Wisconsin Registered Nursing Supply and Demand Forecasting Update: 2014-2040

"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. 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. 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". The report highlighted the unique set of challenges facing health care and provided a first glimpse into the future of the registered nursing workforce.

Analyses become more meaningful when regularly updated and reassessed, providing a more complete picture because trends can be identified and tracked. The results were updated using the results of the 2012 RN LRS. The outlook remained very similar to the previous forecasts as demand was expected to rise steadily while projected supply remained flat. This report provides a third update of the projections using the results of the 2014 RN LRS, reassesses the previous forecast, and uses the updated forecasting results to discuss the demographic challenges facing nursing and the health care industry.

2014 Results

The 2014 Model uses the same general methodology as described in the "Wisconsin Registered Nurse Supply and Demand Forecasting Model: Technical Report". The mod-

el 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 two previous iterations, the 2014 forecasts assume an initial balance between the supply of RNs and the demand for RNs. In general, this "equilibrium" assumption is difficult to measure. Therefore, a number of factors are considered to justify the assumption. Some of the factors include the opinions of experts, unemployment rates measured through the RN survey, and hospital vacancy rates as reported by the Wisconsin Hospital Association.

The 2014 Forecasting Model projects supply and demand of RNs from 2014 to 2040. About 65,000 licensed nurses were part of the workforce in 2014. The number is expected to essentially hold flat through 2040, 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.

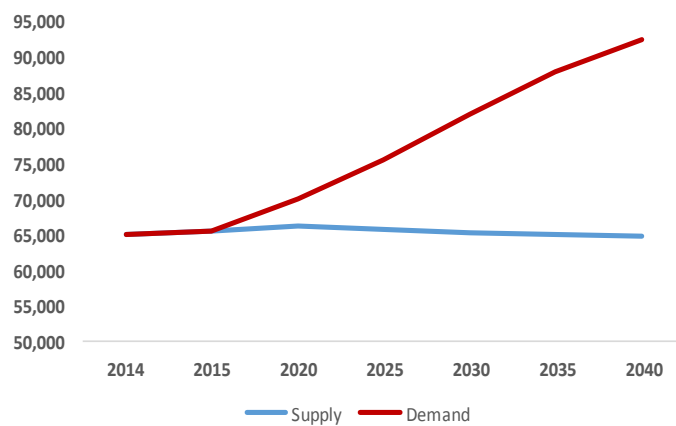**Figure 1: RN Supply and Demand Projections: Wisconsin, 2014-2040**

Table 1: RN Supply and Demand Projections: Wisconsin, 2014-2040

Results	2014	2015	2020	2025	2030	2035	2040
Base Supply	65,100	65,500	66,400	65,900	65,300	65,000	64,900
Base Demand	65,100	65,600	70,100	75,700	82,000	88,000	92,600
Gap	0	-100	-3,700	-9,800	-16,700	-23,000	-27,700
Gap Percent	0%	0%	-6%	-15%	-26%	-35%	-43%

2010 Vs 2012 Vs. 2014

The changes between 2010 and 2012 were subtle. There appeared to be little change, but some changes under the surface pointed to progress. The most positive take away when comparing 2010 to 2012 to 2014 is that the RN labor market has remained in equilibrium in all versions. Demand was expected to start outpacing supply by 2014 because of changing population demographics. Comparing 2014 to the previous two models, the projected gap closed slightly in the medium to long term. The state of the workforce is better than expected based on the first two versions of the model, which can likely be largely attributed to proactive steps that have been taken to improve the outlook. However, the persistent challenges of the aging population remain.

Table 2: RN Supply and Demand Projections: Wisconsin, 2014-2040

Results	Starting Year	2015	2020	2025	2030	2035	2040
Gap Percent—2010	0%	-3%	-10%	-20%	-29%	-38%	-
Gap Percent—2012	0%	-3%	-10%	-19%	-30%	-38%	-
Gap Percent—2014	0%	0%	-6%	-15%	-26%	-36%	-43%
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	-
Gap —2014	0	-100	-3,800	-9,800	-16,700	-23,100	-27,700

Conclusion

The 2014 update leads to a very unique conclusion: positive and pressing. Shortages of Registered Nurses were not observed, and the projected gap narrowed slightly. The more important key takeaway is that proactive steps towards solving a problem can make an impact. Policies to increase educational capacity were implemented in the early 2000's. The higher number of graduates has helped to alleviate the initial wave of retiring baby-boomers. Also, steps to more effectively utilize nurses and other health care professionals undoubtedly improved the outlook.

Even with the improved outlook, there is still a need to continue proactive steps towards creating a more solid health care system. The unprecedented challenges created by the aging baby-boom population are not going away. One of the advantages of writing this report in 2016 is that there is a comparison between the 2014 workforce and what is being currently being observed. As of the 2014 RN Survey, there was a general consensus that the supply and demand for nurses was in balance. There is currently more reason to question the assumption as some of the key indicators mentioned previously in the report are starting to point towards a shortage. The issues facing the workforce are more pressing than the were in 2014.

Increasing the supply of nurses will be an important part of alleviating pending shortages going forward, but the affect of these actions will be limited. The more impactful strategies will hit on the demand side of the equation. The demand outlook can be changed in two general ways. The first is to maximize the output of all health care occupations without compromising patient care. More simplify put, this means taking care of more patients with the same number of nurses. The second is to decrease the number of expected patients through preventative care.

The magnitude of the issues is too large to be resolved by a single solution. The details of how to accomplish the broad goal alleviating pending shortages is best left to the experts in the industry. Taking on the challenges before and as they arise will require a coordinated and collaborative among all stakeholders connected to the industry.

The mission of the Wisconsin Center for Nursing is to assure an adequate, competent and diverse nursing workforce for the people of Wisconsin. For more information on the status of the nursing workforce in our state, go to www.wicenterfornursing.org

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