

## Nursing Shortage Fact Sheet

The U.S. is projected to experience a shortage of Registered Nurses (RNs) that is expected to intensify as Baby Boomers age and the need for health care grows. Compounding the problem is the fact that nursing schools across the country are struggling to expand capacity to meet the rising demand for care given the national move toward healthcare reform. The **American Association of Colleges of Nursing (AACN)** is working with schools, policy makers, nursing organizations, and the media to bring attention to this healthcare concern. AACN is leveraging its resources to shape legislation, identify strategies, and form collaborations to address the shortage. To keep stakeholders abreast of the issues, this fact sheet has been developed along with a companion Web resource: [www.aacn.nche.edu/media-relations/nursing-shortage](http://www.aacn.nche.edu/media-relations/nursing-shortage).

### Current and Projected Shortage Indicators

- According to the Bureau of Labor Statistics' *Employment Projections 2012-2022* released in December 2013, Registered Nursing (RN) is listed among the top occupations in terms of job growth through 2022. The RN workforce is expected to grow from 2.71 million in 2012 to 3.24 million in 2022, an increase of 526,800 or 19%. The Bureau also projects the need for 525,000 replacements nurses in the workforce bringing the total number of job openings for nurses due to growth and replacements to 1.05 million by 2022.  
<http://www.bls.gov/news.release/ecopro.t08.htm>
- According to the "United States Registered Nurse Workforce Report Card and Shortage Forecast" published in the January 2012 issue of the *American Journal of Medical Quality*, a shortage of registered nurses is projected to spread across the country between 2009 and 2030. In this state-by-state analysis, the authors forecast the RN shortage to be most intense in the South and the West. <http://ajm.sagepub.com>
- In June 2011, Wanted Analytics reported that employers and staffing agencies posted more than 121,000 new job ads for Registered Nurses in May, up 46% from May 2010. About 10% of that growth, or 12,700, were ads placed for positions at general and surgical hospitals, where annual turnover rates for RNs average 14% according to a recent KPMG survey.  
[www.ere.net/2011/06/08/nurse-turnover-in-hospitals](http://www.ere.net/2011/06/08/nurse-turnover-in-hospitals)
- In October 2010, the Institute of Medicine released its landmark report on *The Future of Nursing*, initiated by the Robert Wood Johnson Foundation, which called for increasing the number of baccalaureate-prepared nurses in the workforce to 80% and doubling the population of nurses with doctoral degrees. The current nursing workforce falls far short of these recommendations with only 55% of registered nurses prepared at the baccalaureate or graduate degree level. <http://thefutureofnursing.org>
- In July 2010, the Tri-Council for Nursing released a joint statement on *Recent Registered Nurse Supply and Demand Projections*, which cautioned stakeholders about declaring an end to the nursing shortage. The downturn in the economy has led to an easing of the shortage in many parts of the country, a recent development most analysts believe to be temporary. In the

joint statement, the Tri-Council raises serious concerns about slowing the production of RNs given the projected demand for nursing services, particularly in light of healthcare reform. [www.aacn.nche.edu/Media/NewsReleases/2010/tricouncil.html](http://www.aacn.nche.edu/Media/NewsReleases/2010/tricouncil.html)

- In the July/August 2009 *Health Affairs*, Dr. Peter Buerhaus and coauthors found that despite the current easing of the nursing shortage due to the recession, the U.S. nursing shortage is projected to grow to 260,000 registered nurses by 2025. A shortage of this magnitude would be twice as large as any nursing shortage experienced in this country since the mid-1960s. In the article titled *The Recent Surge In Nurse Employment: Causes And Implications*, the researchers point to a rapidly aging workforce as a primary contributor to the projected shortage. <http://content.healthaffairs.org>
- In the November 26, 2008 *Journal of the American Medical Association*, workforce analyst Dr. Peter Buerhaus stated: “Over the next 20 years, the average age of the RN will increase and the size of the workforce will plateau as large numbers of RNs retire. Because demand for RNs is expected to increase during this time, a large and prolonged shortage of nurses is expected to hit the US in the latter half of the next decade.” <http://jama.ama-assn.org>
- According to a report released by the American Health Care Association in July 2008, more than 19,400 RN vacancies exist in long-term care settings. These vacancies, coupled with an additional 116,000 open positions in hospitals reported by the American Hospital Association in July 2007, bring the total RN vacancies in the U.S. to more than 135,000. This translates into a national RN vacancy rate of 8.1%. [www.ahapolicyforum.org/ahapolicyforum/reports](http://www.ahapolicyforum.org/ahapolicyforum/reports) and [www.ahcanal.org/research\\_data/staffing/Pages/default.aspx](http://www.ahcanal.org/research_data/staffing/Pages/default.aspx)
- In March 2008, The Council on Physician and Nurse Supply, an independent group of healthcare leaders based at the University of Pennsylvania, called for 30,000 additional nurses to be graduated annually to meet the nation's healthcare needs, an expansion of 30% over the current number of annual nurse graduates. [www.physiciannursesupply.com](http://www.physiciannursesupply.com)

## **Contributing Factors Impacting the Nursing Shortage**

**Nursing school enrollment is not growing fast enough to meet the projected demand for RN and APRN services.**

Though AACN reported a 2.6% enrollment increase in entry-level baccalaureate programs in nursing in 2013, this increase is not sufficient to meet the projected demand for nursing services. With the passage of the Patient Protection and Affordable Care Act in 2010, more than 32 million Americans will soon gain access to healthcare services, including those provided by RNs and Advanced Practice Registered Nurses (APRNs). [www.aacn.nche.edu/research-data](http://www.aacn.nche.edu/research-data)

**A shortage of nursing school faculty is restricting nursing program enrollments.**

- According to AACN's report on *2012-2013 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing*, U.S. nursing schools turned away 79,659 qualified applicants from baccalaureate and graduate nursing programs in 2012 due to insufficient number of faculty, clinical sites, classroom space, and clinical preceptors, as well as budget constraints. Almost two-thirds of the nursing schools responding to the survey pointed to faculty shortages as a reason for not accepting all qualified applicants into their programs. <http://www.aacn.nche.edu/research-data>

- According to a study by the Southern Regional Board of Education (SREB) in February 2002, a serious shortage of nursing faculty was documented in 16 states and the District of Columbia. Survey findings point to a 12% shortfall in the number of nurse educators needed. Unfilled faculty positions, projected retirements, and the shortage of students being prepared for the faculty role pose a threat to nursing education over the next five years. [www.sreb.org](http://www.sreb.org)

### **The significant segment of the nursing workforce is nearing retirement age.**

- According to a 2013 survey conducted by the National Council of State Boards of Nursing and The Forum of State Nursing Workforce Centers, 55% of the RN workforce is age 50 or older. <http://jnr.metapress.com/content/m61518mn5001m025>
- The Health Resources and Services Administration projects that more than 1 million registered nurses will reach retirement age within the next 10 to 15 years. <http://bhpr.hrsa.gov/healthworkforce/reports/nursingworkforce/index.html>
- According to data from the 2008 National Sample Survey of Registered Nurses released in September 2010 by the federal Division of Nursing, the average age of the RN population is 47.0 years of age, up slightly from 46.8 in 2004. <http://bhpr.hrsa.gov/healthworkforce/rnsurvey>

### **Changing demographics signal a need for more nurses to care for our aging population.**

- According to the July 2001 report, *Nursing Workforce: Emerging Nurse Shortages Due to Multiple Factors* (GAO-01-944), a serious shortage of nurses is expected in the future as demographic pressures influence both supply and demand. The future demand for nurses is expected to increase dramatically as the baby boomers reach their 60s and older. [www.gao.gov](http://www.gao.gov)
- According to a May 2001 report, *Who Will Care for Each of Us?: America's Coming Health Care Crisis*, by the University of Illinois College of Nursing, the ratio of potential caregivers to the people most likely to need care, the elderly population, will decrease by 40% between 2010 and 2030. Demographic changes may limit access to health care unless the number of nurses grows in proportion to the rising elderly population. [www.uic.edu/nursing](http://www.uic.edu/nursing)

### **Insufficient staffing is raising the stress level of nurses, impacting job satisfaction, and driving many nurses to leave the profession.**

- In the March 2005 issue of *Nursing Economic\$*, Dr. Peter Buerhaus and colleagues found that more than 75% of RNs believe the nursing shortage presents a major problem for the quality of their work life, the quality of patient care, and the amount of time nurses can spend with patients. Looking forward, almost all surveyed nurses see the shortage in the future as a catalyst for increasing stress on nurses (98%), lowering patient care quality (93%) and causing nurses to leave the profession (93%).
- According to a study in the October 2002 *Journal of the American Medical Association*, nurses reported greater job dissatisfaction and emotional exhaustion when they were responsible for more patients than they can safely care for. Dr. Linda Aiken found that “failure to retain nurses contributes to avoidable patient deaths.”

## **High nurse turnover and vacancy rates are affecting access to health care.**

- In September 2007, Dr. Christine T. Kovner and colleagues found that 13% of newly licensed RNs had changed principal jobs after one year, and 37% reported that they felt ready to change jobs. These findings were reported in the *American Journal of Nursing* in an article titled “Newly Licensed RNs’ Characteristics, Work Attitudes, and Intentions to Work.”
- In March 2005, the Bernard Hodes Group released the results of a national poll of 138 health care recruiters and found that the average RN turnover rate was 13.9%, the vacancy rate was 16.1% and the average RN cost-per-hire was \$2,821.

## **Impact of Nurse Staffing on Patient Care**

### **Many recent studies point to the connection between adequate levels of registered nurse staffing and safe patient care.**

- In a study published in the journal *BMJ Quality & Safety* in May 2013, researcher Heather L. Tubbs-Cooley and colleagues observed that higher patient loads were associated with higher hospital readmission rates. The study found that when more than four patients were assigned to an RN in pediatric hospitals, the likelihood of hospital readmissions increased significantly.
- In the August 2012 issue of the *American Journal of Infection Control*, Dr. Jeannie Cimiotti and colleagues identified a significant association between high patient-to-nurse ratios and nurse burnout with increased urinary tract and surgical site infections. In this study of Pennsylvania hospitals, the researchers found that increasing a nurse’s patient load by just one patient was associated with higher rates of infection. The authors conclude that reducing nurse burnout can improve both the well-being of nurses and the quality of patient care.
- In a study publishing in the April 2011 issue of *Medical Care*, Dr. Mary Blegen and her colleagues from the University of California, San Francisco found that higher nurse staffing levels were associated with fewer deaths, lower failure-to-rescue incidents, lower rates of infection, and shorter hospital stays.
- In March 2011, Dr. Jack Needleman and colleagues published findings in the *New England Journal of Medicine*, which indicate that insufficient nurse staffing was related to higher patient mortality rates. These researchers analyzed the records of nearly 198,000 admitted patients and 177,000 eight-hour nursing shifts across 43 patient-care units at large academic health centers. The data show that the mortality risk for patients was about 6% higher on units that were understaffed as compared with fully staffed units. In the study titled “Nurse Staffing and Inpatient Hospital Mortality,” the researchers also found that when a nurse’s workload increases because of high patient turnover, mortality risk also increases.
- In a study published in the April 2010 issue of *Health Services Research*, Dr. Linda Aiken and colleagues found that lower patient-nurse ratios on medical and surgical units were associated with significantly lower patient mortality rates. The study is titled “Implications of the California Nurse Staffing Mandate on Other States.”
- In the June 2009 issue of the *International Journal of Nursing Studies*, a research team lead by Dr. Koen Van den Heede found a significant association between the number of baccalaureate-prepared RNs on cardiac care units and in-hospital mortality. Data analyzed by this international team of researcher that included representatives from Belgium, Canada, the

Netherlands, and the United States showed that there were 4.9 fewer deaths per 1,000 patients on intensive care units staffed with a higher percentage of nurses with bachelor's degrees.

- A growing body of research clearly links baccalaureate-prepared nurses to lower mortality and failure-to-rescue rates. The latest studies published in the journals *Health Services Research* in August 2008 and the *Journal of Nursing Administration* in May 2008 confirm the findings of several previous studies which link education level and patient outcomes. Efforts to address the nursing shortage must focus on preparing more baccalaureate-prepared nurses in order to ensure access to high quality, safe patient care.
- In March 2007, a comprehensive report initiated by the Agency for Healthcare Research and Quality was released on *Nursing Staffing and Quality of Patient Care*. Through this meta-analysis, the authors found that the shortage of registered nurses, in combination with an increased workload, poses a potential threat to quality. Increases in registered nurse staffing was associated with reductions in hospital-related mortality and failure to rescue as well as reduced length of stays. In settings with inadequate staffing, patient safety was compromised.
- Published in the March 2006 issue of *Nursing Economic\$,* a comprehensive analysis of several national surveys on the nursing workforce found that majority of nurses reported the RN shortage is negatively impacting patient care and undermining the quality of care goals set by the Institute of Medicine and the National Quality Forum.
- In an article published in the September/October 2005 issue of *Nursing Economic\$,* Dr. Peter Buerhaus and associates found that the majority of RNs (79%) and Chief Nursing Officers (68%) believe the nursing shortage is affecting the overall quality of patient care in hospitals and other settings, including long-term care facilities, ambulatory care settings, and student health centers. Most hospital RNs (93%) report major problems with having enough time to maintain patient safety, detect complications early, and collaborate with other team members.
- In November 2004, results from the National Survey on Consumers' Experiences with Patient Safety and Quality Information were released and found that 40% of Americans think the quality of health care has worsened in the last five years. Consumers reported that the most important issues affecting medical error rates are workload, stress or fatigue among health professionals (74%); too little time spent with patients (70%); and too few nurses (69%). This survey was sponsored by the Kaiser Family Foundation, the Agency for Healthcare Research and Quality and the Harvard School of Public Health.
- A shortage of nurses prepared at the baccalaureate level is affecting health care quality and patient outcomes. In a study published September 24, 2003 in the *Journal of the American Medical Association (JAMA)*, Dr. Linda Aiken and her colleagues at the University of Pennsylvania identified a clear link between higher levels of nursing education and better patient outcomes. This extensive study found that surgical patients have a "substantial survival advantage" if treated in hospitals with higher proportions of nurses educated at the baccalaureate or higher degree level. In hospitals, a 10% increase in the proportion of nurses holding BSN degrees decreased the risk of patient death and failure to rescue by 5%.
- A survey reported in the December 12, 2002 issue of the *New England Journal of Medicine* found that 53% of physicians and 65% of the public cited the shortage of nurses as a leading cause of medical errors. Overall, 42% of the public and more than a third of U.S. physicians reported that they or their family members have experienced medical errors in the course of receiving medical care.

- An October 2002 study in *JAMA* found that more nurses at the bedside could save thousands of lives each year. Researchers at the University of Pennsylvania determined that patients who have common surgeries in hospitals with high patient-to-nurse ratios have up to a 31% increased chance of dying. The study found that every additional patient in an average hospital nurse's workload increased the risk of death in surgical patients by 7%. Having too few nurses may actually cost more given the high costs of replacing nurses and caring for patients with poor outcomes.
- In *Health Care at the Crossroads*, a report released in August 2002 by the Joint Commission (JC), the authors found that a shortage of nurses in hospitals is putting patient lives in danger. JC examined 1,609 hospital reports of patient deaths and injuries since 1996 and found that low nursing staff levels were a contributing factor in 24% of the cases.
- According to a study published in the *New England Journal of Medicine* in May 2002, a higher proportion of nursing care provided by RNs and a greater number of hours of care by RNs per day are associated with better outcomes for hospitalized patients. This extensive study was conducted by Drs. Jack Needleman and Peter Buerhaus.

## Strategies to Address the Nursing Shortage

- Nursing schools are forming strategic partnerships and seeking private support to help expand student capacity. For example, the University of Minnesota announced a partnership with the Minnesota VA Health Care System in June 2013 to expand enrollment in the school's BSN program. With a focus on enhancing care to veterans, the VA committed \$5.3 million to the university to expand clinical placement sites, fund additional faculty, and support interprofessional engagement. For more details on this and similar initiatives, see [www.aacn.nche.edu/media-relations/partnerships-grants](http://www.aacn.nche.edu/media-relations/partnerships-grants).
- In September 2010, AACN announced the expansion of NursingCAS, the nation's centralized application service for RN programs, to include graduate nursing programs. One of the primary reasons for launching NursingCAS was to ensure that all vacant seats in schools of nursing are filled to better meet the need for RNs, APRNs, and nurse faculty. In 2013, more than 16,000 vacant seats were identified in baccalaureate and graduate nursing programs. NursingCAS provides a way to fill these seats and maximize the educational capacity of schools of nursing. [www.aacn.nche.edu/news/articles/2010/nursingcas](http://www.aacn.nche.edu/news/articles/2010/nursingcas)
- In July 2010, the Robert Wood Johnson Foundation (RWJF) released its *Charting Nursing's Future* newsletter focused on "Expanding America's Capacity to Educate Nurses." This policy brief describes the capacity innovations of 12 partnerships that are effectively addressing the nursing and nurse faculty shortages. Among the policy recommendations advanced in this brief are requiring all new nurses to complete a BSN program within 10 years of licensure and enhancing the pipeline into baccalaureate and graduate nursing programs. [www.rwjf.org/files/research/20100608cnf.pdf](http://www.rwjf.org/files/research/20100608cnf.pdf)
- In February 2009, academic and healthcare leaders from 47 states gathered in Baltimore for the 2009 Nursing Education Capacity Summit to help identify and advance strategic solutions to the nursing shortage. Sponsored by the Center to Champion Nursing in America, HRSA and the U.S. Department of Labor, participants shared best practices related to strategic partnerships and resource alignment; policy and regulation; increasing faculty capacity and diversity; and redesigning educational curricula. [www.championnursing.org](http://www.championnursing.org)

- Many statewide initiatives are underway to address both the shortage of RNs and nurse educators. For example, in January 2014, the University of Wisconsin (UW) announced the \$3.2 million Nurses for Wisconsin initiative — funded through a UW System Economic Development Incentive Grant — to provide fellowships and loan forgiveness for future nurse faculty who agree to teach in the state after graduation. This program was launched in response to projections that Wisconsin could see a shortage of 20,000 nurses by 2035. For a sampling of other state-based initiatives, see [www.aacn.nche.edu/media-relations/partnerships-grants](http://www.aacn.nche.edu/media-relations/partnerships-grants).
- In July 2007, PricewaterhouseCoopers released a report titled *What Works: Healing the Healthcare Staffing Shortage* which advanced several strategies to address the nursing shortage, including developing more public-private partnerships, creating healthy work environments, using technology as a training tool, and designing more flexible roles for advanced practice nurses given their increased use as primary care providers. [www.pwc.com](http://www.pwc.com)
- In an article published in the June 2006 *Health Affairs* titled “Hospitals’ Responses to Nurse Staffing Shortages,” the authors found that 97% of surveyed hospitals were using educational strategies to address the shortage of nurses. Specific strategies include partnering with schools of nursing, subsidizing nurse faculty salaries, reimbursing nurses for advancing their education in exchange for a work commitment, and providing scheduling flexibility to enable staff to attend classes. The paper ends with a call for more public financing support to expand nursing school capacity. <http://content.healthaffairs.org/cgi/content/abstract/25/4/W316>
- In June 2005, the U.S. Department of Labor (DOL) awarded more than \$12 million in grant-funding through the **President’s High Growth Job Training Initiative**, \$3 million of which will help to address the nurse faculty shortage. In total, the DOL has committed \$43 million to the health care workforce through the High-Growth program. Details on all grant-funded programs are posted at [www.doleta.gov/BRG/Indprof/Health.cfm](http://www.doleta.gov/BRG/Indprof/Health.cfm).
- In February 2002, Johnson & Johnson launched the **Campaign for Nursing’s Future**, a multimedia initiative to promote careers in nursing and polish the image of nursing. This multimillion dollar effort includes television commercials, a recruitment video, a Web site, brochures, and other visuals. In 2007, Johnson & Johnson generously committed to extending this winning campaign for another five years. [www.discovernursing.com](http://www.discovernursing.com)

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