Wisconsin Registered Nurse Supply and Demand Forecasting Update: 2012-2035

"Health workforce data analysis (including collection) and forecasting is necessary to develop an effective response to the health workforce shortage threatening our most vulnerable communities. A healthy Wisconsin requires a sufficient, diverse, competent and sustainable health workforce."

Wisconsin Health Workforce Data Collaborative, 2009

Overview

The aging population is creating a unique set of challenges for the health care industry. The baby-boom population is retiring, and there are not enough Registered Nurses (RNs) entering the labor force to keep up with increasing demands of an aging population. The Office of Economic Advisors produced a long-term forecasting model utilizing responses from the 2010 RN License Renewal Survey (LRS) - the first iteration of a biennial census of Registered Nurses. The results of the forecasting model were released in a comprehensive report titled "Wisconsin Registered Nurse Supply and Demand Forecasting: Results Report 2010 – 2035" (Walsh et al, 2011). The report highlighted the unique set of challenges facing health care and provided a first glimpse into the future of the registered nursing workforce.

Registered Nurses make up the largest single occupation in the health care industry. Therefore, an in-depth analysis of nursing provides a good barometer for the entire industry. Other health care occupations will likely face similar challenges.

Analysis becomes more meaningful when regularly updated and reassessed, providing a more complete picture because trends can be identified and tracked. This report provides updated projections using the results of the 2012 RN LRS, reassesses the previous forecast, and uses the updated forecasting results to discuss the demographic challenges facing nursing and the health care industry.

2012 Results

The 2012 Model uses the same general methodology as described in the "Wisconsin Registered Nurse Supply and Demand Forecasting Model: Technical Report." The model assumes that the RN to population ratio within each age group will remain constant in the future. The forecasts also hold observed staffing patterns constant across all health care settings. Like the 2010 model, the 2012 forecasts assume an initial balance between the supply of RNs and the demand for RNs. The opinions of experts, unemployment rates measured through the RN survey, and hospital vacancy rates as reported by the Wisconsin Hospital Association were used to support the equilibrium assumption. Over 96% of nurses complete the survey online. Only the online LRS results were used for analysis.

The 2012 Forecasting Model projects supply and demand of RNs from 2012 to 2035. About 61,000 licensed nurses were part of the workforce in 2012. The number is expected to essentially hold flat through 2035, but the demand for nurses is projected to steadily rise over the same period. There will not be enough RNs to meet the increasing health care needs of an aging population under the status quo.

Figure 1: RN Supply and Demand Projections: Wisconsin, 2012-2035
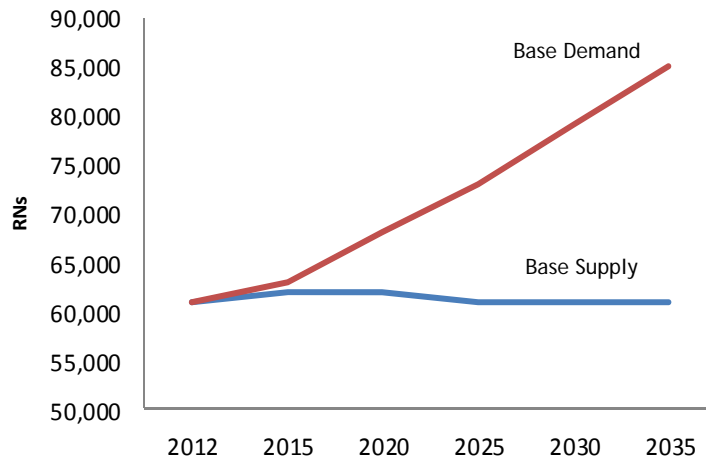(Base Case, Head Count, Broad Nursing Workforce)

Table 1: Projected RN Supply, Demand, and Gap in Wisconsin, 2012-2035
(Base Case, Head Count, Broad Nursing Workforce)

Results	2012	2015	2020	2025	2030	2035
Base Supply	61,100	61,500	62,000	61,400	61,100	61,100
Base Demand	61,100	63,400	67,900	73,300	79,200	84,500
Gap	0	-1,800	-5,900	-11,800	-18,000	-23,500
Percent Gap	0.0%	-3.0%	-9.6%	-19.3%	-29.5%	-38.4%

Revisions to 2010 Results

The 2010 RN forecasts were revised to incorporate recently updated population projections. Overall population growth and growth rates within most age groups are expected to be lower than originally projected. Although revised population growth expectations lowered both supply and demand RN projections, the projected gap between supply and demand increased slightly from the original 2010 forecasts. However, the general trend and outlook remained the same. The demand for RNs will steadily increase while supply is expected to essentially hold flat.

Remaining mentions of the 2010 model and comparisons to 2012 forecasts will reference the revised 2010-2035 forecasts that use the more recent population projections. The revised 2010 model allows for a more accurate comparison between 2010 and 2012 results.

Table 2: Projected Gap Between Supply and Demand, 2010-2035 Original and Revised
(Base Case, Head Count, Broad Nursing Workforce)

Results	2010	2015	2020	2025	2030	2035
Gap Percent - Original	0.0%	-2.5%	-8.3%	-17.4%	-26.9%	-34.4%
Gap Percent - Revised	0.0%	-3.2%	-9.7%	-19.2%	-29.2%	-38.1%
Numeric Difference	0	-400	-700	-800	-1,100	-1,600

2010 Vs 2012

At first glance, very little has changed between the 2010 - 2035 projections and the 2012 – 2035 projections. However, there are a number of subtle differences that indicate an improving outlook for the RN workforce. The most prominent among them is that the RN labor market is still in equilibrium and there is little to no evidence that employers are finding it more difficult hire nurses than they did in 2010. Also, the observed retirement pattern was probably artificially low in 2010. Nursing is often recognized as a "countercyclical" occupation because nurses are more likely to participate when the economy is unstable. Many nurses likely postponed their exit or reentered the workforce at the time of the 2010 survey because of the uncertain economy. The temporarily high participation rates boosted the 2010 outlook. Observed retired RNs between 60 and 69 years of age were substantially higher in the 2012 survey than the 2010 survey. The retirement patterns observed in 2012 provide a more realistic long-term expectation for the nursing labor market. Increased retirements and more new graduates caused the average age of nurses in the workforce declined slightly between 2010 and 2012.

Table 3: Projected RN Supply, Demand, and Gap in Wisconsin
(Base Case, Head Count, Broad Nursing Workforce)

Results	Starting Year	2015	2020	2025	2030	2035
Gap Percent—2010	0.0%	-3.4%	-10.0%	-19.6%	-29.4%	-38.1%
Gap Percent—2012	0.0%	-3.0%	-9.6%	-19.3%	-29.5%	-38.4%
Gap—2010	0	-2,100	-6,300	-12,300	-18,400	-23,800
Gap—2012	0	-1,800	-5,900	-11,800	-18,000	-23,500

*Forecasting Models use online survey responses, which include over 96% of all Registered Nurses

Conclusion

The projected flat supply and rising demand is caused by an aging population. The oldest member of the "baby-boom" generation turned 65 in 2011 and the youngest will turn 65 in 2029. The aging workforce will create challenges for all sectors of the economy, but the outlook for the health care industry is especially dire because an older population will require more health care. The RN labor market appears to be relatively balanced until around 2020. Continued increases in education capacity along with subtle but significant changes in health care delivery will likely reduce most of the expected shortage for the remainder of the decade. However, the risk of acute shortages will increase after 2020 when the majority of baby boomers will have left the workforce.

The outlook presents a large set of workforce challenges. However, it is important to remember that this forecast is based on static staffing patterns and static health care delivery models observed in 2012. In practice, the industry is in a constant state of change. The outlook can and will improve with continued efforts, but the scale of the demographic shifts make it more important than ever to take proactive steps to face the unprecedented future challenges.

The supply can be increased to a limited extent. Such policies were implemented at the beginning of the 2000's and played a key role in successfully alleviated expected shortages by the end of the decade. However, the magnitude of expected shortfalls and age demographics will make it impossible to effectively close gaps by focusing exclusively on supply.

Continued efforts to maximize the output of all health care occupations without compromising patient care will be vital for alleviating impending service constraints. This can be done, in part, by creating a system that allows each occupation to practice to the full extent of their training. Technology will undoubtedly play an increasingly large role in the future of patient care, and properly implemented new technologies can benefit both patients and providers. Schools must ensure that training programs keep up with changing roles and requirements of health care professionals.

Contact information:

Tom Walsh, Economist
715.261.8747
Thomas.Walsh@dwd.wisconsin.gov