

Douglas O. Staiger  
David I. Auerbach  
Peter I. Buerhaus

# Expanding Career Opportunities for Women and the Declining Interest in Nursing as a Career

## Executive Summary

- ▶ The authors contend that it is crucial for policymakers and nurse leaders to develop strategies that can drive attempts to strengthen both the current and future professional nurse workforce.
- ▶ This study explores the various factors that have resulted in only half as many women selecting nursing as a career than 25 years ago.
- ▶ Because of the aging of the current nurse workforce and anticipated larger cohort retiring just as the baby boom generation enters Medicare age, shortages being experienced today in hospital specialty areas may well be precursors of more widespread shortages to come.
- ▶ Data examined for this study showed a drop of roughly 40% since 1973 in the percentage of college freshman who indicate that nursing was among their top career choices.
- ▶ The most prominent factor seems to be the concurrent expansion of opportunities for capable young women to enter formerly male-dominated professions such as medicine, law, and business.

**I**N THIS THIRD of a four-part series on changes in the registered nurse (RN) workforce, evidence is provided on the forces behind the declining propensity of younger-aged women to choose nursing as a career over the past few decades.

In Part One of this series, which was published in the May/June 2000 issue of *Nursing Economic\$* (Buerhaus, Staiger, & Auerbach, 2000a), analysis of data from the U.S. Census Bureau Current Population Surveys (CPS) and the National Sample Surveys of the Population of Registered Nurses (NSSRN) suggested plausible explanations of current shortages of hospital specialty RNs. Data were presented that suggested the decreasing number of RNs under the age of 30 may be partly responsible for shortages of RNs in hospital intensive care units.

Results also indicated that the development of RN shortages in hospital operating rooms and post-anesthesia recovery units may be explained, in part, by the retirement of older-age RNs who dominate these work settings. Further, the implications of the study raise the possibility that specialty care shortages may, in fact, be precursors of future reductions in the sup-

ply of RNs, which are expected near the end of the decade.

In Part Two of this series, which appeared in the July/August 2000 issue of the journal (Auerbach, Buerhaus, & Staiger, 2000), an analysis of data from the NSSRNs showed that, contrary to conventional thinking, the large number of older-aged graduates of associate degree nursing education programs plays only a small role in explaining the rapid aging of the RN workforce.

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*DOUGLAS O. STAIGER, PhD*, is Associate Professor of Economics, Dartmouth College, Hanover, NH; and Research Associate, National Bureau of Economic Research, Cambridge, MA.

*DAVID I. AUERBACH, PhD(c)*, is a Doctoral Student, Program in Health Policy, Harvard University, Cambridge, MA; and a Pre-Doctoral Fellow in Health and Aging, National Bureau of Economic Research, Cambridge, MA.

*PETER I. BUERHAUS, PhD, RN, FAAN*, is Associate Dean for Research, and Valere Potter Distinguished Professor, Vanderbilt University School of Nursing, Nashville, TN.

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Part Four of the series, which will be published in the journal's November/December 2000 issue, will offer ideas and strategies that policymakers may consider to strengthen both the current and future professional nursing workforce.

## Background

The present analysis is motivated by an interest in better understanding some of the key results of a larger study of the aging RN workforce (Buerhaus, Staiger, & Auerbach, 2000b). Because many of the results and implications of this study are startling, it is useful to review the major findings.

- Between 1983 and 1998, the average age of *working* RNs increased 4.5 years (from 37.7 to 41.9 years).
- In hospitals, the average age of RNs increased by 5.3 years during the same period.
- RNs are aging at a rate more than twice as fast as all other occupations in the U.S. workforce.
- The number of working RNs under the age of 30 fell from 419,000 in 1983 to 246,000 in 1998, a 41% decline. In contrast, over the same time period the number of working people in the U.S. workforce under age 30 dropped by only 1%.
- Of all working RNs in the United States, the percent under 30 years of age dropped from 30% of the RN workforce in 1983 to 12% in 1998 (Buerhaus et al., 2000b).

The study concluded that the rapid increase in the average age of the RN workforce is due mainly to the decline in younger women choosing nursing as a career over the last 2 decades. It was estimated that women graduating from high school in the late 1980s and 1990s were 30% to 40% less likely to become RNs compared to those graduating in the 1960s and 1970s. Forecasts based on these underlying trends suggest significant implications for the future. For

example, the decline in the number of younger people entering the RN workforce is expected to result in the RN workforce aging another 3.5 years by 2010, reaching an average of 45.4 years. Moreover, in that year, approximately 40% of the RN workforce will be over the age of 50.

Looking further into the future, forecasts suggest that after 2010 large numbers of RNs will start to retire. This, in turn, will lead to a decline in the number of working RNs and the development of a substantial and prolonged decrease in the supply of RNs. By the year 2020, the total supply of full-time equivalent RNs is projected to have fallen 20% below requirements projected by the federal government. Unfortunately, RN shortages are likely to develop at the time when the first of 78 million baby boomers begin to retire and become eligible for Medicare in 2010.

Given these forecasts for the future supply of RNs, combined with expected large increases in demand for health care, extraordinary pressures will develop on an RN workforce that will soon be shrinking in size and composed substantially of nurses over the age of 50 years. Access to and the quality of health care will likely be at risk, not only for the growing population of older citizens, but for those under 65 years of age. And, as noted above, the shortages being experienced today in hospital specialty areas may be precursors of shortages to come (Buerhaus et al., 2000a).

Clearly, the reasons for and the implications of the rapidly aging RN workforce present serious concerns to the nursing profession, the health care industry, and to the broader society. In this article, the key underlying reason for the rapid aging of the RN workforce — the declining propensity of recent cohorts of women to become RNs — is examined. Unless this trend away from nursing careers is reversed, the RN workforce will

soon begin to shrink and fall well below projected requirements. To have any real chance to reverse this trend, it is necessary to understand why women are abandoning nursing. The most likely explanation is linked to the women's movement, which expanded the number of professional opportunities for women dramatically during the last 2 decades of the 20th century. In fact, previous studies (Astin, Parrott, Korn, & Sax, 1997; Green, 1987) have examined the career preferences of college freshman and predicted that changing career preferences of women would have important implications for labor supply in traditionally female-dominated occupations, and nursing in particular. The analysis in this article provides additional evidence supporting this view.

## Data and Methods

Data for the analysis comes from two sources. The first is the U.S. Bureau of the Census Current Population Surveys (CPS), which provide data on employment of RNs and all other occupations in the U.S. workforce. The CPS is a household-based survey administered monthly by the bureau and covers a nationally representative sample of over 100,000 individuals. In addition to demographic information collected in each month of the survey, detailed questions about earnings and employment (including occupation and hours worked) have been asked as part of special supplements to the basic survey since 1973. Data from the CPS are used extensively by researchers and by the Department of Labor to estimate current trends in unemployment, employment, and earnings, including the nursing profession (Buerhaus & Staiger, 1996, 1999; Buerhaus & Auerbach, 1999).

Data from the CPS were obtained for all individuals between the ages of 23 and 64 years employed as RNs in the week of the survey (N=56,930). Because individuals aged 65 and over compose

Figure 1.  
Actual Propensity to Become a Nurse (From CPS Workforce Estimates) vs. Proportion of Freshman Indicating Probable Career as a Nurse, by Year Turned 18

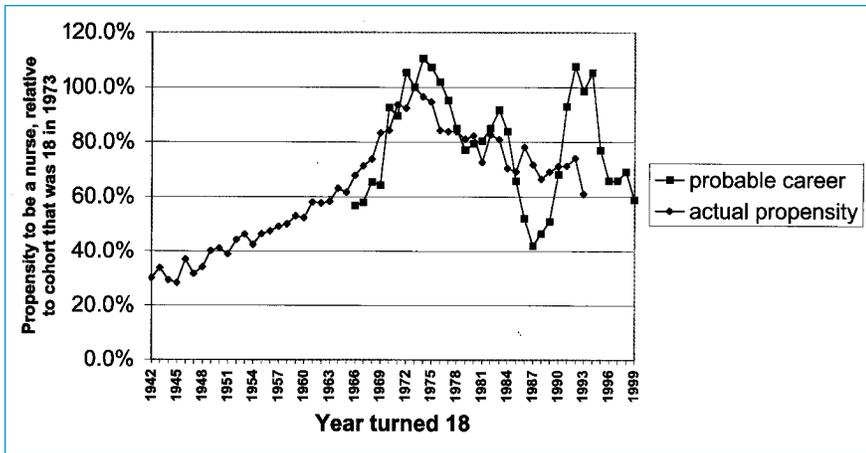
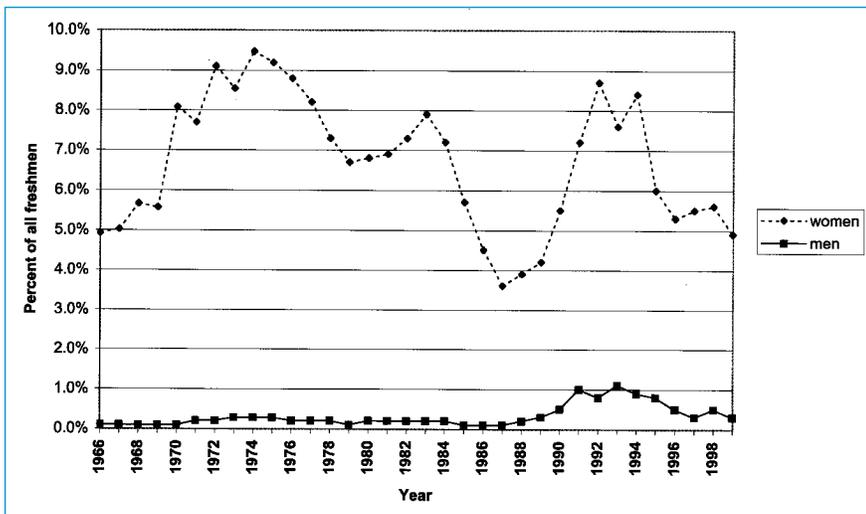


Figure 2.  
Proportion of Freshman Indicating Probable Career in Nursing



less than 2% of the RN workforce, they were excluded from the analysis. RNs who worked between 0 and 30 hours in a typical week were considered part-time workers, and RNs who worked more than 30 hours were considered full time. These data were used to estimate the number of RNs of each single year of age that were working in each year. The number of working RNs were estimated on a full-time equivalent (FTE) basis (as the number of full-time employees

plus one-half the number of part-time employees). All estimates were weighted by sampling weights provided by the CPS, making them representative of the U.S. noninstitutionalized population.

Changes observed in the CPS data in the size and age of the RN workforce were decomposed into three distinct components: population, age, and cohort effects. Population effects reflect changes in the total U.S. population born each year, and are expected to cap-

ture the demographic impact of the aging baby-boom generation on the age of the workforce. Age effects reflect the relative propensity of RNs to work at any given age, and are expected to capture the tendency of RNs to work less during their childbearing years and as they approach retirement age. Finally, cohort effects reflect the propensity of individuals born in any given year to work as RNs, and are expected to capture any change over time in the attractiveness of nursing as a career. Details of the model used to estimate each of these effects are provided in Buerhaus and colleagues (2000b).

The second source of data for the analysis was obtained from information on career plans of college freshman reported in the Cooperative Institutional Research Program (CIRP) freshman surveys, conducted each fall since 1966 by Higher Education Research Institute at the University of California, Los Angeles. Each year the CIRP surveys between 250,000 and 350,000 first-year students attending a nationally representative sample of between 300 and 700 2-year and 4-year colleges and universities. The survey provides annual data on background characteristics, attitudes, education, and future goals of new students entering college in the United States between 1966 and 1999. Data from these surveys are widely used and cited by researchers in higher education (Astin et al., 1997).

In this analysis, data from the CIRP freshman surveys were obtained on respondents' age, gender, career plans, and average grades in high school. The question on age asks a student's age on December 31st of that year, and so can be used to accurately determine birth year (year of the survey minus age). The question on career plans asks students to choose their "probable career occupation" from a list of 48 options including "nurse." The list of options was the same in all years, except for 1973-75 when a larger list of options was

used. As a result, estimates of career plans for 1973-75 may not be directly comparable to other years. Finally, in all years of the survey, students were asked "what was your average grade in high school?" and could choose from A, A-, etc. All analyses were weighted by sampling weights provided by the CIRP survey, ensuring that estimates are nationally representative.

In the present analysis, the sample was limited to first-year students age 20 and under. Less than 5% of the sample is over age 20 in any given year, while the majority of respondents are age 18. Thus, it is reasonable to assume that the sample selected for the present study in each year reflects the probable career of cohorts born 18 years earlier. For some years (1966-1970, 1973-1975) data were not available on career plans for the sample that was under age 20. Because data for the sample that was age 20 or under followed similar time patterns to the data for the entire sample, data from the entire sample were used to impute the missing years. In particular, available data from the 1970s were used to calculate the average ratio of estimates from the 20 and under sample to corresponding estimates from the full sample. Estimates from the full sample were then multiplied by this ratio to impute estimates for the 20 and under sample for the years in which data were not available.

## Results

The decline in the propensity of young women to choose nursing as a career was documented in an earlier work (Buerhaus et al., 2000b). The propensity of each birth cohort to become an RN was estimated based on the number of RNs observed to be working at each age relative to that of other cohorts at the same age. The result was that the number of RNs observed in the most recent cohorts entering the labor market (those born in the early 1970s) was 30% to 40%

Figure 3.  
Proportion of Freshmen Indicating Probable Career as a Primary School Teacher

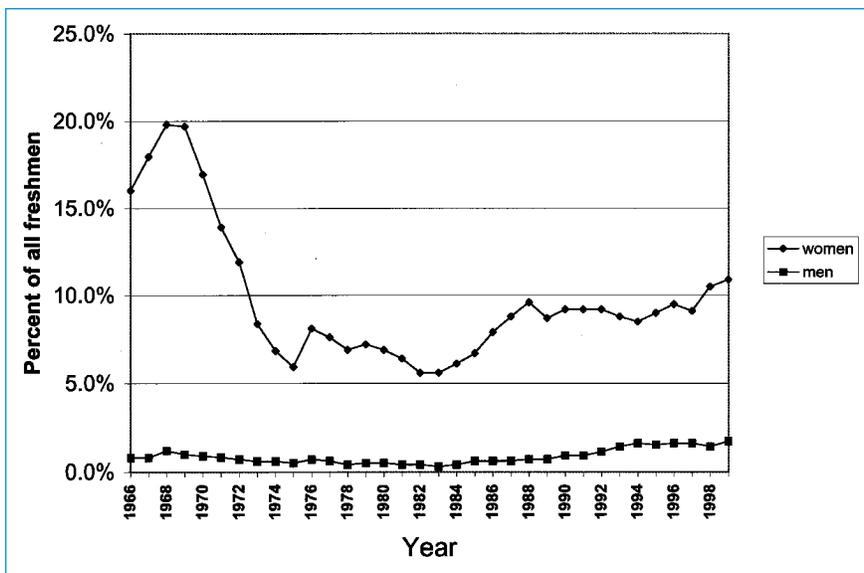
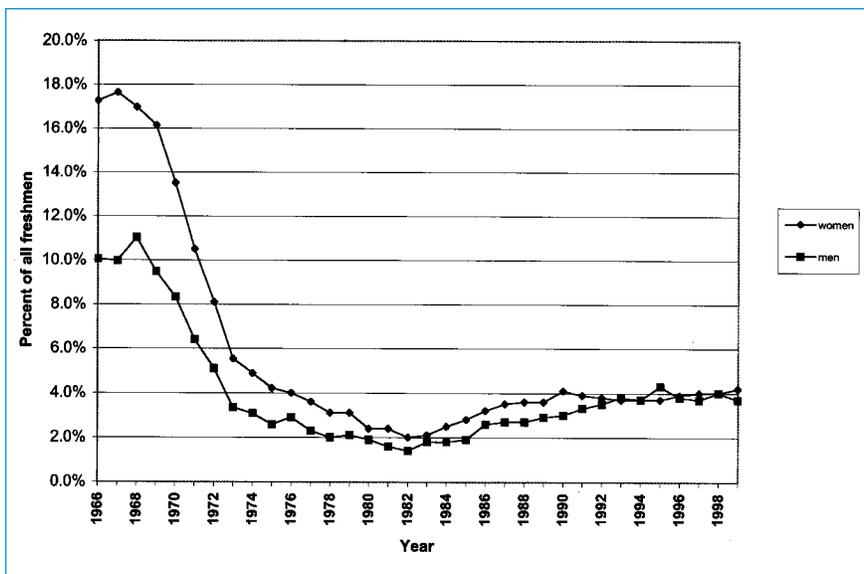


Figure 4.  
Proportion of Freshmen Indicating Probable Career as a Secondary School Teacher



lower than that observed at similar ages for cohorts that entered the labor market 20 years earlier.

This declining propensity to become a nurse is vividly apparent in Figure 1. This figure plots estimates of the propensity to become an RN for each birth cohort (according to the year in which

each cohort turned 18, relative to the cohort born in 1955 (individuals who were 18 in 1973). For comparison, also plotted is the proportion of college freshman in each cohort who indicated that nursing was their probable career, again relative to the cohort born in 1955 (freshman in 1973). However,

Figure 5.  
Proportion of Freshmen Indicating Probable Career as a Doctor or Dentist

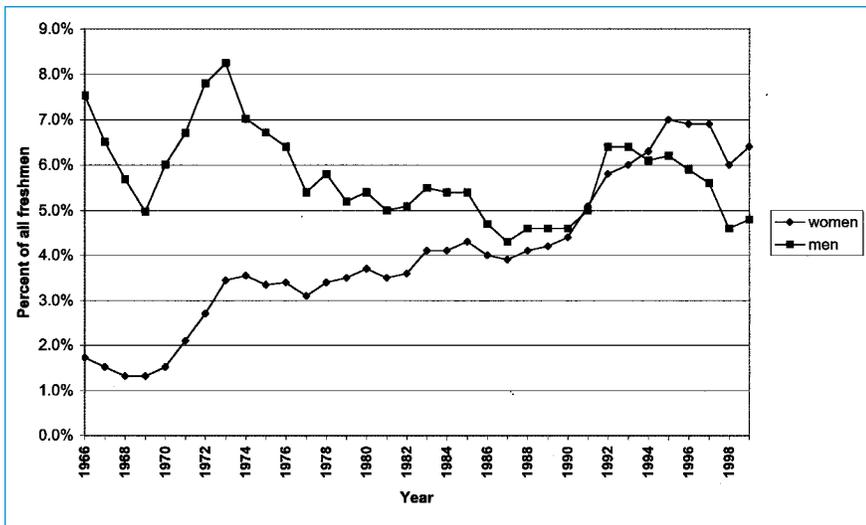
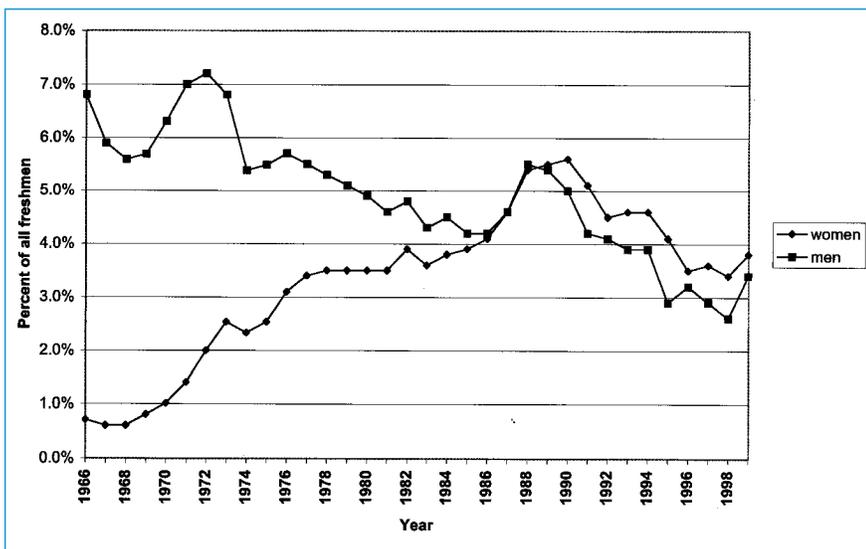


Figure 6.  
Proportion of Freshmen Indicating Probable Career as a Lawyer



because estimates of the propensity to become an RN were based on the numbers of working RNs, the estimates end with the 1974 birth cohort, as more recent cohorts have not been observed in the labor market for a sufficient period of time. Thus, data from the freshman survey may provide a more up-to-date indication of what to expect from cohorts who will enter the labor market over the next decade.

As seen in Figure 1, there has

been a dramatic decline in the propensity to become a RN among cohorts born after 1955. The two estimates (one from the freshman survey and the other from our earlier study) track each other reasonably well during the period in which they overlap, with a correlation of 0.6. Both estimates suggest that the peak interest in nursing occurred among cohorts graduating from high school around 1973. Since then, interest has declined by

roughly 40% as of the last year of data available for each measure. In the most recent years, data from the freshman survey show no sign of renewed interest in nursing. However, estimates from the freshman survey show more volatility in students' interest in nursing among the cohorts who graduated from high school in the late 1980s and early 1990s.

Interestingly, the freshman survey (but not the earlier propensity estimates) indicates a temporary increase in students' interest in nursing that peaked in 1992 and then disappeared. Note, however, that during the early 1990s real wages of RNs were at an all time high, and publicity surrounding the nursing profession was relatively positive (Buerhaus & Staiger, 1996, 1999). Since the earlier propensity estimates were based on the number of RNs in the workforce, rather than the intentions of freshman, this evidence suggests that many of the freshman who were interested in nursing in the early 1990s did not, in fact, become RNs. Nevertheless, the evidence from the freshman survey provides some encouragement that improved working conditions for nurses may attract more young people back into the profession.

Why are only half as many women entering nursing today as compared to 25 years ago? The most likely cause is the expansion of career opportunities in traditionally male-dominated fields over the last 3 decades. Three trends observed in the freshman survey data support this explanation.

The first trend is that women, but not men, have stopped entering a wide range of traditionally female-dominated occupations over the last 30 years. As seen in Figure 2, the decline in interest in nursing as a career occurred exclusively among women, while men's interest in nursing has increased but still remains quite low. A similar decline in interest among women has occurred in other traditionally female-dominated careers.

For example, interest among women and men in primary school teaching (see Figure 3) has followed a similar pattern to nursing, with women's interest declining dramatically over this period while interest among men increased slightly but remained low. Interest in secondary school teaching (see Figure 4) has declined among all freshmen, but more so among women, so that now men and women are equally likely to list this as a probable career.

The second trend reveals a corresponding increase in interest among women in careers that were traditionally dominated by men, particularly in professional and managerial occupations. For example, interest among women in medicine (see Figure 5) and law (see Figure 6) has increased to the point where women and men are now roughly equally likely to list these professions as probable careers. Interest among women in business (see Figure 7) has also increased relative to men, although men are still more likely to list business as a probable career. Thus, it appears that many women who in the past would have felt constrained to become nurses and teachers have more recently moved into managerial and professional occupations with higher pay and prestige.

The final trend (see Figure 8) is the decline in the average high school grades of women interested in nursing relative to all other freshman women. As shown in Figure 8, the proportion of entering freshman women interested in non-nursing careers that received A's in high school increased from 26% to 41% between 1976 and 1999 (reflecting general grade inflation, particularly during the 1990s). In contrast, among women interested in nursing, the proportion receiving A's in high school has only increased from 21% to 29% over this time period, lagging well behind their freshman counterparts. Moreover, the academic ability of women interested in nursing reached its low point in

Figure 7.  
Proportion of Freshmen Indicating Probable Career in Business

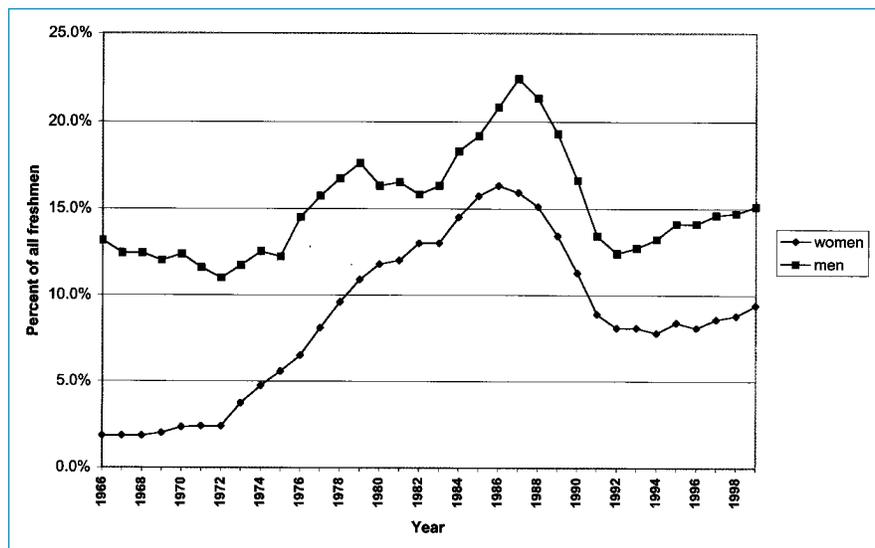
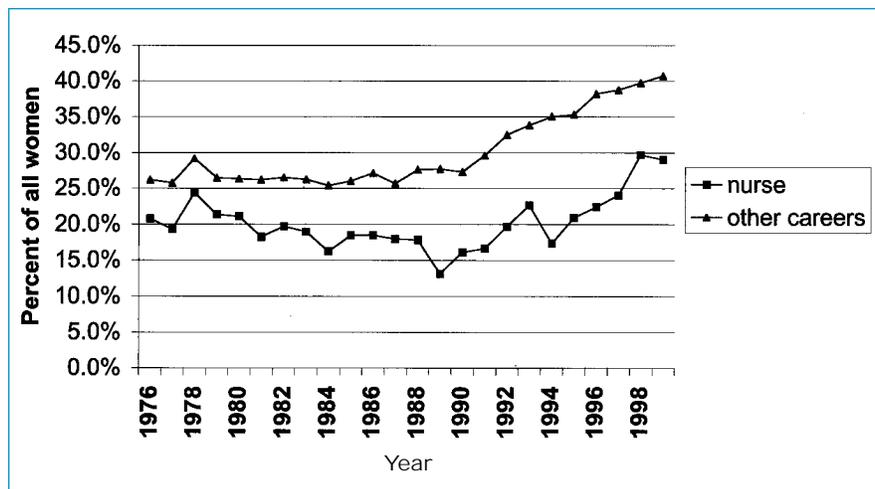


Figure 8.  
Percent of College Freshmen Women Interested in Nursing Who had A- or Better Averages in High School, Compared to All Other Women



1989, around the same time that interest in nursing was at an all time low, with only 13% receiving A's in high school as compared to 28% among all other freshman women. Thus, it appears that the more academically skilled women were the ones most likely to take advantage of the new opportunities for women in other careers.

### Concluding Comments

Overall, the evidence presented in this analysis suggests that the main cause of the declining interest in nursing has been the expansion of career opportunities in traditionally male-dominated occupations over the last 3 decades. The number of young women entering the RN workforce has declined because

many women who would have entered nursing in the past, particularly those with high academic ability, are now entering managerial and professional occupations that used to be traditionally male. Thus, the declining interest in nursing is driven by fundamental, permanent shifts in the labor market that are unlikely to reverse. As a result, while interest in nursing may yet revive, it appears unlikely that women will ever again enter nursing careers at the rate seen in the boom years of the 1970s. In fact, surveys of freshman from the last 5 years show no evidence of any sustained re-emergence of interest in nursing. If the intentions of freshman continue to be an accurate indicator, there will not be any increase in the number of young nurses entering the labor market in the near future.

The analysis of evidence showing the decline in interest in nursing, combined with the results and implications of a rapidly aging RN workforce, present a sober, if disturbing picture of the future of the nursing profession. It is difficult to envision how the nursing profession will be able to respond adequately to increasing demand and other pressures arising in the health care system if the profession can not replace its members who will be retiring in large numbers in the not-to-distant future. Yet, the analysis described in this article suggests that the current low interest in nursing is likely to persist into the future, as it is the result of increased career opportunities for women. The challenges before the nursing profession and the larger health care system, which depends intimately on nurses, are daunting. It is now crucial, therefore, to develop strategies and ideas that policymakers can consider in attempts to strengthen both the current and future professional nursing workforce. The major options available to policymakers will be discussed in the last of this four-part series which will appear in the November/December 2000 issue of *Nursing Economic\$*.

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