are more difficult to fill. It is still important to monitor the number of students enrolled, the graduation rates, and vacancy data. WHA and the Wisconsin Technical College System regularly share information and communicate on these needs.

## Physicians

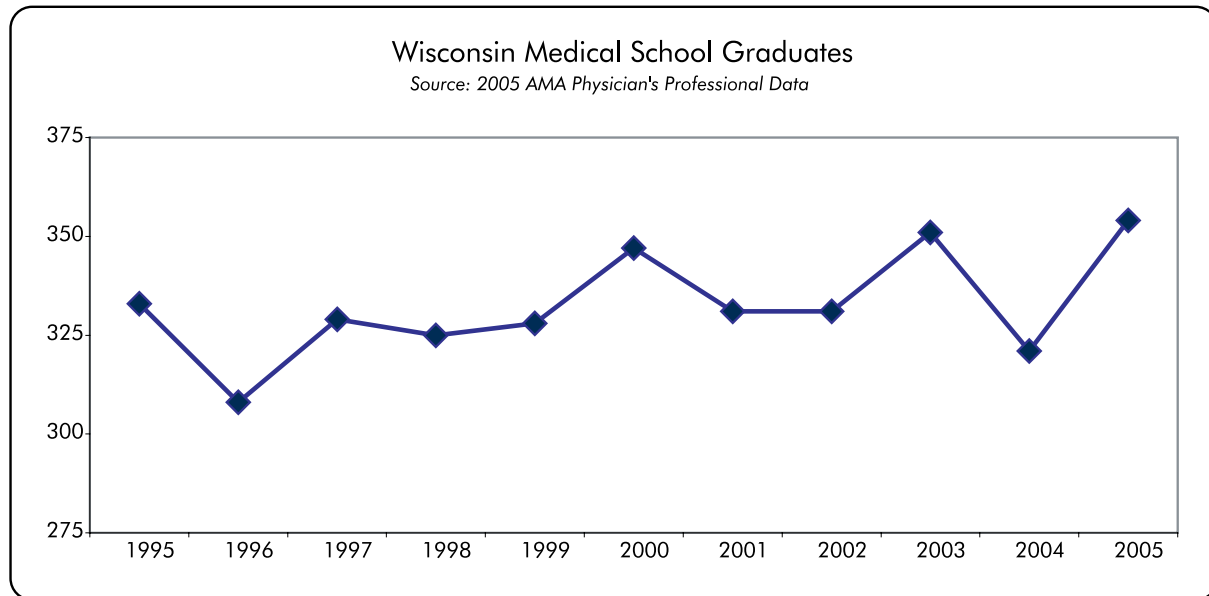
With 22,030 licensed physicians, Wisconsin, when viewed as a whole, appears to have an adequate supply of physicians. When viewed more locally, however, it becomes clear that the distribution of physicians is unequal, with some areas having an adequate supply of physicians and some being seriously short of physicians. Most hospitals in Wisconsin report routinely being in a position of recruiting physicians. Today hospitals include physicians in their list of difficult to fill positions. Rural and inner city areas report the most difficulty with recruitment. Those areas most frequently recruit primary care practitioners, although some specialties are routinely needed and these positions are even more difficult to fill.

### Wisconsin Schools of Radiologic Technology

Aurora Sinai Samaritan Medical Center Campus, Milwaukee  
Bellin Hospital, Green Bay  
Blackhawk Technical College, Janesville  
Chippewa Valley Technical College, Eau Claire  
Columbia St. Mary's Hospital, Milwaukee  
Froedtert Memorial Lutheran Hospital, Milwaukee  
Gateway Technical College, Burlington Campus  
Lakeshore Technical College, Cleveland  
Madison Area Technical College, Madison  
Mercy Medical Center/Affinity Health System, Oshkosh  
Milwaukee Area Technical College, Milwaukee  
Moraine Park Technical College, Fond du Lac  
Northcentral Technical College, Wausau  
Northeast Wisconsin Technical College, Green Bay  
Saint Joseph's Hospital, Marshfield  
St. Luke's Medical Center, Milwaukee  
Theda Clark Medical Center, Neenah  
University of Wisconsin Hospital and Clinics, Madison  
Western Technical College, La Crosse  
Wheaton Franciscan Healthcare/All Saints, Racine  
Wheaton Franciscan Healthcare/St Joseph's, Milwaukee

*Source: Wisconsin Society of Radiologic Technologists Web site (www.wsrt.net)*

Wisconsin has two medical schools, the University of Wisconsin-Madison and the Medical College of Wisconsin. Enrollment in those programs has been relatively stable over the last 10 years.



In 2004, the Wisconsin Hospital Association outlined Wisconsin's current and future physician shortage issues in "Who Will Care for Our Patients" (found at [www.wha.org/physicianshortage3-04.pdf](http://www.wha.org/physicianshortage3-04.pdf)). Increased demands for care from an aging population, an aging physician population, no growth in the number of physicians being prepared, and younger physicians who are less interested in long hours combine to create a future scenario without adequate numbers of physicians to serve Wisconsin's population. In 2006, The Association of American Medical Colleges (AAMC) issued a position statement on the physician workforce which agreed with WHA's projection. The AAMC position recommended that enrollment in U.S. medical schools should be increased by 30 percent to meet future demand.

Most recently, UW-Madison developed an initiative to create a group of medical school graduates more likely to practice in rural Wisconsin. This initiative is modeled after programs in other states that recruit and admit into medical school students from small towns and rural locations that have a commitment to practice in these areas upon graduation. This new program, the Wisconsin Academy for Rural Medicine (WARM), has a goal of increasing the medical school enrollment by 25 students. This program has an excellent chance of impacting the shortage of physicians within specific geographic regions of the state and will be watched by WHA with interest. Preparation of physicians is a more than 10-year process, so the success of the program will not be apparent for many years.

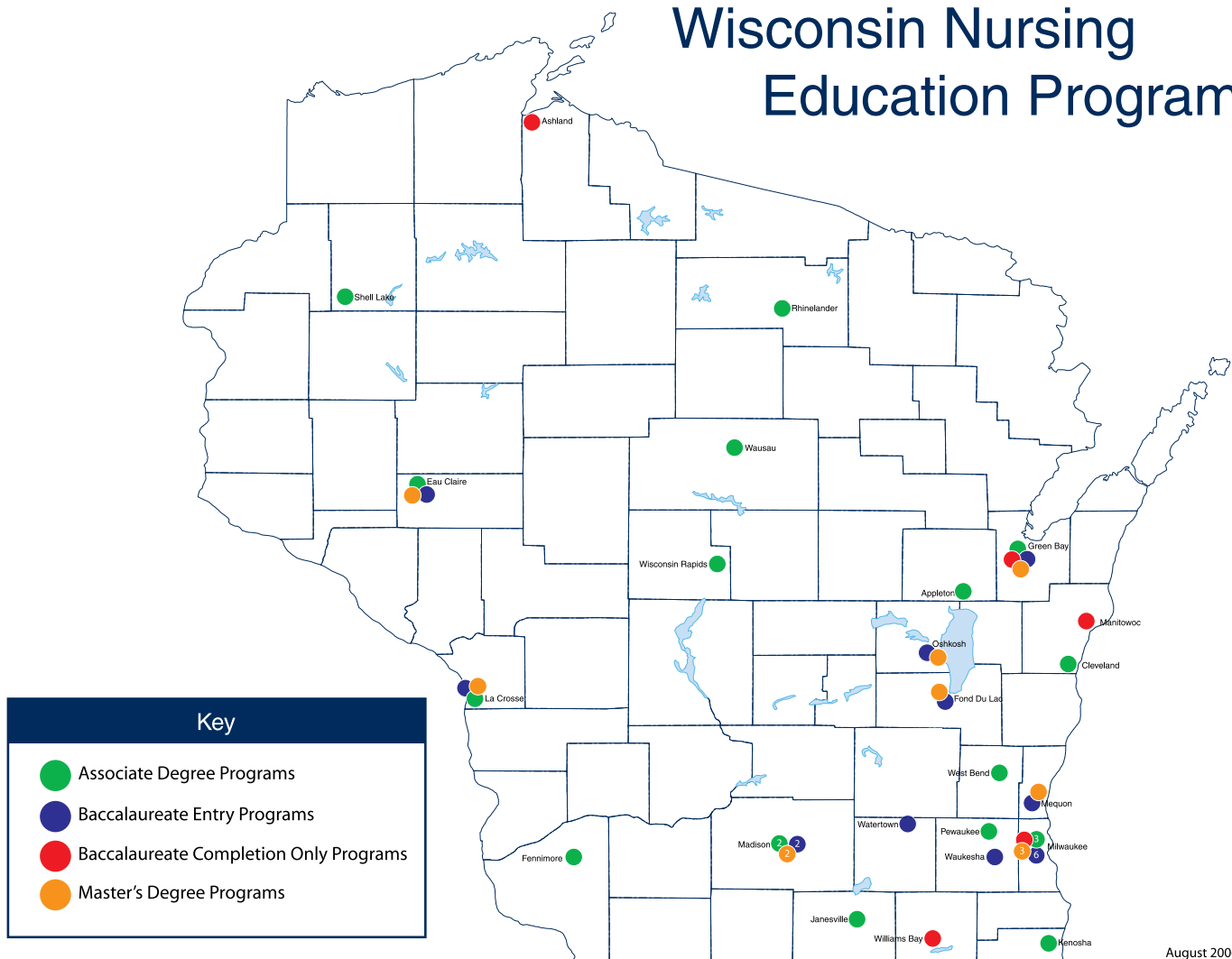
## Registered Nurses

When WHA introduced its workforce initiative in 2003, registered nurse positions were categorized as the most difficult to fill. Today, other occupations occupy that 'difficult to fill' category, but the future holds serious shortage issues, so the registered nurse remains high on the list of occupations that are being closely monitored.

Wisconsin is fortunate to have over 30 nursing programs within its borders. These schools are located in all areas of the state, with an associate degree program offered in every technical college district. Programs also exist that are free of geographic location. Excelsior College grants an entry level AD in nursing but does not provide instruction, offering only a clinical competency-testing site in Wisconsin. Several programs located outside of Wisconsin offer online instruction with the learner negotiating clinical experience locally.

The number of nursing programs in Wisconsin is growing. Carroll College in Waukesha and Maranatha Baptist

# Wisconsin Nursing Education Programs



August 2006

Bible College in Watertown are new bachelor's level programs. Bryant & Stratton Career College in Milwaukee and Herzing Institute in Madison have opened new associate degree programs. Northland College in Ashland, Silver Lake College in Manitowoc and Aurora University have all recently opened degree completion programs for RNs seeking a bachelor's degree.

## Enrollments Declined in the 1990s

Nursing school enrollments declined in the 1990s for a variety of reasons. Most notable at the time was a decline in the number (however briefly) of nurses employed by hospitals as both inpatient days and hospital utilization declined. Those hospital trends began to reverse in 1996, but nursing school enrollments lagged as students worried about finding jobs. Nursing still attracts more women than men, but with the broad array of education and career opportunities available to women today that were not as accessible in the past, fewer women are entering nursing.

## Interest in Nursing Careers Returns

Recently, nursing has experienced a new wave of interest, as the health care industry is perceived as offering more job security than other segments of Wisconsin's economy. While other industries have suffered economic setbacks, health care has continued to offer a challenging and rewarding career, good benefits, and secure employment. This has generated an amazing level of new interest, which has led to long waiting lists filled with increasingly qualified applicants to programs that had, in the past, seen declining enrollments.

People who are embarking on a second career and displaced workers are finding nursing an attractive career option. This is particularly true in the Wisconsin Technical College System where the average graduate is over the age of 30. Interest in nursing from this group is good news from both a recruitment perspective and for the fact that mature workers bring many positive attributes to the workforce. The downside is that they will practice fewer years after graduation than the traditional post-high school student and thus have a smaller impact on overall workforce supply.

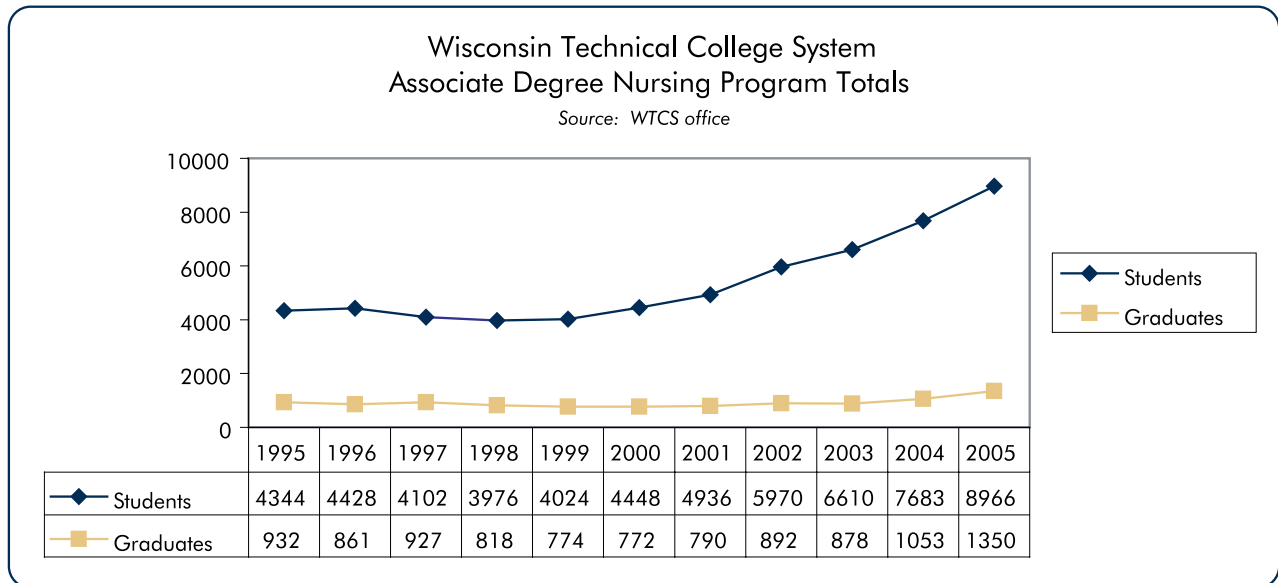
### School Capacity has Increased to Meet Student Interest and Market Demand

Capturing the data necessary to document either an increase or decrease in the capacity at a nursing school is not as straightforward as it might appear. The number of students entering a program may be counted at the first entry point or upon entry into the first nursing course, depending when the student is actually “accepted” into the program. The number of students completing a program may be defined by a time period, those that complete in the normally defined period, and those that finish on a given date, regardless of when they entered the program. Even with those limitations, it is clear that Wisconsin’s nursing programs have responded with impressive efforts to increase enrollment and graduations, often despite decreased or flat funding.

### Associate Degree Programs Expand; Graduation Numbers Grow More Slowly

The 16 Wisconsin Technical College Districts have expanded admissions rather dramatically in the recent past. Programs have used a wide variety of methods to achieve growth. Some have grown with increased tax-based support, but much of the growth has come from cooperative strategies among schools, and with employers, such as hospitals. The Wisconsin Technical College System has reallocated program dollars to nursing and other health careers and special segregated funds have been created during the State of Wisconsin budget process for growth.

Enrollments and graduations for an 11-year period are shown in the table below. While the number of students enrolled has risen rather dramatically, the number of graduates has grown more slowly, for two reasons. The first is that movement through a program is taking longer than two years and graduations are thus delayed. The second is that a number of students who are admitted fail to complete the program, either deciding not to continue, or failing to meet program requirements.



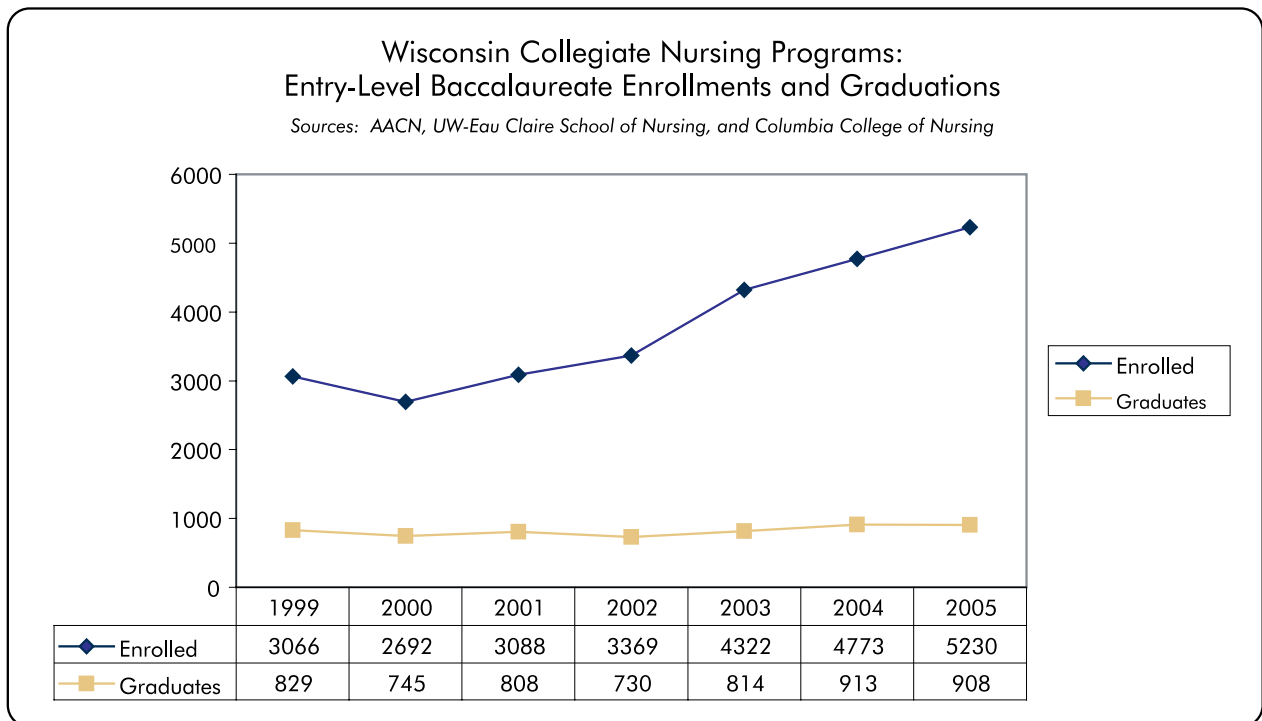
All districts reported individuals on a waiting list for the associate degree in nursing. Numbers by district ranged from 6 to 592 with a system-wide total of 2,952 names as of November 2004. The waiting list should be cautiously interpreted as some students may be taking preparatory classes, and some may have enrolled in

other programs by this time. The technical college system accepts all qualified applicants and places potential students on a list based on the date their application was accepted. A number of variables, including faculty, clinical slots available, and laboratory capacity determine the number of students accepted.

Cardinal Stritch University is the only other associate degree program with graduates. Enrollment in this program has grown from 69 in the 2000/2001 school year to 284 in 2003.

### Collegiate Schools of Nursing

The American Association of Collegiate Schools of Nursing (AACN) collects and maintains data on baccalaureate and higher degree programs in nursing. Data on enrollments and graduations, for the private and public baccalaureate programs in Wisconsin as reported to AACN, are displayed below. The data reported below is from entry-level baccalaureate programs only. Note that the graduation rate for these programs has not increased; however, these programs require up to four years from entry to completion, so increases would not yet be expected.



In fall of 2005, Wisconsin baccalaureate programs reported 2,855 applications that met admission criteria for 1,437 actual admissions.

**University of Wisconsin.** Four UW campuses (Madison, Milwaukee, Eau Claire, Oshkosh) offer entry-level programs in nursing at multiple locations. UW programs have all increased their enrollments, some dramatically. This growth has been accomplished through the use of a variety of strategies; including the use of grants, fund reallocation, and cooperative programming with technical districts and through the generosity of hospitals and health systems.

All campuses report that they have denied admission to qualified applicants. The UW System admits students based on several factors, including grade point average, with the most qualified students admitted first.

**Private Colleges and Universities.** Wisconsin has 11 private institutions (Alverno College, Bellin College of Nursing, Carroll College, Columbia College, Concordia University, Edgewood College, Marian College, Maranatha Baptist Bible College, Marquette University, Milwaukee School of Engineering, Viterbo University) that prepare nurses to enter the profession at the baccalaureate level. All of these programs report increasing

enrollment between fall 2001 and fall 2005. Because these schools are not tax supported, they are somewhat more flexible in their ability to grow programs. Private colleges were the last group of nursing programs to turn away qualified learners. But, today all report denying admission or delaying admission to future semesters for qualified applicants.

Wisconsin private schools report an impressive number of clinical affiliations and employ many creative strategies for educating registered nurses. At the same time, recruitment of faculty has become more and more difficult. This is, for some schools at least, the limiting factor for enrollment.

### **Barriers to Additional Growth**

- **More nursing faculty are needed.** Availability of nurse faculty at both the masters and doctoral level is already a limiting factor. In areas of the state where nurses with the appropriate credentials are available, they may not be interested in teaching, as other employment options may offer better pay. The nurse faculty age is higher than that of the average nurse, with a large number of retirements predicted in the near future. Given the time and effort required to attain a doctoral degree, and the fact that nurses enter and leave doctoral preparation later in their career than other professions, it will take many years to resolve this shortage.
- **Creativity and flexibility in clinical experience scheduling is critical.** The current problem is the limited ability to add clinical experiences within the traditional model of one clinical instructor with a group of students on day shifts in acute care settings. Additional clinical options for nursing students will require creative use of both clinical opportunities and teaching staff. New sites, new times, and new patient populations will need to be utilized to achieve further program growth. All of these options take more effort and organizational time to plan and implement. Using staff as preceptors is also more time consuming for faculty.

Newer strategies for clinical learning include the use of human simulators, simulated patient encounters, and the use of "patient actors." These methods have been tested and employed in training occupations, such as airline pilots, who learn first in an alternative environment and later practice in 'real' situations.

- **Waiting lists remain long.** While much interest has been created among potential learners, a large number of people who have not been accommodated in programs remain on waiting lists or simply hope that they will eventually be admitted to nursing programs. They won't wait forever. Future health professionals are being discouraged by the long wait and/or the risk of never achieving admission. Action must be taken, or all of the great recruitment efforts made to date will be lost as interested students give up and enter other occupations.
- **Funding increases unlikely.** Funding at UW campuses and at the Technical Colleges is complex, and public funding of both programs has been the focus of much taxpayer attention. Given concern about the tax load in Wisconsin and the preferences of both the Legislature and the taxpaying public, it seems unlikely that these programs will receive money for growth within the current funding models.

### Where Are We Today?

First, all of the nursing programs in Wisconsin are to be congratulated and thanked for their efforts to increase enrollments and grow the nursing workforce. Much effort has been put forth on this endeavor, which has hopefully caused a permanent turn in interest, enrollment, and graduations. There is much interest in nursing as a career, and there are more students enrolled in programs now than there have been for many years.

The fact that there are new programs being developed to prepare nurses is exciting and encouraging news. These new programs may allow access for students on waiting lists or to those who were qualified, but were denied admission.

Faculty availability, redesign of clinical experiences, and funding must be addressed to continue current recruitment and training levels in the face of retirements and to allow program expansion to meet projected workforce needs.

It is imperative that Wisconsin secures an adequate supply of registered nurses. Those who have made progress in increasing enrollments and improving the graduation rate are to be commended. We have, however, only started to move towards solutions that will begin to address what could become Wisconsin's worst nursing workforce crisis.

- All avenues for additional funding must be explored and exploited.
- Strategies to increase the number of individuals qualified to teach nursing must be found and utilized.
- Interested potential students must be accommodated.
- New ways of structuring clinical learning must be developed and implemented.

## Summary and Recommendations

Health care is a rapidly growing employer in Wisconsin. Workforce projections indicate that many new workers will be needed for both replacement and new positions. Those predictions added to current difficulties in recruiting for and filling some vacant health care positions indicate that increasing school capacity is critically necessary to ensure an adequate workforce.

This document has reported on five key health occupations. While progress has been made and many educational programs have increased capacity dramatically, the future ability to meet demand is unclear. It is critical that efforts continue, and specifically, that the following be done:

1. The capacity to educate pharmacists in Wisconsin must be increased immediately. The current system does not meet today's demand and clearly will not meet future demand. This is today's biggest health care workforce recruitment challenge.
2. The capacity to educate physicians must be expanded. While the University of Wisconsin-Madison Medical School plans to increase class size, the scope of the increase does not meet the needs projected by WHA or by the Association of American Medical Colleges.
3. The capacity to educate registered nurses must be increased. Wisconsin schools have made great strides, however, as the large number of nurses in the "boomer" group begin to retire after 2010, an even larger number of new nurses will be needed to both replace them and to meet increased demand.
4. Programs that educate physical therapists must be carefully monitored and evaluated. There appears to be significant interest among students in enrolling in physical therapy programs, a new program is about to open and some programs have room for expansion. If these factors do not quickly resolve current difficulty in recruitment, growth in capacity will be necessary.
5. Availability of radiologic technologists must be carefully monitored. Schools have demonstrated their ability to increase capacity to meet workforce needs. The flexibility to add further to supply when the professionals are needed is critical.
6. Attention must be paid to the distribution of all health professionals. Creating strategies that keep our graduates in Wisconsin and, perhaps more importantly, practicing in the geographic areas of greatest need are critical to the future.
7. Open dialogue must be maintained between health care employers and the educational programs that create the health care workforce. Both parties are critical to the conversation. These educational programs are lengthy and expensive. Accurate and early estimates of demand from employers, and timely responses from educational systems can attain and maintain the workforce Wisconsin needs.

## References

State of Wisconsin Biennial Report 2001-2003 Medical School Report, Medical College of Wisconsin. Received 2/16/05 from Donna Gissen, Assistant Vice President, Medical College of Wisconsin.

University of Wisconsin Medical School Biennial Report for 2002-2004, Received from Representative Dean Kaufert, Co-Chair Joint Committee on Finance, Wisconsin Legislature.

Customized reports from American Association of Colleges of Nursing. Prepared by Institutional Data Systems, 2004, 2005, 2006.

2004-2005 Enrollments and Graduations in Baccalaureate and Graduate Programs in Nursing, Annual publication of the American Association of Colleges of Nursing.

Office of Economic Advisors, Wisconsin Department of Workforce Development Website. Accessed at <http://www.dwd.state.wi.us/oea/default.htm>

2005 Fact Sheet, Physical Therapist Education Programs, June 2005. American Physical Therapy Association Website. Accessed at <http://www.apta.org/>

American Medical Association: Physician Professional Data. Purchased from MMS.

Data on enrollments received from the Wisconsin Technical College System Office. Thanks to Annette Severson and Cathy Loppnow for their help.

American Society of Radiologic Technologists website. Listing of schools accessed at <http://www.wsrtnet.com/Directory%20Update%202005%20web%20version.doc>

WARM project overview provided by Dr. Byron Crouse, UW Medical School and available on the Wisconsin Office of Rural Health Website at [http://www.worh.org/pdf\\_etc/WARM.pdf](http://www.worh.org/pdf_etc/WARM.pdf)

National Resident Matching Program 2006 Match Press Release. Accessed at <http://www.aamc.org/newsroom/pressrel/2006/060316.htm>

AAMC Statement on Physician Workforce. June 2006 Association of American Medical Colleges Accessed at <http://www.aamc.org/workforce/workforceposition.pdf>

Radiology Department/Facility Staffing Survey 2006, American Society of Radiologic Technologist, Reported July 2006.

Prescription Drug Trends 2006, Kaiser Family Foundation. Accessed at <http://www.kff.org/rxdrugs/upload/3057-05.pdf>

2003-2005 Biennial Report of the Department of Regulation and Licensing. Accessed at [http://www.doa.state.wi.us/docs\\_view2.asp?docid=5587](http://www.doa.state.wi.us/docs_view2.asp?docid=5587)

