Nursing Shortage Redux: Turning The Corner On An Enduring Problem

Enhanced career ladders, better wages, flexible hours, and a more satisfying workplace would aid in retaining RNs in the nursing workforce.

by Julie Sochalski

ABSTRACT: Projections of a substantial nursing workforce imbalance in the coming decade have galvanized policymakers, providers, private foundations, nurses, and others to proffer aggressive and sustainable strategies to ameliorate the looming shortage. The solutions are largely ones that seek to increase supply. Analysis of the 1992–2000 National Sample Surveys of Registered Nurses shows that increasing losses from the active workforce, stagnant wages, and low levels of job satisfaction pose major impediments to bolstering supply. Strategies focused on working conditions and retention should occupy a central position in any nursing workforce revitalization plan.

Nursing in the United States is at a critical juncture, competing with enticing high-tech industries for a diminishing pool of new labor while trying to meet the demands placed by an aging population and increasing treatment complexity on the health care system. Updated estimates from the Bureau of Health Professions (BHPPr) of the U.S. Department of Health and Human Services show a national shortfall of 110,700 registered nurse (RN) full-time equivalents in 2000. Furthermore, the U.S. Bureau of Labor Statistics identifies nursing as one of the top twenty occupations to be affected by baby-boomer retirements, with employers needing to replace an estimated 331,000 RNs between 1998 and 2008. These conditions are colliding with a thirty-year gradual decline in interest in nursing as a career.

This looming crisis has galvanized both the public and private sectors to respond. Leading the private sector, Johnson and Johnson Health Care Systems has launched a $20 million Campaign for Nursing’s Future advocating nursing careers through television ads, promotional materials for high schools, and a Web site that describes the benefits of a nursing career and features searchable links to hundreds of nursing scholarships and accredited nursing educational programs. Influential health care organizations and private foundations such as the American Hospital Association, the Robert Wood Johnson Foundation, and the Joint Commission on Accreditation of Healthcare Organizations have engaged a national discourse on the thorny issues that envelop the shortage and the steps that should be taken to sustain a high-quality nursing workforce.

In the public sector, prominent congressional hearings have featured a wide range of provider groups voicing their concerns over the shortage of nurses and its implications for quality of care. Proposed federal legislation would authorize scholarship and loan pro-

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grams for basic nursing education that would complement current funding for advanced education as well as funds for recruitment. State legislatures throughout the country have likewise responded with a wide range of initiatives that would bolster RN supply.

Most solutions being proposed focus principally on conventional strategies to increase the supply of new recruits into the workforce. Proponents of these strategies note the low rate of growth in the RN workforce between 1996 and 2000, declining enrollments in nursing schools each year since 1995 with only a modest uptick reported in 2001, and the demographic trends in nursing. Retention-focused strategies receive relatively little attention, despite their potentially sizable and multifaceted contribution to supply. A number of other countries that are also facing RN shortfalls, such as the United Kingdom and Australia, are aggressively implementing strategies that seek not only to increase the supply of new nurses but simultaneously to retain current workers and to encourage those who have left nursing to reenter the nursing workforce. Developing such strategies requires a clear understanding of who is leaving nursing and why, as well as who is entering the profession today and what it will take to retain them.

Data source. To study these issues, data from the National Sample Survey of Registered Nurses (NSSRN), a quadrennial survey of RNs, are used to examine the employment patterns and experiences of the total RN workforce and those who have recently entered nursing and to identify targets for retention and reemployment. The first sample survey was conducted by the BHP Division of Nursing in 1977, followed by one in 1980 and every four years through 2000. The sample for each year’s survey, described in detail elsewhere, is drawn from each of the fifty states and the District of Columbia to provide both national- and state-level estimates of the U.S. RN population. States with higher minority populations were oversampled in 2000 to increase the numbers and the reliability of the estimates of racial/ethnic minority groups.

Study methods. This paper reports on the analysis of data from the 1992, 1996, and 2000 surveys (Exhibit 1). All data, except where noted, are population weighted using sampling weights created in each survey year to provide national estimates of the entire RN population. These weights accommodate all of the design features in the sampling methodology, including the oversampling of high-minority states in 2000, to produce population estimates that can be reliably compared over time.

EXHIBIT 1

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<thead>
<tr>
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<tbody>
<tr>
<td>Total RN sample</td>
<td>32,304</td>
<td>29,766</td>
<td>35,358</td>
</tr>
<tr>
<td>Total RN population</td>
<td>2,239,816</td>
<td>2,558,874</td>
<td>2,696,540</td>
</tr>
<tr>
<td>RNs working in nursing</td>
<td>1,853,024</td>
<td>2,115,815</td>
<td>2,201,813</td>
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<tr>
<td>RNs not working in nursing</td>
<td>386,792</td>
<td>443,059</td>
<td>494,727</td>
</tr>
<tr>
<td>RNs not working</td>
<td>260,811</td>
<td>323,252</td>
<td>350,503</td>
</tr>
<tr>
<td>RNs working in other occupations</td>
<td>99,792</td>
<td>117,820</td>
<td>135,592</td>
</tr>
<tr>
<td>Percent of RNs not working in nursing</td>
<td>17.3%</td>
<td>17.3%</td>
<td>18.3%</td>
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<tr>
<td>New entrants between surveys</td>
<td>236,702</td>
<td>341,089</td>
<td>308,442</td>
</tr>
<tr>
<td>Survey response rate</td>
<td>80%</td>
<td>72%</td>
<td>72%</td>
</tr>
</tbody>
</table>

NOTES: New entrants are those nurses completing diploma, associate degree, or baccalaureate basic educational programs. All data are population weighted, except where otherwise noted. RN is registered nurse. “RNs not working” and “RNs working in other occupations” do not sum to the figure above them because some RNs did not select one of the two categories.
RNs Not Working In Nursing

The proportion of RNs who were not working in nursing was relatively stable throughout the 1990s (Exhibit 2). In each survey year 71–73 percent of these RNs were not working in nursing, and a sizable share of these had retired. However, in 2000 around 81,000 of those not working were age forty-three or younger, which is the mean age of RNs currently working in nursing. Among them, 58 percent had young children (age six or younger) at home. In addition, of those who were working in fields other than nursing, around 40,000 were age forty-three or younger, and 25 percent of them had young children at home. The most common reasons given for working in other fields were better hours, more rewarding work, and better pay. These two groups represent potential candidates to reenter nursing, and these analyses suggest that enhanced career ladders, better wages, flexible hours, and child care may be starting-point inducements to attract some portion of these 120,000 RNs back to the nursing workforce. Such strategies could also influence those who are working as nurses to remain in the nursing workforce.

New RNs not in nursing. Raising particular concern is the increasing proportion of new RNs who are not working in nursing. The proportion of new male entrants who were not working in nursing more than doubled between 1992 and 1996, from 2.0 percent to 4.6 percent, and then rose again by more than half to 7.5 percent in 2000. In comparison, the proportion of new female entrants who were not working in nursing also increased, although at a slower rate, from 2.7 percent to 4.1 percent, and remained at that level in 2000. The growth in those not employed in nursing between 1992 and 1996 is not wholly surprising, given the lower demand for RNs during a period of major health care restructuring, especially in hospitals, where the majority of new graduates find their first jobs. But the dropoff for men between 1996 and 2000 occurred at a time of higher demand for nurses, raising questions as to why a larger group was exiting at a point of plentiful employment opportunity in nursing.

<table>
<thead>
<tr>
<th></th>
<th>1–4 years following graduation</th>
<th>5–8 years following graduation</th>
<th>9–12 years following graduation</th>
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</thead>
<tbody>
<tr>
<td><strong>1988–91 nursing graduates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>2.7%</td>
<td>5.7%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Men</td>
<td>2.0</td>
<td>3.4</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>1992–95 nursing graduates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>4.1</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>4.6</td>
<td>9.2</td>
<td></td>
</tr>
<tr>
<td><strong>1996–99 nursing graduates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>4.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EXHIBIT 2**
Percentage Of Nurses Who Are Not Working In Nursing, By Year Of Graduation And Sex, 1988–1999

**SOURCE:** Author’s analysis of data from the 1992, 1996, and 2000 National Sample Surveys of RNs.
fields other than nursing during a relatively lean nursing employment market, such as that seen during the 1996 survey. In fact, 57 percent of new nurses working outside of nursing in 1996 had no experience in nursing. However, 56 percent indicated that they were actively looking for a job in nursing that year, compared with only 13 percent in 2000.

Workforce attrition rates. To assess what these trends may mean for the future, two cohorts of nurses, defined by year of graduation from nursing, were followed across surveys to see how employment patterns changed. Those graduating between 1988 and 1991 were examined in three surveys: 1992 (1–4 years after graduation), 1996 (5–8 years after graduation), and 2000 (9–12 years after graduation). Those graduating between 1992 and 1995 were assessed in two surveys: 1996 (1–4 years after graduation) and 2000 (5–8 years after graduation). These two groups were compared with new entrants in 2000. In the 1988–1991 cohort 2.7 percent of women and 2.0 percent of men were not employed in nursing in the first four years after graduation. This rate grew more quickly for women than for men, reaching 11 percent of women and 6.3 percent of men in this cohort (8–12 years after graduation).

This attrition rate accelerates and reverses when one looks at those who graduated between 1992 and 1995. Within the first four years after graduating, the percentage of men who were not working in nursing grew and edged out that for women; that percentage doubled for both groups five to eight years later. The accelerating rate of loss in the supply of nurses, at a time of increasing demand, underscores the need to determine the reasons for the exodus. And while men may not yet constitute a sizable number of the total who are leaving, the growth in their retreat is nonetheless troubling.

Aging And Retention

The age profile of the RN population is the product of several features that make retirement replacements a particular concern: a higher-than-average proportion who are age forty-five or older (46 percent of RNs, compared with 34 percent among all occupations), a higher-than-average mean age, and declining career interest in nursing. A closer look at the age distribution reveals another concern.

Between 1992 and 1996 the number of nurses age thirty or younger declined by nearly 27,000, with the mean age of the 341,000 new entrants at 33.4 years. Yet between 1996 and 2000 the number of RNs age thirty or younger actually rose by nearly 10,000. Graduates from baccalaureate (BSN) programs became a larger share of the 308,000 new entrants during this period, and their lower mean age relative to associate degree (AD) and diploma graduates likely contributed to this shift. Consequently, the proportion of RNs age thirty or younger was virtually the same in 1996 and 2000, at 10.6 percent and 10.8 percent, respectively. At the other end of the age distribution, the proportion of RNs over age sixty was likewise the same in both years, at 10.3 percent and 10.2 percent, respectively, and the mean age of these two cohorts was identical, sixty-six years.

However, a fairly sizable loss of RNs (around 111,000) was noted in the 31–40 age cohort between 1996 and 2000. This loss is much larger than one would expect to occur with normal aging of the workforce, particularly given the growth in the numbers entering the lower range of that age group in the previous four-year period. This loss is also much larger than that seen in the 1992–1996 period, which suggests that it is not a characteristic of nursing employment patterns in that age bracket. While some of the difference could be attributable to sampling (for example, age-related movement of nurses among states, which are the primary sampling unit), the contribution of sampling to this loss is likely to be low. The loss is, however, consistent with the views of nurses in numerous surveys regarding dissatisfaction with their position and intent to leave.

Sagging Job Satisfaction

In the 2000 survey, RNs working in nursing were asked to report their level of job satisfaction. Among all nurses, 69.5 percent reported being at least moderately satisfied with their
jobs. In comparison, according to the General Social Survey conducted by the National Opinion Research Center, during 1988–1998, 86 percent of workers in general and 88 percent of professional workers reported being satisfied with their jobs. Nurses working in nursing homes and hospitals were among the least satisfied, with one of every three nurses in these settings reporting dissatisfaction.

- **Staff nurses.** Staff nurses are the least satisfied among all nursing positions: One of every three were dissatisfied with their current job in 2000. This finding holds across settings; staff nurses were always less satisfied than all other nurses working in the same setting. Dissatisfaction does not appear to be driven by patient care responsibilities. Among staff nurses in hospitals, nursing homes, and public health—settings in which the majority of staff nurses are employed—RNs who spent at least half of their average workday in direct patient care had higher levels of satisfaction than those who spent less time with patients. Staff nurses are the backbone of care delivery in many settings, bearing much of the responsibility for coordination and continuity of care, yet they reported having little control over or support for many aspects of their jobs. Much has been written in the organizational psychology and related literature about the relationship between feelings of control over one's work and levels of satisfaction and burnout, and that relationship may be bearing out among staff nurses.

- **Gender differences.** Virtually across the board, men are less satisfied in nursing than women are, regardless of setting or position (Exhibit 3). This disparity has held across years of experience in nursing. Among new entrants, 75 percent of women reported being satisfied with their jobs in 2000, while only 67 percent of men were comparably satisfied. Among prior entrants, the same relative differences held, while satisfaction levels fell for each: 69 percent of women and 60 percent of men reported being satisfied with their jobs. Even among those in advanced practice roles, such as nurse practitioners and nurse anesthetists, men routinely reported lower levels of satisfaction than women did.

- **New RNs.** One encouraging note is that new entrants are among the most satisfied of all, as a group and across settings. What is particularly noteworthy is that more than 85 percent of new entrants are staff nurses, who are among the least satisfied in general, and 74 percent work in hospitals, a site of higher overall dissatisfaction. Yet nearly three-quarters of new nurses reported being satisfied with their jobs in 2000. While these data capture only a single point in time, one might predict that this new cohort of nurses may be destined to see their satisfaction levels sag over time, which, depending on market conditions, could influence their decisions to continue in their positions or to leave nursing entirely.

### Sluggish Wages

Since 1992 nursing wages on average have done no better than to keep pace with inflation in the general economy. After adjustment for inflation, RNs saw no increase in the purchasing power of their annual earnings during

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**EXHIBIT 3**

Percentage Of Staff Nurses Who Are Satisfied With Their Current Job, By Setting, Percentage Of Average Workday Spent In Direct Patient Care, And Sex, 2000

<table>
<thead>
<tr>
<th>Setting</th>
<th>Time spent in patient care</th>
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<tbody>
<tr>
<td></td>
<td>Half or more</td>
<td>Less than half</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Hospital staff nurse</td>
<td>65%</td>
<td>58%</td>
<td>65%</td>
<td>58%</td>
</tr>
<tr>
<td>Nursing home staff nurse</td>
<td>63%</td>
<td>54%</td>
<td>61%</td>
<td>50%</td>
</tr>
<tr>
<td>Public health staff nurse</td>
<td>70%</td>
<td>66%</td>
<td>76%</td>
<td>64%</td>
</tr>
</tbody>
</table>

**SOURCE:** Author’s analysis of data from the 2000 National Sample Surveys of Registered Nurses.
most of the 1990s. Stagnant wages would have been expected in 1992–1996, when the demand for hospital nurses abated in favor of other support staff, which characterized the hospital workforce restructuring activities during those years. But as the demand for RNs increased at the end of the decade, higher real salaries would have been expected under normal market conditions.

Instead, wages remained flat throughout the 1990s. In 2000, as demand for staff nurses in hospitals increased, RNs who did not seek additional education or promotion to higher positions received wages that rose at decreasing rates with experience: Wages paid to hospital staff nurses who graduated twenty years earlier were only 10 percent higher than wages paid to those who came into nursing ten years later. Although this pattern can be found among many occupations, it nonetheless signals lower levels of job flexibility and career mobility to potential recruits and suggests that the only way to realize salary gains is to pursue more education or leave the bedside for other jobs, such as administrative positions.

**Education And Workforce Retention**

As noted earlier, both the 1992–1996 and 1996–2000 periods brought more than 300,000 new entrants into the nursing workforce, although the annual contributions began to decline from 1997 onward as the effects of falling enrollments were realized. The 1996–2000 period is distinguished by a decline in the proportion of graduates coming from AD and diploma programs, with a concomitant increase in the proportion from BSN programs. This shift may signal a change in the demand for nursing careers among women who tend to select AD programs to pursue nursing.

The shortfall of RNs and the desire to quickly build up the supply has focused attention on whether AD or BSN programs should be favored for the production of new nurses. While the debate continues, there is some evidence to suggest that nurses with higher degrees may accrue more years of work experience. Using the number of years licensed as a proxy for work experience, nurses whose highest nursing preparation was a BSN in 2000 have an additional 2.2 years of work experience on average than do those with an AD (14.1 years versus 11.9 years). RNs who obtained a BSN after beginning their career with an AD have an additional 4.5 years of work experience than do those whose terminal degree is an AD (16.4 years versus 11.9 years). Since the groups whose only degree is an AD or BSN contain higher shares of new graduates, who would have fewer years of work experience, than does the group of AD nurses who went on to attain additional education (18 percent new graduates in the AD and BSN degree groups versus 5 percent in the AD plus BSN group), a second set of comparisons was made after eliminating the new nurses from each group. RNs with a BSN, whether as their only degree or if attained after the AD degree, had on average three more years of work experience than did those with only an AD degree (17.0 years and 17.2 years, respectively, versus 14.1 years).

**Education among minorities.** Pursuit of higher degrees in nursing has occurred with greater frequency among nurses from racial/ethnic minority groups.
With those additional years of education will likely come additional years contributed to the workforce. The 2000 NSSRN report notes that a larger proportion of minorities than whites work in nursing and are more often employed full time.19

**Looking Forward**

The data presented here suggest that investing in strategies that are tilted heavily toward building the nursing pipeline may not in the long run appreciably narrow the pending nursing workforce imbalance. Certainly, the supply of nurses will need to be increased greatly in the coming years, given the demographics of the current nursing workforce and the growing demand for health care. But initiatives to retain nurses and recover those who leave are themselves supply-side strategies and should occupy an equal place alongside conventional supply-building activities.

Gains in ethnic and racial diversity among new nurses were noted at the end of the 1990s, with racial/ethnic minorities constituting 14 percent of new entrants in 2000, up from 10 percent in both 1992 and 1996. Efforts to recruit minority nurses and to prepare minority faculty mentors should be an integral part of the agenda to build a strong, high-quality workforce. In addition, the changing demographics of the general population requires sufficient preparation and experience in gerontology within the nursing workforce. Yet in 2000 only 5 percent of all nurses who completed either a clinical nurse specialist or nurse practitioner program indicated gerontology as their specialty area of advanced training. The Health Resources and Services Administration notes that while Geriatric Education Centers have aided the preparation of geriatric clinicians and faculty, funds spent on geriatric research still well surpass those dedicated to education. Recommendations from the Expert Panel on Graduate Nursing Education in Gerontology have called for greatly increasing the numbers of advanced-practice nurses and faculty in gerontology and including geriatric content across graduate and undergraduate program offerings.20

Workplace initiatives focused on retention were a central theme of the recommendations from the 1988 Health and Human Services (HHS) Secretary’s Commission on Nursing convened by former Secretary Otis Bowen during the last national nursing shortage.21 Yet little has happened in the intervening years to aggressively pursue these strategies, while career options grew and began to draw larger numbers away from nursing. Stagnant wages, low levels of job satisfaction, and inadequate career mobility must be addressed if a reasonable return on the investment in education and recruitment of the next generation of nurses is to be realized.

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NOTES
6. The RN sample for the NSSRN is drawn from lists obtained from the State Boards of Nursing in each of the fifty states and the District of Columbia of all persons holding an active license. Thirty-seven states offer an “inactive” license option, which RNs can elect as their license designation. Examples of who might elect this option include RNs who are employed in jobs that do not entail patient care or do not require an active license, such as working for a health maintenance organization (HMO) or a pharmaceutical company, or nurses who are temporarily unemployed and choose not to keep their license active, which, in many states, requires continuing education credits. RNs who hold inactive licenses are not part of the sampling frame for this survey.
8. While these results are an approximation, since the individuals in each survey are a random sample of licensed nurses at that time and do not represent a true longitudinal cohort, the trends produced are reasonably valid since comparable sampling methods were used in each survey.
12. Spratley et al., The Registered Nurse Population.
18. The surveys in 1992–2000 did not ask respondents about years working as a nurse. However, this item was included in the 1980 and 1984 surveys. Joanne Spetz reports that the correlation between years of reported experience and years since graduation from one’s basic degree programs are 0.78 for 1980 and 0.81 for 1984. Spetz, “The Value of Education.” Consequently, in this analysis, years since one’s basic education is used as a proxy for work experience, and the differences between groups provides a feasible estimate of the additional years of work experience.