Expanding The Capacity Of Nursing Education

Until the pipeline for advanced education in nursing is flowing freely, the nation’s nurse workforce will have difficulty achieving its potential.

by Brenda L. Cleary, Angela Barron McBride, Margaret L. McClure, and Susan C. Reinhard

ABSTRACT: Assuring a nurse workforce that is large enough and possesses the right competencies for the changing demographic and health reform scenarios of the early twenty-first century is nothing short of an imperative. Getting there will involve continual recruitment of a talented and diverse group of people and increasing nurses’ progression to a more highly educated workforce, no matter where they enter the profession. These actions will enable the United States to fill vacant nursing faculty positions as we simultaneously recreate how nursing education is delivered in this country. The nation’s health is dependent on the actions we now take. [Health Affairs 28, no. 4 (2009): w634–w645 (published online 12 June 2009; 10.1377/hlthaff.28.4.w634)]

There is no end in sight to the nurse shortage, even as the current recession brings more nurses back into the labor market. Three factors are converging to cause this phenomenon. First, tens of thousands of future nurses are being turned away at their career thresholds each year because nursing schools are stretched beyond their capabilities; second, large numbers of nurses in the baby-boom generation will become eligible for retirement in the next two decades; and third, the overall demand for nurses is increasing. Even if health care usage patterns and registered nurse (RN) productivity remain constant over time, an aging population will raise the demand for RNs per thousand population from 7.0 in 2000 to 7.5 in 2020.

All of this is occurring against the backdrop of renewed interest in health reform advanced by the Obama administration. Clearly, proposed reforms will further increase the demand for primary care and the role of primary care practitioners in basic and chronic care management. Reform will also redesign care delivery, with greater emphasis and resources devoted to prevention and early detection of disease. This redesign will require nonphysician team members—

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largely advanced-practice nurses (APNs)—to play an even more important role in health care delivery.\(^4\)

The shortage of nurses by 2020 or 2025 has been variously estimated to be between a half-million and a million.\(^3\) Although forecasting is never a precise science, forecasts are beginning to project this evolving shortage even lower in terms of numbers. Regardless, even with temporary relief created by the recession as nurses return to work, remain in the workforce longer, or simply work more hours, the serious shortage projected over the next two decades offers a window of opportunity for strategic action.\(^6\) One strategic issue we can ill afford to overlook is that labor shortages are never just about numbers, because an adequate workforce must both be the right size and have the right skills. A critical aspect of the nurse shortage in the early twenty-first century is that the supply of nurses with graduate preparation leaves the profession unable to tackle the current faculty shortage and unlikely to meet growing demand for APNs and other highly skilled roles. And to reflect the composition of the larger society, there is a particular need to recruit men and racial minorities into nursing. There is a paucity of men (5.8 percent) and of racial/ethnic minorities (10.7 percent) in the field, although 7.5 percent in the sample cited did not specify their background.\(^7\)

Historically, the nurse shortage and the faculty shortage have been complicated by continuing portrayals of nursing as a female option, not in the same league as the learned professions.\(^8\) More recently, those stereotypes have begun to fade, and future job opportunities are expected to be excellent for nurses. Nursing is one of the highest-paying large occupations, with a median hourly wage of $28.85 or $62,480 annually in 2007.\(^9\) So why aren't enrollments in nursing schools rising to meet the demand? After a decline in applications to entry-level nursing programs during the 1990s, applications surged in more recent years. The National League for Nursing (NLN) reported that 99,000 qualified applications were denied in 2008.\(^10\) During that same year, baccalaureate programs alone reported that they could not accommodate 41,385 qualified applications because of insufficient resources, including a lack of faculty (reported by 62.5 percent of bachelor of science in nursing, or BSN, programs); insufficient clinical teaching sites (53.8 percent), limited classroom space (42.3 percent), insufficient preceptors (25.4 percent), and budget cuts (14.8 percent).\(^11\)

**Underlying Causes Of Educational Capacity Problems**

- **A growing faculty shortage.** The majority of nursing schools cite a shortage of faculty as the primary reason for limiting the numbers of qualified applicants that they accept; this factor alone is responsible for depriving patients of needed nursing care, as demand increases. Clearly, this issue must be addressed because the public health ramifications are serious. The reasons for faculty shortages, however, are numerous and complex.

  Numbers of nursing faculty have been decreasing steadily over a long period of
time. During 1970–1996 the number of new RNs produced in the United States more than doubled, from 43,103 to 97,052. During this same period, the number of full-time-equivalent (FTE) faculty members went up only 50 percent, with numbers of full-time faculty increasing by 29 percent (15,662 to 20,227) and numbers of part-time faculty quadrupling (2572 to 10,608). In 1980, 3.7 percent of the RN population was educators; by 2004, that percentage had dropped to 2.4 percent. According to the NLN, 84 percent of U.S. nursing education programs attempted to hire new faculty in 2007–2008. Of those schools, more than three-fourths found recruitment “difficult,” and almost one in three schools found it “very difficult.” The two most common reasons for recruitment difficulties cited were “not enough qualified candidates” (46 percent of schools) followed by an inability to offer competitive salaries (38 percent).

Today’s shortage of nursing faculty is also shaped by the same demographics affecting the overall nurse shortage. The average age of a nursing faculty member is 53.5, and the average age of retirement is 62.5. The NLN’s projections for impending retirements of nursing faculty (Exhibit 1) spell dire consequences for the future of patient care unless strategic actions are taken to resupply nursing’s academic ranks. In today’s economic environment, many of the planned retirements may be postponed, but that is likely to offer a temporary respite at best.

Nursing is not unique in having to replace baby-boomer workers at a time when that generation’s aging will increase the demand for health services, but the quick-fix mentality that encouraged the associate degree as the solution to previous nurse shortages has had the unintended consequence of attracting older students, who have shorter careers. Compared to baccalaureate-prepared RNs, they are also, as a group, not as disposed to pursue the graduate degrees necessary to address the dire shortage of nursing faculty.

The root cause of this faculty shortage is poorly understood. Oddly enough, it

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**EXHIBIT 1**
Anticipated Nurse Faculty Retirements (Number Of Nursing Faculty Expected To Remain), 2007–2023

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rests with the profession’s standards for basic nursing education. Historically, most RNs have been prepared below the level of a four-year college degree, and that type of entry continues today. For example, recent data collected by the National Council of State Boards for Nursing (NCSBN) indicate that approximately two-thirds of all new nurses are graduates from primarily associate degree programs and, to a declining extent, hospital-based diploma programs.¹⁸

**Educational pipeline.** This would not be so problematic were it not for another issue. Recent workforce studies indicate that in spite of many concerted efforts to make achieving the BSN accessible to entering nurses, only approximately 15 percent actually complete a further degree in nursing.¹⁹ The result is a lack of an adequate “pipeline” of candidates for graduate education. In other words, the nation has a remarkably small pool of nurses from which to draw its enrollees for master’s and doctoral degrees, and therefore its teachers.

The pipeline problem would not be so difficult if faculty positions were the only opportunities for nurses that require master’s or doctoral degrees. In today’s complex health care environment, large (and increasing) numbers of nursing jobs demand such preparation. Nurse practitioners (NPs) and other APNs provide a case in point. In 2004 an estimated 240,460 RNs, or 8.3 percent of the RN population, were prepared for advanced practice. This estimate represents a 22.5 percent increase from the 196,279 APNs, or 7.3 percent of RNs, estimated in 2000.²⁰ And with the likelihood of health reform that results in greater health coverage and seeks better health management, these numbers will continue to respond to increasing demand.

**Competition from other career paths.** Beyond NP jobs, a growing number of attractive, interesting, and well-paid positions are open to graduate-prepared nurses, including positions in nursing administration, as quality/safety officers in health care organizations, and in leadership roles in health information technology (IT) as well as commercial opportunities in such areas as pharmaceuticals and insurance. Competition is becoming increasingly stiff, and the faculty role does not stand up well in this marketplace. The salary and benefits in most schools of nursing do not begin to match those in the health care delivery system. For example, an NP in the San Francisco Bay area with a master’s degree can earn $110,000–$130,000, yet a nursing professor with a doctorate will start at about $60,000 at the University of California, San Francisco.²¹

Evidence suggests that faculty salaries are a main contributor to the shortage.²² In a very recent study, 54 percent of faculty recruiter respondents ranked salary level as the most important barrier to recruitment, and another 24 percent of respondents ranked salaries as the second most important barrier.²³ Thus, there is a need for greater salary parity between graduate-prepared nurses in academic and health care delivery settings and faculty in other disciplines, taking into consideration workload issues.
Challenges In Providing Clinical Education

■ Insufficient clinical sites. Adequate placements of nursing students for clinical education is typically the second most common cause of the bottleneck in nursing education capacity. With faculty-to-student ratios of 1:10 required by many state boards of nursing, the competition is fierce in regional nursing communities to get enough clinical sites to teach students. However, based on the unpublished results of a 2007 North Carolina postcard survey conducted among all hospitals, home and community-based health care organizations, nursing homes, mental health agencies, the state corrections system, and public health departments, some clinical areas are not being used (for example, rehabilitation units, community-based agencies, and corrections facilities) or are underused in terms of days and times of clinical rotations. There is a continuing overreliance on hospitals as clinical placement sites, especially in light of patient acuity and the expanding settings where nurses practice. Clinical learning options could be broadened through online regional and state-based clinical placement systems such as StudentMax.24 For example, Oregon has demonstrated a return on investment of public (state) and private monies directed at increasing the effectiveness of clinical placements of nursing students.25

■ Use of simulation and virtual reality to extend faculty. Greater access to clinical simulation and virtual-reality options allows students to learn in a safe environment, allowing for the possibility of increased faculty-to-student ratios and assuring equal exposure to critical clinical scenarios. Advances in the development of simulation technology, partnerships, and sharing of simulation scenarios make simulation training for all types of health care providers more accessible and realistic.26

Simulation is being used not only in academic education but also for interdisciplinary training in practice areas. Scenarios have been developed for remediation, new graduate transition, staff orientation, and faculty interdisciplinary communication. Although scientific evidence of the outcomes using simulation education is lacking, existing evidence suggests that simulation helps develop critical thinking, decision making, and clinical confidence among students. When supported by other teaching strategies, simulation greatly increases self-efficacy and improves communication and operations in clinical settings.27 One study reports high levels of group cohesion, collaboration, and satisfaction with patient care decisions among both physicians and nurses when simulation is used in training.28 Other studies exist that are less supportive of simulation, finding the experience unrealistic and the content conflicting.29 Additional studies that compare simulation training with traditional clinical education methods are needed.

Concerns related to simulation technology are the overwhelming time and expense in developing quality scenarios and acquiring and maintaining technology. Economic stimulus dollars are wisely being invested in regional interdisciplinary clinical simulation centers, based on demonstrations of collaborative education arrangements where hospitals partner with communities and educational facili-
ties. Online and simulation centers in which start-up and maintenance costs and the deployment of human resources are a shared responsibility are possible through these partnerships.

**Inefficiencies In The Use Of Faculty And Other Resources**

Entities such as the American Association of Colleges of Nursing (AACN) offer tools for competency-based curriculum development (for example, Essentials of Baccalaureate Education). Also, more standardized approaches to core curricula are moving forward in states such as Oregon, Massachusetts, California, and Texas. However, scarce resources are still being used to develop program-specific curricula in nursing education programs. With faculty in short supply and the shortage likely to get worse before it gets better, there is increasing interest in education-redesign initiatives that reduce demands on faculty time. For example, the John A. Hartford Foundation partnered with New York University’s College of Nursing to create resources that are available to all faculty wishing to strengthen their offerings on care of the elderly. One result is a “Try This” series that publishes best practices in elder care, including ways to assess common clinical problems, via the Web and in a partnership with the American Journal of Nursing.

In another instance, five universities that are members of the Committee on Inter-Institutional Cooperation (CIC)—Indiana University, University of Iowa, University of Michigan, University of Minnesota, and University of Wisconsin-Madison—have formed a consortium to pool graduate offerings in nursing informatics. The benefits have been substantial: students have access to a larger set of expertise, more robust curricular offerings, and additional peer support (available to students and faculty alike). Sharing faculty, curriculum, simulation facilities, clinical placement systems, and even common state or regional student admission portals, such as the West Texas Nursing Education Consortium Portal Project, will be the necessary wave of the future.

**Regulatory Concerns**

While encouraging innovations in clinical education, in 2005 the NCSBN proposed that faculty members retain the responsibility to demonstrate that programs’ clinical experiences with actual patients are sufficient to meet program outcomes. The NCSBN added that additional research should be conducted on tools and methods that support the development of clinical competency in pre-licensure nursing students. The current reality is that states vary in the percentage of clinical simulation that can be counted toward clinical requirements in nursing education programs.

Another regulatory concern involves the issue of faculty credentials in the midst of a growing faculty shortage. There is a certain tension between relaxing standards for faculty preparation to increase the number of nurse educators and assuring that faculty have the clinical expertise and are qualified to teach.
A group tasked by the NCSBN conducted an extensive review of the evidence and a consensus conference on faculty requirements. These data were used to develop the following recommendations for faculty credentialing related to RN education in 2008: (1) Nursing faculty in RN programs (full-time and part-time) shall have either a master's or doctoral degree in nursing. Their education should include graduate preparation in the science of nursing, including clinical practice, and graduate preparation in teaching and learning, including curriculum development and implementation. Other supportive faculty with graduate degrees in related fields may participate on a nursing faculty team to enrich and augment nursing education. (2) Clinical preceptors shall be educated at or above the level for which the student is preparing.

**Solutions For Increasing The Nursing Faculty Pipeline**

Aside from scholarship and other support for advanced education that is targeted at people who seek a career in academe, a number of other substantive efforts to address this issue are underway, with the goal of increasing faculty numbers at the state and national levels. These efforts, along with other evolving best practices, will need to be expanded dramatically if we are to meet our workforce demands for the foreseeable future.

- **RN to MSN programs.** One important action that can be undertaken promptly is to increase the number of RN to MSN programs in the United States. These programs are designed specifically for experienced nurses who hold diplomas or associate degrees and meet graduate-level admission standards; they enroll students directly into a master's degree program. The curriculum begins with upper-level baccalaureate courses and moves seamlessly into graduate-level work. Upon completion of the program, students are often simultaneously awarded both the BSN and the MSN. In 2008 the AACN reported that there were 153 such programs nationwide and that the numbers have been increasing steadily each year.

Almost all advanced-practice specialties are available in these programs, as are tracks in nursing administration and nursing education. Many programs include a combination of classroom and online instruction, making them especially accessible for nurses who are located in rural areas or combining work with their studies, or both.

There are several advantages for expanding RN to MSN programs. For students, they offer a high return on investment through the opportunity to engage in study that will advance their careers, in terms of salary and job opportunities, in ways that returning to school for a BSN does not. In terms of societal needs, the advantage is that many graduates go on to serve as clinical faculty and create a larger applicant pool for doctoral education. RN to MSN programs clearly represent one of the most expeditious means by which the nation can secure adequate numbers of nursing faculty.

- **Direct pathways from BSN to Ph.D.** More fast-track programs for talented
people to move from the BSN to the Ph.D. in a timely fashion are needed. Norms encouraging years of clinical practice prior to pursuing doctoral education are contributing to the faculty pipeline trickle.\textsuperscript{37}

**Accelerated BSN programs.** Both short- and long-term solutions to increasing the faculty pipeline are also facilitated by first increasing the numbers and percentages of baccalaureate-prepared nurses. Statewide trend studies have shown that 80 percent of nurses pursuing graduate degrees began their nursing careers with a BSN.\textsuperscript{38} Accelerated BSN programs are specifically designed for applicants to BSN programs with a baccalaureate (or higher) degree in another field. Although some applicants may be required to take several prerequisite courses before beginning their nursing studies, most are able to enter the programs directly and to complete their BSN requirements in less than eighteen months. It is important to note that accelerated students enrolled in accredited programs are reported to be highly motivated and often bring with them a background of rich experiences.\textsuperscript{39} Moreover, these students tend to be very successful both in their educational programs and in their subsequent practices.\textsuperscript{40}

The AACN reported that in 2007 there were 205 accelerated programs in 43 states plus the District of Columbia and that demand for these programs has increased steadily, as have enrollments. In addition, admission standards are high—an indication that this student population possesses strong academic capabilities for the pursuit of advanced degrees.\textsuperscript{41}

**Collaboration between community colleges and universities.** Several other actions could be taken to solve the pipeline problem permanently. First, and perhaps foremost, an effort should be undertaken to capitalize on the education and other exceptional resources that community colleges offer. These colleges are well distributed across the nation; almost all offer a nursing major; they are well equipped to educate nurses; tuition is relatively low; and, most important, they draw their students from their local communities, and their graduates often return to serve those same communities after graduation. Clearly, these colleges could play a key role in solving the faculty shortage problem over the long run. It is essential, therefore, that they become more engaged in, and committed to, increasing the number and proportion of baccalaureate-prepared nurses.

One course of action would be to gradually convert associate degree programs to baccalaureate degree–granting courses of study. To date, this approach has rarely been considered. Instead, a variety of “articulation” agreements between community colleges and their university neighbors have been put into place, in an effort to encourage and ease the RN to BSN progression; as the data reported earlier reflect, however, these have met with only limited success.

The Oregon Consortium for Nursing Education represents a new arrangement that has the potential to formally and meaningfully connect the two levels of education. Begun in response to a study commissioned by the Northwest Health Foundation, this statewide coalition involved a formal partnership between eight...
community colleges and five campuses of the Oregon Health and Science University (OHSU) School of Nursing. Together they designed a common, competency-based curriculum, along with common admission standards, to achieve increased educational capacity efficiently and cost-effectively. They then created a dual admission process for community college students, making them a part of the baccalaureate program from their initial enrollment in nursing, although they do not matriculate at OHSU until their fourth year. At the end of the third year, following completion of requirements for the associate degree, enrollees are eligible to sit for the RN licensure examination. They are, however, encouraged to continue in the program, taking courses taught by OHSU faculty at the community college site and completing the baccalaureate degree in one year of full-time study. Preliminary OCNE evaluation data reveal that 40 percent choose the fourth-year option.

Replications of the Oregon model are now in the planning stages in several other states—most notably, California, Hawaii, New York, and North Carolina—supported primarily by private funding. These efforts could be greatly strengthened by more state and federal funding streams for supporting collaborative innovations in nursing education.

**“BSN in 10” policy initiatives.** Another and entirely different effort to increase the number of baccalaureate-prepared nurses is being proposed in several states and is farthest along in New York and New Jersey. This initiative involves the requirement that RNs who graduate from programs that award the associate degree or diploma complete a BSN within ten years of licensure. In these instances, changes to the respective state nurse practice acts are under review and consideration.

The introduction of this new mandate is proposed in such a way that only new-comers to the profession would be expected to meet the BSN requirement, and appropriate “grandfathering” mechanisms are included so that no practicing RN would be affected. Again, this approach offers a much longer-term solution to the pipeline problem in graduate education, but it would have an important impact on both the faculty shortage and the overall quality of patient care.

As might be expected, the politics surrounding this new requirement will make passage of the needed legislative and regulatory changes slow and difficult. And many “red herrings” are used to close the debate. For example, opponents of the plan voice concern regarding the capacity and accessibility problems related to educating such large numbers of practicing nurses; however, numerous online programs exist today, including an innovative online competency-based program that Western Governors University (WGU) has recently developed, the Multi-State Approach to the Preparation of Registered Nurses (MAP-RN). MAP-RN is a pre-licensure BSN program targeting working adult students who want to remain in their communities. The program’s goal is to increase the RN workforce by developing a contemporary, high-level baccalaureate entry-level nursing program that is widely available to adult students. WGU plans to launch the program in early 2010.
These kinds of programs as well as developing partnerships between community colleges and universities would make this change quite feasible. However, it is clear that efforts aimed at greatly increasing the number of BSN-prepared nurses will be essential if the profession is to fulfill its mandate to serve the public's health now and far into the twenty-first century.

The Bottom-Line Public Policy Perspective

Central to accelerating progress in moving more nurses into faculty positions is an increase federal support for full-time graduate education. The American Recovery and Reinvestment Act (ARRA) of 2009 will bring us closer to this goal. With strong support from AARP and several national nursing organizations, this economic stimulus package includes $500 million for health care workforce education and the National Health Service Corps (NHSC). Of this money, $300 million will be directed to the NHSC (within which there is a set-aside for NPs), and the remaining $200 million will bring a boost to Title VII and Title VIII programs. The Title VIII money can be used for faculty loan repayment programs, traineeships, and scholarships to help students move from part-time to full-time status, or to free up time they now direct toward employment or child and family care. New funding for regional high-fidelity simulation laboratories can modernize nursing education, maximizing the use of faculty time and resources. The upcoming 2010 federal budget discussions offer the next opportunity to strengthen the capacity of nursing education by targeting funding for nurses to obtain advanced education to become tomorrow's teachers, including accelerated pathways such as associate degree in nursing (ADN)—MSN and BSN-Ph.D. options, and for innovations in education redesign.

Public-sector (primarily state) and private-sector action are both needed to improve nursing faculty salaries and benefits. Most other professional schools do, in fact, make an attempt to compensate their teachers at a level that is in keeping with the profession they represent. Finally, the long-term goal is to create a dedicated source of federal funding for nursing education that is not subject to the appropriations process. Real health care reform depends upon it.

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NOTES


14. NLN, “NLN Annual Nursing Data Review Documents.”


16. AACN, “Faculty Nursing Shortage Fact Sheet.”


25. Kristine Campbell, executive director, Oregon Center for Nursing, personal communication, 13 March
2009.
36. Ibid.
37. McBride, “Beyond Gendered Health Professions.”
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41. AACN, “Fact Sheet: Accelerated Baccalaureate and Master's Degrees in Nursing.”
45. Joynt and Kimball, “Blowing Open the Bottleneck.”