



A Brief Economic Analysis of the Looming Nursing Shortage In the United States

EXECUTIVE SUMMARY

- ▶ The United States is projected to experience a nursing shortage in the coming years as market forces begin to shift away from equilibrium.
- ▶ A return to pre-recession work levels, aging baby boomers, and insufficient numbers of nursing graduates adversely affect the supply of nurses
- ▶ The aging population, a rise in chronic care management needs, and the Affordable Care Act will result in an increasing demand for them.
- ▶ Returning to a state of equilibrium is critical if our health care system is to ensure care that is accessible, safe, and cost effective.



Timothy M. Snavely

FORMING THE LARGEST sector of health care providers with nearly four million professionally active members (The Henry J. Kaiser Family Foundation, 2015), nurses play a critical role in the delivery of safe, quality care within the U.S. health care system. The “observational skills, advanced knowledge, interventions and compassion” as well as the transformational impact

nurses exhibit within our nation, communities, and in the lives of patients and their families is unmatched (Johnson & Johnson, 2014, p. 1). If America is to continue to be a leader in health care delivery throughout the world, a perpetual supply of highly trained and qualified nursing personnel is essential. An inability to match supply with demand can have significant unfavorable consequences not only for our health care system, but also our nation’s economic health. Though the nursing workforce has stabilized in the last decade or so (in part, because of the recent economic recession), a looming nursing shortage is projected in the upcoming years (American Association of Colleges of Nursing [AACN], 2013). Therefore, the purpose of this column is to examine relevant economic issues surrounding the current and projected state of the nursing workforce within the United States and to assert that the impending imbalance between nursing supply and demand will likely lead to significant economic sequelae within the United States.

TIMOTHY M. SNAVELY, MHA, BSN, RN, is a Health Care Administrator, United States Army, San Antonio, TX.

Market Forces (Supply)

Throughout the history of the health care workforce in the United States, a cyclical pattern of nursing shortages and surpluses has occurred. During the early 2000s, a nursing shortage existed (Goodin, 2003); however, the economic recession of 2007-2009, in addition to a number of other contributing factors, brought the nursing profession out of a shortage and into a current state of equilibrium (Staiger, Auerbach, & Buerhaus, 2012). In fact, hospital employment of registered nurses (RNs) increased by nearly 250,000 full-time equivalents in 2007 and 2008, the largest increase in any 2-year period in the past 40 years (Staiger et al., 2012). During the recession, the demand for nurses did not change significantly; however, it did result in a great deal of uncertainty and financial insecurity. As a result, many nurses who were either not working or only working part-time, went back to work full-time to ensure their household’s economic solvency (Staiger et al., 2012). So, despite the high unemployment rate in the United States that resulted in a loss of 7.5 million jobs, the health care sector actually gained 428,000 jobs; half of whom were nurses returning to the workforce (Staiger et al., 2012).

Though a moratorium in the shortage currently exists, several causal factors will lead to a critical shortage in the supply of nursing professionals available to meet the projected demands of the next decade. First, as the economy recovers from the recent recession, those nurses who went back to work during this time likely will return to a pre-recession working status. Staiger and colleagues (2012) estimate 120,000 RNs will exit the workforce by 2015, resulting in similar nursing labor force demographics observed 10 years earlier.

Second, a significant number of nurses are aging and nearing the point of retirement. The National Council of State Boards of Nursing reports 55% of the RN workforce is age 50 or older; the Health Resources and Services Administration projects that 1 million nurses are eligible for retirement in 10-15 years (AACN, 2013). Though it is tempting to conclude individuals who are retiring in the near future can simply be replaced by the next generation of health care workers, this may not be the case. The “baby boom” of 1946-1964 was followed by a noteworthy reduction in the American birth rate, leaving a ripple effect in the workforce decades later: “as of the 1990 census, there were 77 million American boomers compared with just 44 million Generation Xers, creat-

The fallout from a nursing shortage is far-reaching, affecting a number of entities across the United States.

ing the smallest pool of entry-level workers since the 1930s" (Sigma Theta Tau International, 2001, para. 7).

Third, nursing schools report substantial shortages in faculty thereby restricting nursing programs from enrolling an optimum number of new students. According to the AACN, U.S. nursing schools turned away nearly 80,000 qualified applicants to baccalaureate and graduate programs in 2012 "due to an insufficient number of faculty, clinical sites, classroom space, clinical preceptors, and budget constraints" (AACN, 2015a, para. 3). At the beginning of the 2014-2015 academic year, over half of all U.S. nursing schools reported a cumulative total of 1,236 full-time faculty vacancies in their programs (Robeznieks, 2015).

A fourth contributing factor results from the high attrition rate inherent to the profession. Nursing is highly rewarding, yet incredibly stressful and demanding both for the caregiver and family members. Burnout, fatigue, and stress cause many nurses to leave the vocation only a few years after entering into it. An estimated 30%-50% of all new RNs either change jobs within nursing or leave the profession altogether within the first 3 years of clinical practice (MacKusick & Minick, 2010). Further, the average RN turnover rate in 2014 was 17.2% (up from 13.5% in 2011) with 24.2% of hospitals reporting a vacancy rate of 10% or greater (Nursing Solutions, Inc., 2015).

Market Forces (Demand)

Equally as alarming as the decreasing supply of nurses is the expected increase in demand for them. According to the Bureau of Labor Statistics' (2013) Employment Projections 2012-2022, registered nursing is one of the occupations with the highest projected job growth rate over the next decade. Furthermore, by 2022, 1.05 million new job openings for nurses are projected due to growth and replacement needs (Bureau of Labor Statistics, 2013). The demand for RNs is expected to increase significantly in the latter part of this decade, resulting in a shortage unlike any experienced in this country since the 1960s (Buerhaus, Auerbach, & Staiger, 2009). Rather than simply recognizing that an increased demand is forthcoming, it is important to understand why the demand is rising so long-term strategies can be created to mitigate its effects.

First, a proliferation in the nation's elderly population, coupled with a sharp increase in the need for chronic care management, will intensify demand (AACN, 2013). The 2010 census shows the 65 and older population is growing faster than the total U.S. population (United States Census Bureau, 2015). In fact, by 2050, U.S. citizens aged 65 and over are "pro-

jected to be 83.7 million, almost double its estimated population of 43.1 million in 2012," accounting for nearly 20% of the entire population; in contrast, the working population (ages 18-64) is expected to decline (Ortman, Velkoff, & Hogan, 2014, p. 1). Adding to

this challenge is that, on average, the elderly require more chronic health care services and consume more resources than individuals under the age of 65. Higher patient acuity (a measurement of the intensity of nursing care required by a patient), subsequent to an aging population suffering from multiple chronic diseases, will require additional nursing care hours to ensure quality of care (Anderson, 2014).

Second, the Affordable Care Act caused an additional 8 million Americans to become eligible for health insurance (Ramachandran, 2014), and this number could triple in the coming years (Anderson, 2014). Though an expansion in health insurance coverage does not directly translate into actual care provided, it does inundate an already-strained health care system with newly insured patients that now have the potential to receive health care. According to The Heritage Foundation, "the new demand for medical services for the millions who are expected to enroll in Medicaid and the federal and state insurance exchanges, could cause workforces shortages to become catastrophic" (Anderson, 2014, p. 2).

Implications

The fallout from a nursing shortage is far-reaching, affecting a number of entities across the United States. Chronic nursing vacancies can result in distressing effects on local, regional, and national levels. Perhaps the most noteworthy consequence is that nursing shortages directly contribute to increased health care costs (Roberts, n.d.). One study reported hospitals with inadequate staffing are positively correlated with higher readmission rates (McHugh, Berez, & Small, 2013); unnecessary hospital re-admission costs the Center for Medicare & Medicaid Services approximately \$26 billion annually (Lavizzo-Mourey, 2013). High patient-to-nurse ratios are also associated with increased urinary tract and surgical site infections (Cimiotti, Aiken, Sloan, & Wu, 2012). Adjusting for inflation using the Consumer Price Index-Urban (CPI-U) with a base year of 2005, surgical site infections cost an organization between \$10,443 to \$25,546 per infection and \$589 to \$758 per catheter-associated urinary tract infection (Scott, 2009). In addition, inadequate staffing ratios contribute to ventilator-associated pneumonia, central-line-associated bloodstream infection, and *Clostridium difficile* infection; these five nosocomial infections directly cost the U.S. health care system (adjusted for CPI-U) between \$28.4 and \$33.8 billion annually

(Scott, 2009). Certainly, low staffing levels are not solely responsible for hospital-acquired infections and their subsequent costs; however, they are a major contributor.

Nursing shortages may result in a loss of tax revenue, potentially creating or increasing budget deficits for local, state, and even the federal government (Florida Center for Nursing, 2013). Decreased tax revenue directly translates into less funding for other critical projects to include infrastructure, education, and medical needs for the population. The state of Florida is forecasting a \$226 million loss in revenue through 2025 as a direct result of the projected nursing shortage (assuming per capita tax burden remains unchanged) (Florida Center for Nursing, 2013). Moreover, public governments are not the only entities to realize financial loss from too few nurses; hospitals suffer as well. As mentioned previously, RN turnover rates are 17.2% with 24.2% of hospitals reporting a vacancy rate of 10% or greater. The economic impact is significant; according to one source, "the average cost of turnover for a bedside RN ranges from \$36,900 to \$57,300 resulting in the average hospital losing \$4.9M-\$7.6M. Each percent change in RN turnover will cost/save the average hospital an additional \$379,500" (Nursing Solutions, Inc., 2015, para. 3).

In addition to adversely affecting quality and costs, nursing shortages can result in reduced access to health care simply because there are not enough caregivers to provide for those in need (Staiger et al., 2012). This consequence is counterproductive to the ideals of the Affordable Care Act, putting its goals at significant risk and potentially imperiling the success of long-term health care reform (Staiger et al., 2012).

Conclusion

The United States is projected to experience a nursing shortage in the coming years as market forces begin to shift away from equilibrium. A return to pre-recession work levels, aging baby boomers, and insufficient numbers of nursing graduates adversely affect the supply of nurses. In addition, an aging population, a rise in chronic care management needs, and the Affordable Care Act will result in an increasing demand for quality nursing care and services. Returning to a state of equilibrium is critical if our health care system is to ensure care that is accessible, safe, and cost effective. Key stakeholders including nursing schools, policymakers, and professional nursing organizations must leverage their resources "to shape legislation, identify strategies, and form collaborations to address the [looming] shortage" (AACN, 2015b, p. 1).

REFERENCES

- American Association of Colleges of Nursing (AACN). (2015a). *Nursing faculty shortage fact sheet*. Retrieved from <http://www.aacn.nche.edu/media-relations/NrsgShortageFS.pdf>
- American Association of Colleges of Nursing (AACN). (2015b). *Nursing shortage fact sheet*. Retrieved from <http://www.aacn.nche.edu/media-relations/NrsgShortageFS.pdf>
- American Association of Colleges of Nursing (AACN). (2013b). *Sequestration: Estimating the impact on America's nursing workforce and healthcare discoveries*. Retrieved from <http://www.aacn.nche.edu/government-affairs/AACN-Sequestration-Factsheet.pdf>
- Anderson, A. (2014). *The impact of the Affordable Care Act on the healthcare workforce*. Retrieved from <http://report.heritage.org/bg2887>
- Buerhaus, P.I., Auerbach, D.I., & Staiger, D.O. (2009). The recent surge in nurse employment: Causes and implications. *Health Affairs*, 28(4), w657-w668.
- Bureau of Labor Statistics. (2013). *Occupations with the largest projected number of job openings due to growth and replacement needs, 2012 and projected*. Washington, DC: Author.
- Cimiotti, J.P., Aiken, L.H., Sloan, D.M., & Wu, E.S. (2012). Nurse staffing, burnout, and health care associated infection. *American Journal of Infection Control*, 40(6), 486-490.
- Florida Center for Nursing. (2013). *The economic impact of Florida's nursing workforce*. Orlando, FL: Author.
- Goodin, H.J. (2003). The nursing shortage in the United States of America: An integrative review of the literature. *Journal of Advanced Nursing*, 43(4), 335-343.
- Johnson & Johnson. (2014). *Nurses: Their vital role in transforming healthcare*. Retrieved from <http://www.usatoday.com/story/money/business/2014/05/07/ozy-nursing-shortage/8807937/>
- Lavizzo-Mourey, R. (2013, March 14). *The human face of hospital readmissions*. Retrieved from <http://healthaffairs.org/blog/2013/03/14/the-human-face-of-hospital-readmissions/>
- MacKusick, C.I., & Minick, P. (2010). Why are nurses leaving? Findings from an initial qualitative study on nursing attrition. *MEDSURG Nursing*, 19(6), 335-340.
- McHugh, M.D., Berez, J., & Small, D.S. (2013). Hospitals with higher nurse staffing had lower odds of readmissions penalties than hospitals with lower staffing. *Health Affairs*, 32(10), 1740-1747.
- Nursing Solutions, Inc. (2015). *2015 national healthcare retention & RN staffing report*. Pittsburgh, PA: Author. Retrieved from <http://www.nsinursingsolutions.com/files/assets/library/retention-institute/NationalHealthcareRNRetentionReport2015.pdf>
- Ortman, J.M., Velkoff, V.A., & Hogan, H. (2014). *An aging population: The older population in the United States*. Retrieved from <https://www.census.gov/prod/2014pubs/p25-1140.pdf>
- Ramachandran, V. (2014, May 7). The new nursing shortage. *USA Today*. Retrieved from <http://www.usatoday.com/story/money/business/2014/05/07/ozy-nursing-shortage/8807937/>
- Roberts, L.B. (n.d.). *The economic benefit of addressing the nursing shortage*. Retrieved from <http://nursing.illinois.gov/newsrsls/2009/42009EconomicBenefitofAddressingNursingShortage.pdf>
- Robeznieks, A. (2015). Looming nursing shortage fueled by fewer faculty, training sites. *Modern Healthcare*, 45(4), 9.
- Scott, R.D. (2009). *The direct medical costs of healthcare associated infections in U.S. hospitals and the benefits of prevention*. Retrieved from http://www.cdc.gov/HAI/pdfs/hai/Scott_CostPaper.pdf
- Sigma Theta Tau International. (2001). *Facts about the nursing shortage*. Retrieved from http://www.nursesource.org/facts_shortage.html
- Staiger, D.O., Auerbach, D.I., & Buerhaus, P.I. (2012, April 19, 2012). Registered nurse labor supply and the recession - Are we in a bubble? *The New England Journal of Medicine*, 366(16), 1463-1465.
- The Henry J. Kaiser Family Foundation. (2015). *Total number of professionally active nurses*. Menlo Park, CA: Author.
- United States Census Bureau. (2015). *Life expectancy, United States*. Washington, DC: Author

Copyright of Nursing Economic\$ is the property of Jannetti Publications, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.