

## CLINICAL PRACTICE

# The nursing shortage: A status report

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**Received:** September 30, 2018

**Accepted:** November 5, 2018

**Online Published:** November 28, 2018

**DOI:** 10.5430/jnep.v9n3p125

**URL:** <https://doi.org/10.5430/jnep.v9n3p125>

## ABSTRACT

**Background and objective:** A shortage of nearly half a million registered nurses threatened to disrupt health care services by the year 2020 as approximately one million registered nurses, born during the baby boom generation, were projected to retire. This predicted shortage would greatly affect the quality of patient care delivery. The predicted crisis drew the attention of stakeholders across the nation.

**Methods:** This article summarizes strategies implemented to meet the growing demand for registered nurses by various agencies and stakeholders, the result of those efforts, and future challenges currently facing the profession.

**Results:** Interventions resulted in a renewed interest in the profession of nursing. The total number of graduates from ADN and BSN programs more than doubled from 2002 to 2012. The number of master's and doctoral program graduates more than tripled. Full time employment of registered nurses increased from 2.1 million in 2001 to 3.2 million in 2015.

**Future challenges and implications:** Limited employment opportunities for new graduate nurses as hiring has slowed, concern over the quality of nursing education across all program types, and the need for ongoing assessment and implementation of guidelines permitting nurses to practice to the full scope of their educational preparation and capabilities during an era of continued health care reform, are among the challenges faced by the profession. In addition, delivery of safe and effective care to meet the needs of an aging population will present many challenges in the future.

**Key Words:** Nursing shortage, Trends in nursing school enrollment, Retention of new graduate nurses, Nursing workforce

## 1. INTRODUCTION

A shortage of nearly half a million registered nurses (RNs) threatened to disrupt health care services by the year 2020 as approximately one million RNs who were born during the baby boom generation (1946-1964) were projected to retire.<sup>[1,2]</sup> This predicted shortage would greatly affect the quality of patient care delivery. Declining enrollment in programs of nursing and decreasing interest in the profession also contributed to the projected nursing shortage and growing concern.<sup>[3]</sup> MacKusick and Minick<sup>[4]</sup> stated an estimated 30%-50% of all new nurses elect to change positions or leave nursing completely within the first three years of clinical

practice.

Chan et al.<sup>[5]</sup> highlighted Organizational Factors and Individual Factors as two key categories of reasons for leaving the profession. Organizational factors included work environment, culture, commitment, work demands, and social support. Nurses with higher patient loads most frequently reported an intention to leave the profession and nurses who felt socially supported by supervisors and co-workers reported a higher level of intent to stay. Individual Factors include job satisfaction, demographic factors, and burnout. Physical and psychological stress factors characteristic of the hospital environment were found to contribute to burnout.

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Excess work resulting from the growing demand for hospital care, long working days, incessant changes in working conditions, conflicting nursing care priorities, and stressful organizational atmospheres were factors identified as contributing to burnout.<sup>[6,7]</sup>

Replacements would be needed to fill the nursing vacancies and manage care for the projected 80 million baby boomers by the year 2030. The predicted crisis drew the attention of legislators, academic leaders and educators, healthcare institutions and providers, and various agencies possessing the resources and capabilities to impact the future of nursing. This article summarizes strategies which were implemented to meet the growing demand for RNs by various agencies and stakeholders, the result of those interventions, and future challenges which will be faced by the profession.

## 2. STRATEGIES

Over the past decade, several agencies and stakeholders have rallied to the cause to promote interest in the nursing profession as the United States faced the largest shortage of nurses in its history.<sup>[1,3]</sup> The recruitment and retention of new nurses was recognized as crucial to the nursing profession and the health care system and drew the attention of academia, healthcare administrators, and various government agencies. Agencies and stakeholders united in a collaborative effort to face this challenge.

The Johnson and Johnson Campaign for Nursing's Future, a public-awareness campaign initiated by Johnson and Johnson in 2002, began working to address the nursing shortage in the United States by recruiting new nurses and nursing faculty.<sup>[3,8,9]</sup> The campaign portrayed nursing as a positive career choice, highlighted the rich diversity of the nursing workforce, and focused on retention strategies of nurses currently in the profession. Johnson and Johnson has spent more than \$50 million dollars in this campaign to promote interest in the profession and has raised more than \$15 million in scholarship support.

The Robert Wood Johnson Foundation (RWJF) also became involved in the effort to meet the demands of the projected nursing shortage. RWJF, since 1972, has supported research grants and programs focusing on some of America's most pressing health issues from substance abuse to improving access to quality health care.<sup>[10]</sup> The mission of the foundation is to improve health and health care of all Americans.<sup>[11]</sup> In an effort to fulfill their mission, RWJF sponsored the Institute of Medicine (IOM) 2010 Campaign for Action report. The campaign focused on improving delivery of health care to better meet the needs of all patients and addressed the impending nursing shortage. The Future of Nursing:

Leading Change, Advancing Health, a segment of the campaign, would challenge academia to increase the percentage of baccalaureate degree prepared nurses from 50% to 80% by 2020.<sup>[12]</sup> The first of the eight recommendations in the report stated, "Nurses should practice to the full extent of their education and training." This statement drew much attention to scope of practice issues and current healthcare delivery practices.<sup>[8]</sup> The fundamental message of the recommendation was very clear that improving the health of the nation could be fully attained if nurses were able to bring their full range of preparation to the delivery of health care. The specific recommendations included removing barriers to practicing and care, transforming education, collaborating and leading, improving data, and promoting diversity. The nursing initiatives would need to consist of a collaborative effort with academia and other stakeholders within and outside of nursing.

Nursing education programs initiated efforts to attract students through accelerated nursing degree options, establishing pathways for associate degree to a baccalaureate degree, post-master's certification, clinical nurse leader, and doctor of nursing practice degrees.<sup>[3]</sup> Academic leaders and educators worked closely with legislators and the public to educate and lobby for change.

The nursing shortage faced in the U. S. had the potential to create global ramifications. The Global Advisory Panel on the Future of Nursing & Midwifery (GAPFON) was supported by Sigma Theta Tau International to bring together global nurse and midwife leaders in a collaborative effort to address global healthcare challenges and give nurses and midwives a unified voice and vision for the future.<sup>[13]</sup> GAPFON has a strong voice in influencing national health policy, leadership and practice, education, and the global health agenda.

Hospital and health care organizations developed nursing recruitment and retention programs in an effort to create optimal health care environment.<sup>[3]</sup> National and state legislators have supported legislation, established workforce commissions, and disseminated data related to the nursing workforce to strengthen the profession.

## 3. RESULTS

The results of the efforts of agencies and stakeholders continues to be monitored by a variety of entities and through utilization of various methods. Buerhaus et al.<sup>[3]</sup> utilized data from the Integrated Postsecondary Education Data System (IPEDS) to assess trends in nursing education from 1984 through 2012. IPEDS consists of an annual survey conducted by the U. S. Department of Education's National Center for

Education Statistics. Every college, university, technical and vocational institution that participates in the federal student financial aid program authorized by title IV of the Higher Education Act of 1965 provides annual mandatory reporting to this system. The growth of nursing graduates by level of education (associate, baccalaureate, and graduate), type of nursing education program (public, private not-for-profit, and private for-profit), and geographic location was assessed. Data is also included from the American Community Survey (ACS) which is conducted annually by the United States Census Bureau.<sup>[1]</sup>

Growth of graduates from associate degree nursing (ADN) and bachelor of science nursing (BSN) programs remained relatively stable from 1984 until 2002 and then began to increase rapidly from 2002 until 2012.<sup>[1,2]</sup> The number of BSN prepared graduates exceeded the ADN graduates for the first time in 2011. The total number of graduates from both programs more than doubled from 77,000 in 2002 to 184,000 in 2012. The number of BSN degrees increased by 8% during this period. Male graduates increased from 3% to 13%. The proportion of Hispanics increased with little change reported in the percentage of African Americans and "all other" populations. The percentage of graduates from public nursing education programs decreased by 12%, private not-for-profit increased by 3%, and private for-profit increased by 10%.

The number of nursing education programs increased by 659 during 2002 to 2012.<sup>[1,3]</sup> This increase is reflected by the addition of 222 public programs, 179 private not-for-profit programs, and 258 private for-profit programs.

Nurses prepared at the graduate level has also increased.<sup>[14]</sup> Beginning in 2004, the number of master's and doctoral program graduates began to increase and more than tripled by 2012.<sup>[3]</sup> The number of registered nurses completing a graduate degree in 2015 had increased four times the number of those graduating in 2000.<sup>[1]</sup>

Mid-western and western states have shown the greatest number of increased production of ADN and BSN nursing graduates from 2002 to 2012, particularly Arizona, Utah, Missouri, South Dakota, and Ohio.<sup>[3]</sup> The lowest growth was shown in Alaska, Oregon, Hawaii, California, and Maine.

Nurses with a baccalaureate or graduate degree comprised 62% of all full time registered nursing employees in 2015 reflecting a 55% increase from 2001.<sup>[1]</sup> Nurses age 50 to 69 increased by 11% from 2001 to 2015. Registered nurses under the age of 35 increased by 3%. Full time employment of registered nurses increased from 2.1 million in 2001 to 3.2 million in 2015. Full time registered nurses over the

age of 50 in non-hospital settings doubled from 2001 to 2015 and account for the largest group of registered nurses in non-hospital settings. The number of baccalaureate prepared nurses working full time in hospitals has increased from 578,000 in 2001 to 945,000 in 2015 while the number of associate degree prepared nurses has decreased. The number of associate degree prepared nurses working in long term care and home health care has increased by 5%.

#### 4. FUTURE IMPLICATIONS

Although the results indicate a renewed interest in the profession, there are numerous challenges and implications that must be faced in the United States (U. S.) and globally. The World Health Organization anticipates a global nursing shortage of 9 million nurses by 2030.<sup>[15]</sup> In the U. S., hiring has slowed in many organizations as health reform unfolds, limiting employment opportunities for new graduate nurses.<sup>[3]</sup> The number of nurses over the age of 50 increased by more than 100,000 during 2007 and 2008 further limiting positions for new graduate nurses. As numerous new nursing programs are established, concern over the quality of nursing education across all program types exists. Educational programs will need to evolve to meet the demands of a rapidly changing health care environment which has a care delivery focus in nonhospital settings and most nursing curricula still emphasizes care in acute settings. Ongoing assessment of nursing education programs by academic leaders is a continuous challenge. The greatest challenge facing the nursing profession will involve ongoing assessment and implementation of guidelines which will permit nurses to practice to the full scope of their educational preparation and capabilities during an era of continued health care reform.

#### 5. CONCLUSION

Over the past decade, the growth of the number of registered nurses has been substantial including individuals from all racial and ethnic.<sup>[1,3]</sup> The number of RNs between 2015 and 2030 is expected to increase by 36% and be just over 4 million.<sup>[1]</sup> Efforts by private and public entities have resulted in growth of public, private not-for-profit, and proprietary institutions. The number of baccalaureate degree prepared nurses has exceeded the number of associate degree nurses suggesting the IOM recommendations for the RN workforce will be obtained by 2020. As the number of registered nurses grow and the baby boomer generation nears retirement, the number of registered nurses age 50 and over is predicted to remain consistent over the next 15 years.<sup>[1]</sup> The rapid growth of millennial registered nurses will dominate the workforce over the next 15 years.

The results reflected in this article indicate increased inter-

est in the profession of nursing and supports the continued efforts by stakeholders to promote the profession. An annual increase rate of 9.8%, higher than the projected demand growth rate of 2.12%, reflects the current success of stakeholder recruitment efforts.<sup>[16]</sup> However, Buerhaus, Auerbach, and Staiger<sup>[3]</sup> indicate the demand for RNs is impossible

to estimate and it is difficult to predict if enough graduates are being produced to meet the needs of a retiring workforce and aging population.

### CONFLICTS OF INTEREST DISCLOSURE

The author declares that there is no conflict of interest.

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