USNY STATE EDUCATION DEPARTMENT

# RESEARCH REPORT

# Registered Nurses in New York State, 2002

## Volume I: Demographic, Educational, and Workforce Characteristics

**SEPTEMBER, 2003**


Office of the Professions and
Fiscal Analysis and Research Unit

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# Volume I: Executive Summary

## SUMMARY

In April 2001, the State Education Department (SED) presented the Board of Regents with a report on the nursing shortage in New York State.[1] The report was part of a series of horizon issue reports designed to address important issues affecting the future of professional regulation. The analysis offered compelling evidence of the nursing shortage projected in coming years. The report highlighted the root causes of the shortage and described how the current shortage differed structurally and demographically from previous shortages. The Board of Regents acknowledged the impending nursing shortage as having significant implications for the health care system and their public protection mission. As Commissioner Richard P. Mills emphasized:

> "One important role of the Board of Regents is to identify public protection issues and to take action to address them swiftly. Nothing is more important to ensure our future well-being. Health care and education go hand in hand to make our State an economic leader and a good place to live." [2]

In response to the potential crisis and in carrying out the Regents regulatory responsibility for over 300,000 licensed nurses in the State, Chancellor Carl T. Hayden called for the formation of a Blue Ribbon Task Force on the Future of Nursing and tapped Regent Diane O'Neill McGivern, an innovator in nursing education, to lead it. Regent McGivern convened two Task Force meetings later that year (on June 28 and September 7). She invited 26 influential leaders in healthcare, education, and government to participate in the Task Force. Members were selected to represent significant areas of responsibility uniquely positioned to address the shortage. The Task Force advanced a set of recommendations focused upon the growing shortage.[3]

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[1] The New York State Board of Regents, Office of the Professions, *The Nursing Shortage*, BR (D) 6.1-2 and attachment, April 16, 2001 (Albany, NY).

[2] Commissioner Richard P. Mills, New York State Board of Regents Blue Ribbon Task Force on the Future of Nursing, available at http://www.op.nysed.gov/tfwork.htm.

[3] The recommendations are fully described in two separate full board Regents reports: *Addressing Nursing and Other Professional Work Force Shortages* and *Follow-Up Activities on Recommendations of the Regents Blue Ribbon Task Force on the Future of Nursing,* December 4, 2001 and March 4, 2002, respectively (Albany, NY).

One of the six broad strategies recommended by the Task Force was to improve data collection and develop a reliable, centralized source of data upon which employers, policymakers, researchers, and legislators may base public policy and resource allocation decisions. In addition, the Regents recognized that the data source needed to include current, comprehensive information about specific characteristics, attributes, and expectations of New York's nurses. Accordingly, a large-scale randomized survey of registered nurses was designed during the summer of 2002 through a partnership with the Fiscal Analysis and Research Unit, the Office of the Professions in SED and other key stakeholders. The survey was sent to over 31,000 nurses registered with the Department. A useable response rate of 45.6 was achieved. Four different tests of sample representativeness revealed that survey respondents mirrored very closely the characteristics of the individuals listed in the active licensure file from which the sample was drawn.

The results of the study are presented in three volumes. Volume I describes basic demographic characteristics, education, employment status, salary, and the nursing supply. Volume II analyzes the types of organizational climate factors affecting nurses, the impact of these factors on staff turnover, and nurses' support for a variety of policy initiatives. Volume III is a supplement containing a detailed look at inpatient staff RNs as well as comments from survey respondents.

## VOLUME I: MAJOR FINDINGS

### *Basic Demographics*

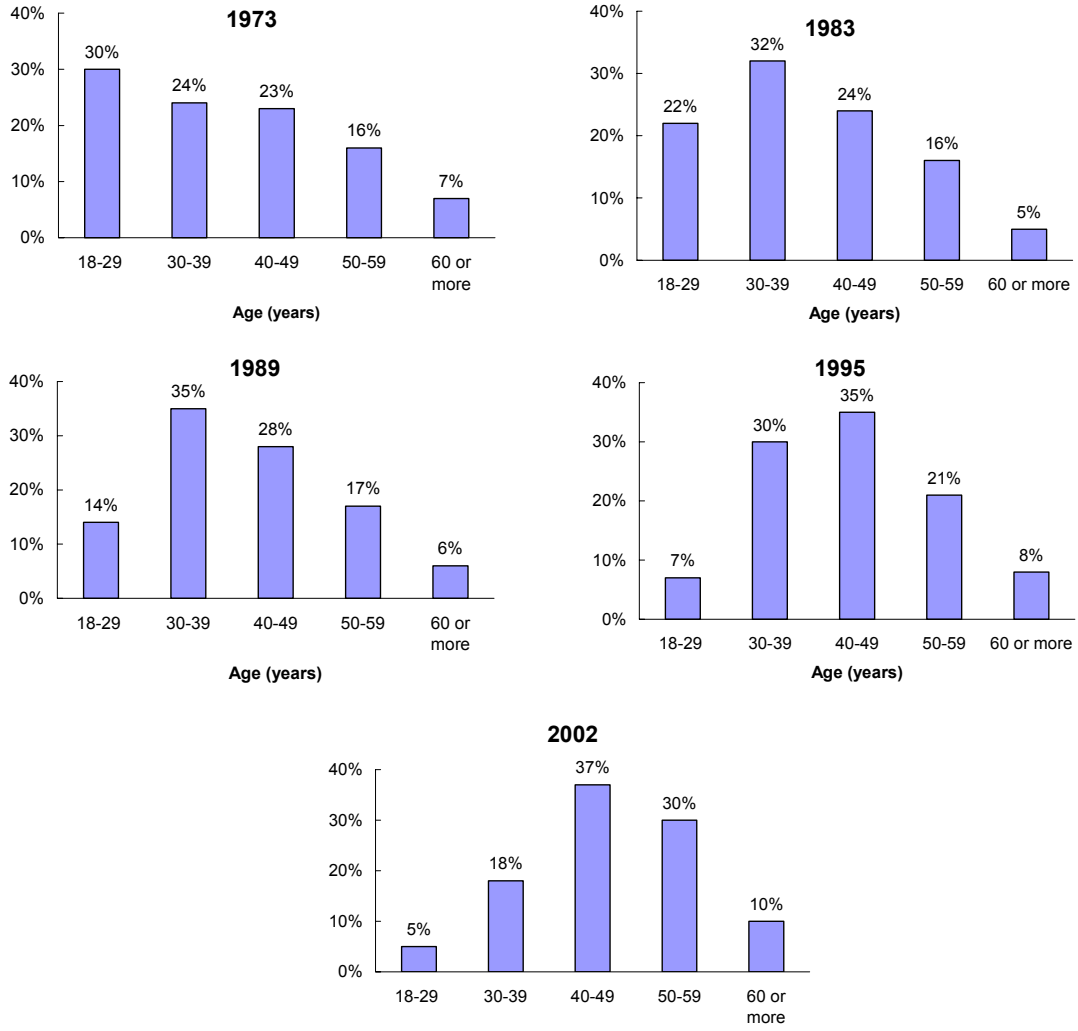
#### The Active RN Workforce

- Based upon the Fall 2002 survey, approximately **165,640 RNs are working in the State,** which is a little more than half the number of RNs registered to practice. This figure corresponds closely to a 1996 figure of 165,667 RNs in New York State developed by the Health Resources and Services Administration (HRSA)—indicating virtually no growth during this six-year period.

#### Age

- **The average RN today is 47 years of age,** a figure that reflects a substantial aging of this workforce over time. In 1989 and 1995, the comparison figures were 41 and 44 years respectively. More importantly, the "shape" of the RN age distribution has shifted greatly. In 1973, 30 percent of the workforce was 29 or younger while only seven percent was 60 years of age or older; i.e., for every nurse aged 60 or over in the labor pool there were four nurses under 30. Thirty years later, that four-to-one "youth-to-age" ratio is one to two; for every two nurses 60 and over, only one RN under 30 is currently in the workforce. (See Figure ES.1.)

Figure ES.1
Changes in the Age Distribution of the New York State Registered Nursing Workforce, 1973-2002




- The pronounced shift in the age distribution is also reflected in the average age of career entry. Active nurses in our sample who completed their basic degree preparation during the **1980s** averaged 26 years of age at that time; **57 percent completed their basic credential before the age of 25.** In contrast, survey respondents who received their basic credential **in the year 2000 or later** averaged 31 years of age at that time and only **35 percent completed it before age 25.**

### Minorities and Men

- **Approximately one in five RNs working in New York State is a member of a minority group,** where minority is defined as either (non-Hispanic) Black, Hispanic, Asian, Native American, or individuals of "two or more races."

- The racial and ethnic diversity of nurses is far greater in New York City than elsewhere in the State. While 52 percent of the nurses working in New York City are members of minority groups, the contrast figure is only 13 percent in the downstate suburbs, and less than four percent for RNs working in the rest of the State.

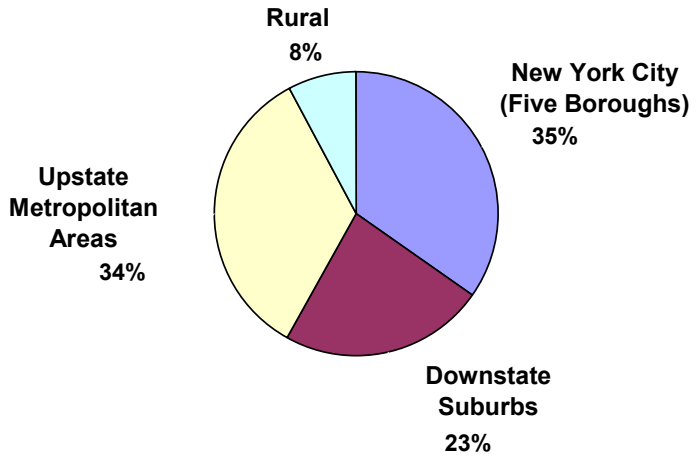
- In 1989, 3.8 percent of the active RN workforce was male, a figure which increased to 5.3 percent by 2002.

- While 20.4 percent of RNs statewide were born outside the U.S., in New York City the foreign-born figure more than doubles to 45.9 percent. Similarly, while only 12.4 percent of the State's active RNs were educated outside the U.S., almost 30 percent of New York City's RNs were educated abroad.

### Work Location

- Roughly a third of RNs work in New York City, while another third work in the upstate metropolitan areas. Just under a quarter work in the downstate suburbs while eight percent work in rural counties. (See Figure ES.2. Appendix E contains a list of counties in each of these regions.)

Figure ES.2
Regional Distribution of RNs Currently Working
in New York State



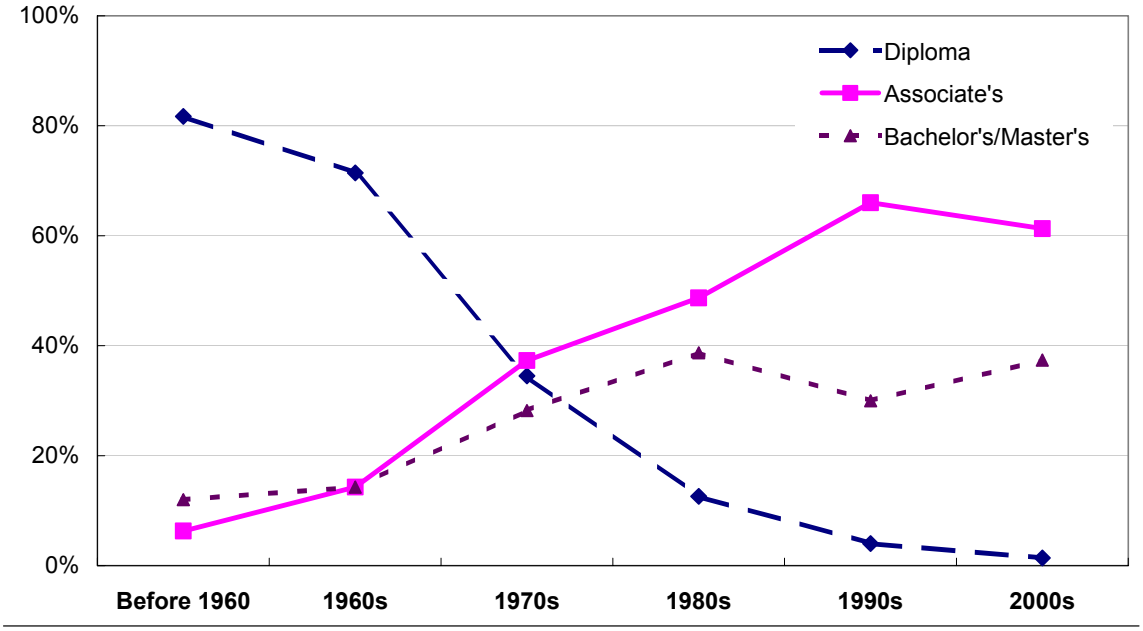
### *Education*

- A significant percentage of nurses have exceeded the basic preparation for entry into the profession. **RNs who have earned either a master's degree or doctorate represent 17.5 percent of the active workforce.**

- Nearly a third of RNs actively working in New York State plan to pursue additional nursing education. If they follow their plans, **an estimated 15,000 RNs should have returned to nursing education programs in 2002-2003, while 18,000 more plan to head back to school between 2003-2005, and another 18,000 expect to return sometime after that.**

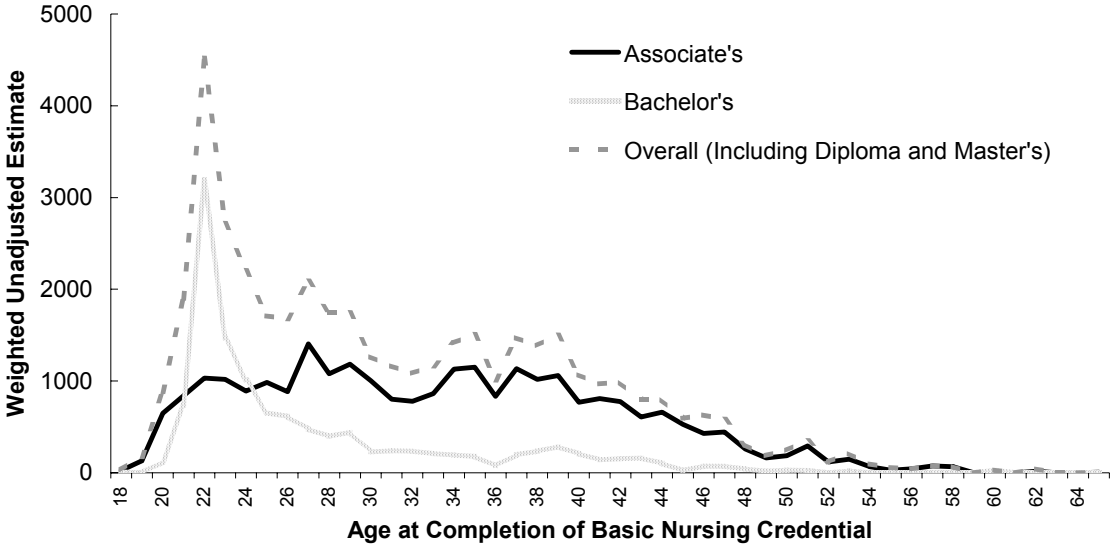
- The professional educational preparation of RNs has changed remarkably over the past three decades. The survey indicates that almost 82 percent of active RNs who completed their education before 1960 received a diploma as their basic credential, while 6.3 and 12.0 percent received an associate's or bachelor's degree, respectively. In contrast, among those who completed their basic education in the last two to three years, only 1.4 percent received a diploma, while **61.3 percent received an associate's degree and 37.0 percent completed a bachelor's degree as their basic credential.** (See Figure ES.3.)

Figure ES.3
Basic Nursing Preparation, Before 1960 through 2002
(By Decade of Graduation for RNs Currently Working in New York State)



- Late or deferred entry into nursing has become typical for nurses graduating since 1990. However, the later pursuit of the basic education credential is far more pronounced among those entering via the associate's degree career path (whose average age at completion of the basic credential is 33.4 years) than those entering via the longer four-year bachelor's path (whose average age at completion of the basic credential is 27.3 years). (See Figure ES.4.)

Figure ES.4
Age at Basic Credential by Basic Credential Type
(RNs Working in NYS Who Finished Basic Preparation in 1990 or Later)




- Plans for higher-level educational preparation also differentiate RNs whose basic educational credential for licensure is a bachelor's degree from those who entered nursing with an associate's degree. For example, **RNs whose basic preparation was a bachelor's degree were almost 2 ½ times more likely to already have a master's degree than their associate's degree entrant counterparts** (26.7 percent vs. 9.6 percent). Bachelor's-prepared nurses are more likely to plan on pursuing a master's degree in the next two years than their associate's degree counterparts (22.5 percent vs. 11.0 percent).

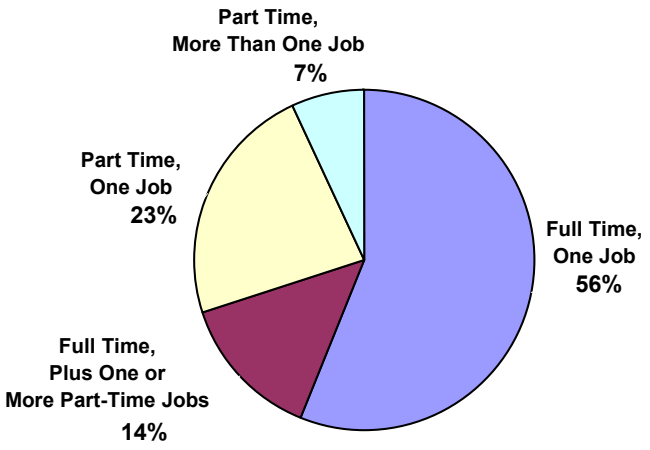
- While numerous factors account for the decision to pursue additional educational preparation, over fifty percent of active New York RNs surveyed cited their belief that "the benefit does not justify the tuition or time cost" as one of their top three reasons for not furthering their formal education.

## *Employment Status*

### Workload

- **Well over half (56.4 percent) of New York's active RN workforce is working in a single job on a full-time basis.** Three out of every ten nurses choose to work exclusively on a part-time basis—either in a single part-time job (22.5 percent) or in multiple part-time jobs (7.3 percent). For 13.9 percent, a full-time job is complemented by one or more part-time jobs, resulting in an average workweek of 55.7 hours for this group. (See Figure ES.5.)

Figure ES.5
Employment Status
(RNs Working in New York State)




- RNs who reported earning lower levels of hourly monetary compensation tended to work more hours each week. This finding suggests that many nurses incur these heavier workloads because of poor hourly wage benefits.

### Employment Settings

- **Although 54 percent of RNs are employed in hospital settings, that figure has fallen substantially since 1989 when 66 percent of the active workforce worked in hospital settings.**

### Patient Care

- **Roughly eight of every ten RNs in the State spend at least some portion of their workday in direct patient care, but for those who do, only slightly more than half of their workday is actually spent in direct patient care activity.**

- For those nurses who provide direct care, almost a third of their average workday time is spent on paperwork. **By our estimates RNs in New York who work in direct patient care spend approximately 1.55 million hours collectively every week on paperwork alone.**

- **Age plays a pivotal role in a nurse's decision to work in a direct-care capacity.** Among nurses under 30 years of age in our sample, 96 percent spend some portion of their day in direct patient care. As nurses get older, that figure continuously drops so that among RNs 60 years of age and older, only 68 percent work in direct patient care in some capacity.

### Overtime

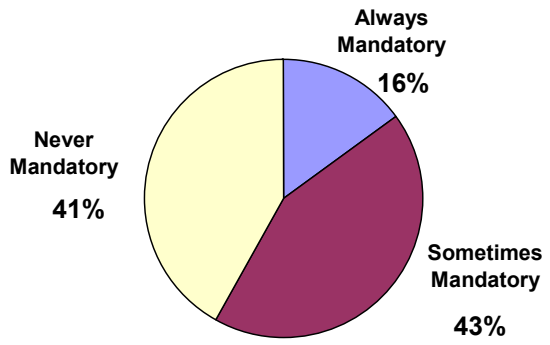
- **The percentage of RNs who work overtime in some capacity, including any extra hours beyond their regularly scheduled workweek, varies substantially by setting**—from 46.5 percent for hospital-based nurses to 13.2 percent for school health nurses. **Among inpatient staff nurses, 52 percent are routinely involved in overtime work of some type.**

- **Overall, only 16 percent of active New York RNs who work overtime report that their overtime is always mandatory. Forty-three percent report that it is sometimes mandatory, while the remaining 41 percent indicate that it is never mandatory.** (See Figure ES.6.)

Figure ES.6

Mandatory Overtime in Primary Nursing Job

(RNs Working in New York Who Report Working Overtime)



### *Salary*

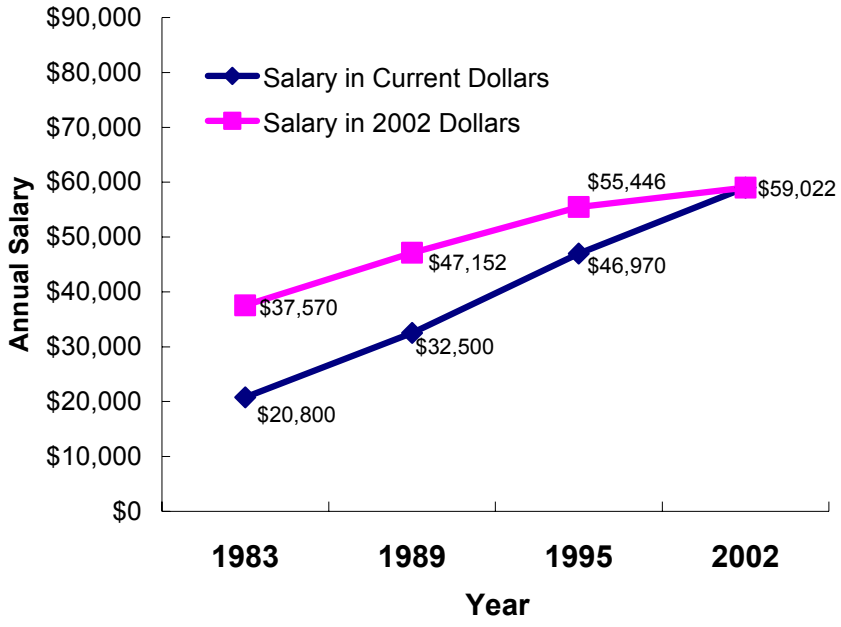
- **The salary compensation of RNs varies substantially by region, work setting, and job title.**

- During the 1995 to 2002 period, nurses gained about nine-tenths of a percent of their average earnings in real, inflation-adjusted terms during each year. This marks a substantial slowing from the 2.7 annual percentage growth from 1989 to 1995 when the average nurse experienced a real, inflation-adjusted earnings gain of over $8,000. (See Figure ES.7.)

Figure ES.7

Average Full-Time RN Salaries, 1983-2002[a]

(RNs Working Full Time in Nursing in New York State)




[a] Figures for 1983 through 1995 for RNs employed full time in nursing in New York State are based on figures reported in the 1998 SED report, *Registered Nurses in New York State, 1995.* Figures for 1995 are based on midpoints of salary ranges. Figures for 2002 are for RNs working full time in nursing in New York with only one job. The nationwide Consumer Price Index, All Urban Consumers (CPI-U) was used to adjust for inflation.

- **The average total annual earnings for all nursing jobs in New York City is over $66,000 per year, about 25 percent higher than the statewide average of $53,000. Earnings of upstate RNs (both urban and rural) are around $41,000, which is over 20 percent lower than the statewide average.**

- The earnings of RNs whose positions typically require advanced academic or clinical training is well above statewide averages. For example, adjusting for hours worked, certified registered nurse anesthetists, nursing executives, and nurse practitioners earn $85,862, $69,703, and $65,092 per year, respectively.

- When one controls for both region of practice and highest educational credential there are no significant differences in salary between minority and non-minority RNs.

- Earnings of RNs in both inpatient and outpatient hospital-based settings have been especially hard hit. During the 1989-1995 period, earnings of inpatient and outpatient hospital RNs increased by about 3.2 and 2.9 percent annually (in constant 2002 dollars). In the more recent 1995-2002 period, however, **RNs in the both the inpatient and outpatient hospital sectors began to lose ground to inflation as their inflation-adjusted earnings slipped by one-tenth of one percent annually.**

- The HMO/Managed Care/Insurance sector stands out because of its high inflation-adjusted performance during the 1995-2002 period when virtually every other sector was losing ground to inflationary trends. For RNs in this sector inflation-adjusted annual earnings growth during the 1995-2002 period averaged 2.4 percent—a sharp contrast to the erosion in real earnings experienced in most other sectors. Earnings grew the fastest in this sector, despite the fact that it is known for embracing aggressive cost-containment measures.

- When we examine earnings by years of work experience, the findings are progressively incremental up to the 20-year experience level, at which point the relationship flattens considerably. **Thus, there is less financial return for remaining in the profession after one has worked for more than 20 years.**

- **There is strong evidence of the investment value of higher educational pursuits.** In this study sample, the average workweek adjusted earnings of an RN whose highest educational credential is an associate's degree were $47,384 in 2002. Those with a higher level nursing degree (at the bachelor's, master's, or doctoral levels) had workweek adjusted average earnings of $54,996, $65,760, and $69,228, respectively.

### *Supply Issues*

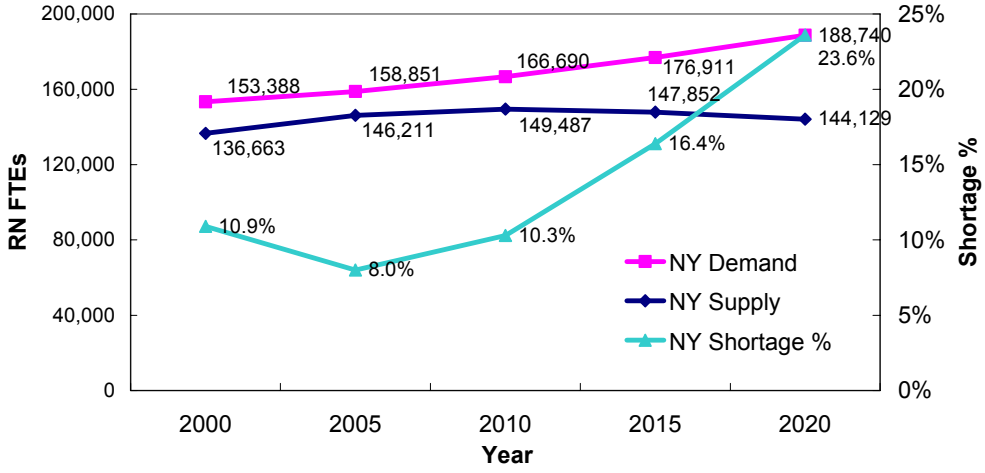
- Survey results indicate that as of September 2002 there were 165,640 registered nurses working in nursing in New York State. The report describes two methods used to translate this 165,640 figure into full-time equivalents (FTEs). **The two methods yield an RN workforce of 140,974 or 161,706**

**FTEs.** The first method accords one FTE to RNs whose primary job is full time and 0.5 FTEs to RNs whose primary job is part time. The second method uses RNs' reported weekly hours worked in all nursing jobs, including overtime. The discrepancy between the estimates using the two methods suggests that **many health care providers are coping with staffing shortages by "stretching" the existing workforce through extra hours, added part-time jobs, and overtime work.**

- HRSA projections estimate demand for RNs in New York State in September 2002 at 156,394. If we accept this demand estimate, we either have a gap of 15,420 FTEs using the traditional FTE calculation method, or a surplus of 5,312 using the "total hours" method.

- HRSA has created models to generate long-term state-by-state projections for both the supply of and demand for registered nurses.[4] The HRSA projections for New York State appear in Figure ES.8. **As the figure shows, HRSA expects the supply/demand gap to diminish slightly from 10.9 percent in 2000 to 8.0 percent in 2005 before rising steadily to 23.6 percent by 2020.**

Figure ES.8
HRSA Projected New York FTE Registered Nurse Supply, Demand and Percent Shortage, 2000-2020[a]




[a] U.S. Department of Health and Human Services, Health Resources and Services Administration. *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020.* (July 2002).

[4] U.S. Department of Health and Human Services, Health Resources and Services Administration, *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020* (July 2002).

- We estimate that 37,852 RNs or 22.9 percent of the current workforce will be leaving the profession in the next 4.9 years. This means that 127,788 RNs expect to remain in the labor market at least until 2007.

- The projected "leave-taking" rates described in our analysis vary only modestly across Health Service Areas. However, from a risk-appraisal perspective, **HSAs with both relatively high leave-taking percentages and lower existing current supply rates may be faced with substantial supply-demand imbalances in the future. Jamestown and Glens Falls are two HSAs in this situation.**

- Projected estimates of nursing supply and demand imbalances for 2007 were made using HRSA's projections for future system demand for nurses in New York State, data from the survey about RNs' exit intentions, and trend data on new entrants to nursing. HRSA's own supply and demand projections result in an estimated shortfall of 14,466 RN FTEs in New York State in 2007. **SED's high supply estimate, using the "total hours" method of FTE calculation, results in a shortfall of 11,775 FTEs. SED's lower supply estimate, using the traditional FTE calculation method, results in a projected shortfall of 30,858 RN FTEs in 2007.**

***Nurses' Perceptions of the Shortage***

- Over 80 percent of the RNs currently working in New York State believe that there is a shortage of similarly qualified nurses in their geographic area. Analyses of the "search time" incurred by respondents in finding their first job confirm this view. The average search time was 1.5 months, indicating a very high demand for available nurses and minimal "slack" in the available labor pool.

- On a statewide basis, 45 percent indicated either that it would be very easy or quite easy to find a job as good as their current position in their geographic area. New York City and downstate suburban nurses were especially optimistic in this regard, with 50 percent indicating it would be either "very easy" or "quite easy." Nurses in rural areas were somewhat less optimistic; only 35 percent indicated that finding another job in their area would be "very easy" or "quite easy."

- Nursing homes and hospitals were the two employment settings that stood out in terms of job-finding ease. In these two sectors, 54.1 percent and 51.4 percent of RNs respectively felt that comparable jobs within their geographic area would be "very easy" or "quite easy" to find.

# Chapter 1: Introduction

## BACKGROUND

In April 2001, the State Education Department presented the Board of Regents with a report on the nursing shortage in New York State.[1] The report was part of a series designed to address important issues affecting the future of professional regulation. The analysis offered compelling evidence of the nursing shortage projected in coming years. The report highlighted the root causes of the shortage, and how the current shortage differed structurally and demographically from previous shortages. The Board of Regents acknowledged the impending nursing shortage as having significant implications for the health care system and their public protection mission. As Commissioner Richard P. Mills emphasized:

> "One important role of the Board of Regents is to identify public protection issues and to take action to address them swiftly. Nothing is more important to ensure our future well-being. Health care and education go hand in hand to make our State an economic leader and a good place to live." [2]

In response to the potential crisis and in carrying out the Regents regulatory responsibility for over 300,000 licensed nurses in the State, Chancellor Carl T. Hayden called for the formation of a Blue Ribbon Task Force on the Future of Nursing and tapped Regent Diane O'Neill McGivern, an innovator in nursing education, to lead it. Regent McGivern convened two Task Force meetings later that year (on June 28 and September 7). She invited 26 influential leaders in healthcare, education, and government to participate in the Task Force. Members were selected to represent significant areas of responsibility uniquely positioned to address the shortage. The Task Force advanced a set of recommendations focused upon the growing shortage.[3]

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[1] The New York State Board of Regents, Office of the Professions, *The Nursing Shortage*, BR (D) 6.1-2 and attachment, April 16, 2001 (Albany, NY).

[2] Commissioner Richard P. Mills, New York State Board of Regents Blue Ribbon Task Force on the Future of Nursing, available at http://www.op.nysed.gov/tfwork.html.

[3] The recommendations are fully described in two separate full board Regents reports: *Addressing Nursing and Other Professional Work Force Shortages* and *Follow- up Activities on Recommendations of the Regents Blue Ribbon Task Force on the Future of Nursing,* December 4, 2001 and March 4, 2002, respectively (Albany, NY).

One of the six broad strategies recommended by the Task Force was to improve data collection and develop a reliable, centralized source of data upon which employers, policymakers, futurists, researchers and legislators may base public policy and resource allocations. In addition, the Regents recognized that the data source needed to include current, comprehensive information about specific characteristics, attributes, and expectations of New York's nurses. Accordingly, a large-scale randomized survey of registered nurses was designed during the summer of 2002 in partnership with the Fiscal Analysis and Research Unit and the Office of the Professions in the New York State Education Department (SED) and other key stakeholders.

## RESEARCH OBJECTIVES

The current survey is the sixth study of the New York State registered nursing population undertaken by the Department.[4] This survey, like its predecessors, attempts to provide a comprehensive, quantitative description of the currently licensed registered nurses in New York State.[5] Unlike prior SED studies, however, this one examines work conditions and organizational climate factors known to be critical in creating a positive culture of retention (i.e., a workplace that empowers and is respectful of nursing staff). Additionally, respondents in this survey were asked to directly evaluate a variety of policy initiatives intended to improve the attractiveness of the profession.

### *Volume I*

The primary research objectives of Volume I are essentially to report on demographic data. This volume of the report:

- Describes with precision the major demographic, occupational, and educational characteristics of registered nurses in New York State (as of September, 2002);
- Compares, where possible, current demographic findings with findings from earlier nursing studies conducted in New York State;
- Synthesizes briefly current findings concerning projections of nursing supply and demand; and,
- Describes nurses' own views about supply and demand issues in their particular work settings and geographic locales;

### *Volume II*

The primary research objectives of the Volume II report are far more analytic in character. The second report volume:

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[4] The previous studies were conducted in 1973,1977,1983,1989, and 1995.

[5] More precisely, this nursing sample is based upon an extract from the nursing licensure files as of August 28, 2002.

- Examines important conditions of the work setting, with particular attention to certain conditions of the work climate (e.g., professional autonomy, cooperation, job satisfaction, organizational commitment, promotional opportunity, etc.);

- Determines the net impact and relative importance of these climate factors upon nurses' overall job satisfaction and organizational commitment;

- Determines the net effects of global job satisfaction and organizational commitment upon actual job-search behaviors, leave-taking decisions, and recommendations to others about a career in the nursing profession;

- Highlights nurses' level of support for a variety of policy initiatives of interest to the Regents Blue Ribbon Task Force and the Board of Regents; and

- Proposes recommendations based upon these findings.

### *Volume III*

Volume III accomplishes the same objectives as Volumes I and II, but with an exclusive focus on inpatient staff RNs. The third volume also includes comments from survey respondents. Although the survey did not ask respondents to explain their experiences and feelings towards nursing, many wrote in to express their views. Their remarks and observations help provide a context for the quantitative data analysis and offer policymakers with insights into life on nursing's front lines.

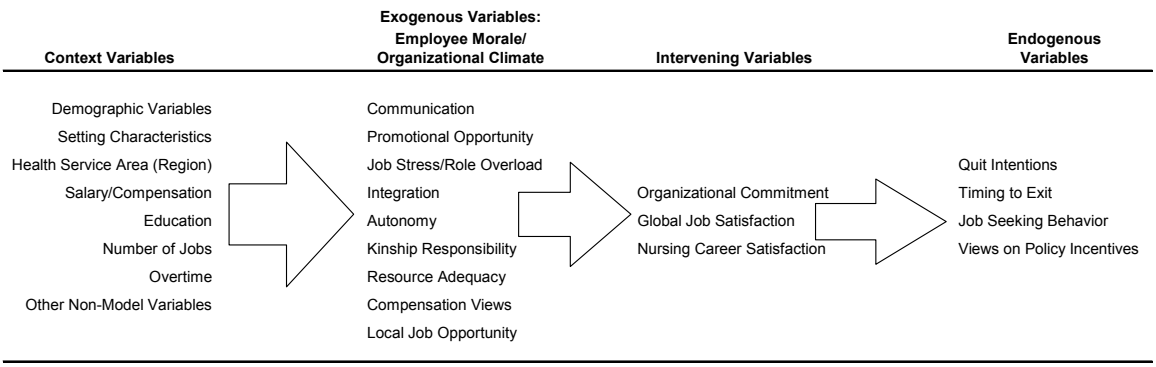
### *The "Price-Mueller" Conceptual Model of Employee Turnover*

The theoretical perspective that has shaped the choice of measures is an organizational theory of voluntary turnover. The study relies heavily upon the work of James L. Price and his colleagues at the University of Iowa.[6] The conceptual model of employee turnover (Figure 1.1) is based on the work of Price and Mueller. It is well suited to understanding problems in organizational retention, especially in the health care sector.

[6] See James L. Price and Charles W. Mueller, *Absenteeism and Turnover of Hospital Employees*, (Greenwich, CT: JAI Press, 1986).

**Figure 1.1**

**Modified Conceptual Model**




A full description of this conceptual model and the operational measures employed in the survey questionnaire is described in Appendix B.

## THE SAMPLING DESIGN AND DATA COLLECTION STRATEGY

The nurses surveyed were randomly selected from New York State Department of Education files of actively registered RNs as of August 28, 2002. The sample extract of nurses who were mailed the questionnaire was based upon systematic, disproportionate stratified sampling techniques. Major strata were defined based on each licensee's Health Service Area (HSA).[7] Sampling fractions were not uniform across all Health Service Areas; higher sampling rates were applied to more thinly populated HSAs to ensure an adequate number of respondents in the various regions of the State. A full description of the sampling design and sample reweighting requirements is described in Appendix C.

A total of 31,696 registered nurses were sent the survey in early October, together with a postage-paid, return-address envelope. In addition, a single follow-up postcard mailing was sent to all respondents several weeks after the initial mailing to improve response rates. Mailings returned to the Department which could be forwarded, were re-mailed. Extensive editing of each returned survey helped to ensure that well over 99.7 percent of the returned surveys were useable in the subsequent analysis. Subtracting undeliverable or unusable surveys from those sent resulted in a base of 31,231. In all, 14,237 useable surveys were available for analysis. Thus, the useable response rate was determined to be 45.6 percent. (See Appendix A for a copy of the survey instrument.)

[7] Health Service Areas are aggregations of counties whose local commuting patterns for hospital services appear to constitute a single, integrated market for health care; the particular HSA scheme which this study employs is based on the analysis by the federal Centers for Disease Control of 1989 hospitals.

## SAMPLE REPRESENTATIVENESS

An important issue in a statewide survey of this type is sample representativeness. Confidence in our ability to generalize from this sample of 14,237 nurses to the entire registered population of 228,661 registered nurses statewide requires that the respondent sample mirror certain known characteristics of the entire population. In order to make the comparison, the questionnaire requested information that also existed in the Department's licensure database as of September 28, 2002.

Ideally, the respondent sample would not differ appreciably from the licensure database in terms of age, ethnicity, years of experience, etc. A series of chi-square "goodness of fit" statistical tests were conducted to determine how well certain known characteristics of the nurse respondents mirrored the total population. These tests of sample representativeness are described at length in Appendix D. Specifically, these tests permitted a direct comparison of sample and population distributions on such variables as gender, ethnicity, age, and age upon completion of one's basic nursing preparation. With minor exceptions, these tests demonstrate that sample bias has been avoided and that the sample is broadly reflective of our State's entire registered nurse population.

## STRUCTURE OF THE REMAINDER OF VOLUME I

The remainder of the first volume is organized in the following sections:

- *Chapter 2:* major demographic trends among the registered RN population in New York State. Changes over time in basic age, gender, and ethnic distributions are highlighted;

- *Chapter 3:* educational background, educational attainment, and future educational plans;

- *Chapter 4:* dimensions of the work setting, the work week, use of overtime, and the number of jobs held by RNs;

- *Chapter 5:* salary compensation by region, by employment setting, experience, highest degree held, and related educational characteristics;

- *Chapter 6:* the current supply-demand problem for nurses in New York State. The chapter provides estimates of the current supply of full-time equivalent (FTE) RNs, gauges RNs' plans to leave the profession, and examines some of the potential supply-side challenges ahead;

- *Chapter 7*: nurses' perception of the shortage, the ease of finding jobs by labor force region and specialty area, and willingness to engage in significant travel time in order to access a job.

# Chapter 2: Basic Demographic Characteristics

## A NOTE ABOUT THE DATA

This study focuses on findings from the New York State Education Department's 2002 survey of RNs registered in New York State. We have tried to identify trends, when possible, using findings reported in previous Department-sponsored surveys, particularly those conducted in 1989 and 1995. Due to differences in both the sampling design and in the items in the survey instruments, cross-year comparisons should be interpreted with care.[1] Nevertheless, we present selected comparisons as our best estimate of how the nursing workforce has been changing over time.

## NEW YORK STATE REGISTERED NURSES

Comparisons of findings from the 2002 survey, previous Department-sponsored surveys of RNs, and national studies conducted by the federal Health Resources and Services Administration (HRSA) indicate that the Regents concerns about whether New York will have enough nurses to serve its residents is well founded. Even with the uncertainties we face in discerning trends, it is clear that New York State's active workforce is aging steadily. In addition, while the data suggest that the number of active RNs practicing in New York State did grow at an annual rate of about 1.1 percent during the 1989-1996 period, this net growth appears to have slowed to a virtual standstill in the 1996-2002 period.

[1] These concerns are more appreciable in tables with population estimates of absolute numbers—in contrast to those with comparisons of percentages or averages. Based on a number of tests conducted by the research team, the 1995 State Education Department study estimates shown in Table 2.1 appear to be too high.

Table 2.1

RNs in New York State, 1989-2002[a]

| | Year and Data Source | | | | |
|---|---|---|---|---|---|
| | 1989 (SED) | 1995 (SED) | 1996 (HRSA) | 2000 (HRSA) | 2002 (SED) |
| Total RNs Registered and Licensed in NYS (Actual) | 220,984 | 225,805 | N/A | N/A | 228,661 |
| RNs Employed in Nursing (Estimated) | 177,987 | 210,932 | N/A | N/A | 189,069 |
| RNs Employed in Nursing in NYS (Estimated) | 152,989 | 193,489 | 165,667 | 160,009 | 165,640 |
| FTE RNs Employed in Nursing in NYS (Estimated)[b] | 130,991 | 168,447 | 142,075 | 136,663 | 140,974 |

[a] Figures from 1989 and 1995 are from the New York State Education Department study, *Registered Nurses in New York State, 1995* (Albany, 1998). Figures from 1996 are from *The Registered Nurse Population, March 1996: Findings from The National Sample Survey of Registered Nurses* (U.S. Department of Health and Human Services, Health Resources and Services Administration, 1997). Figures from 2000 are from Spratley, et al., *The Registered Nurse Population, March 2000: Findings from the National Sample Survey of Registered Nurses* (U.S. Department of Health and Human Services, Health Resources and Services Administration, accessed on-line at http://bhpr.hrsa.gov/healthworkforce/reports/rnsurvey/rnss1.htm).

[b] These estimates use a 1.0 weighting for RNs with full-time jobs and a 0.5 weighting for RNs who work part time. They do not include overtime or extra jobs. FTE estimates for 2002 including hours beyond regularly scheduled workweeks and extra jobs will be discussed in Chapter 6.

Table 2.1 shows the total number of registered and licensed RNs in New York State in 1989, 1995, and 2002. It also displays estimates for each of those years plus 1996 and 2000 of the number of New York-registered RNs working in nursing, the number of RNs working in nursing in New York State, and the supply of nurses expressed as full-time equivalents (FTEs). Although the overall number of RNs registered and licensed by the State Education Department continues to grow slowly, net growth in the number of active RNs in New York State has **not** occurred since 1996.

The 1996 HRSA study population estimate of RNs employed in New York State was 165,667; the contrast figure shown in the 2002 study was 165,640—a no net growth scenario during this most recent period. This finding is especially unsettling given the increased demand upon the health care system projected to occur as the post-World War II age cohort begins to make more active demands for health services. A fuller discussion of the RN supply and evidence of a nursing shortage appears in Chapters 6 and 7.

## THE AGING OF THE NURSING WORKFORCE

The average age of the State's RN workforce continues to rise. As Figure 2.1 shows, the average age for RNs working in New York State is now 47 years. This is up from 41 in 1989 and 44 in 1995.

Figure 2.1
Average Age of RNs Working in New York State, 1989-2002

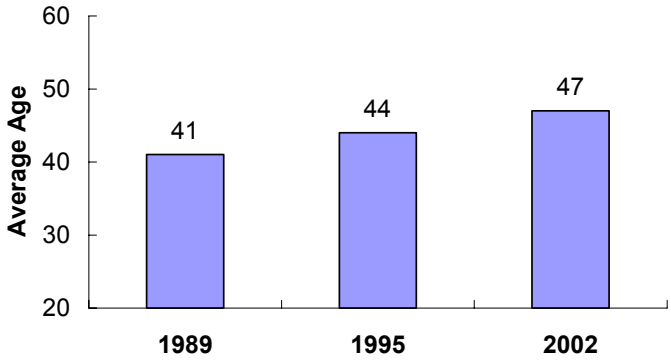
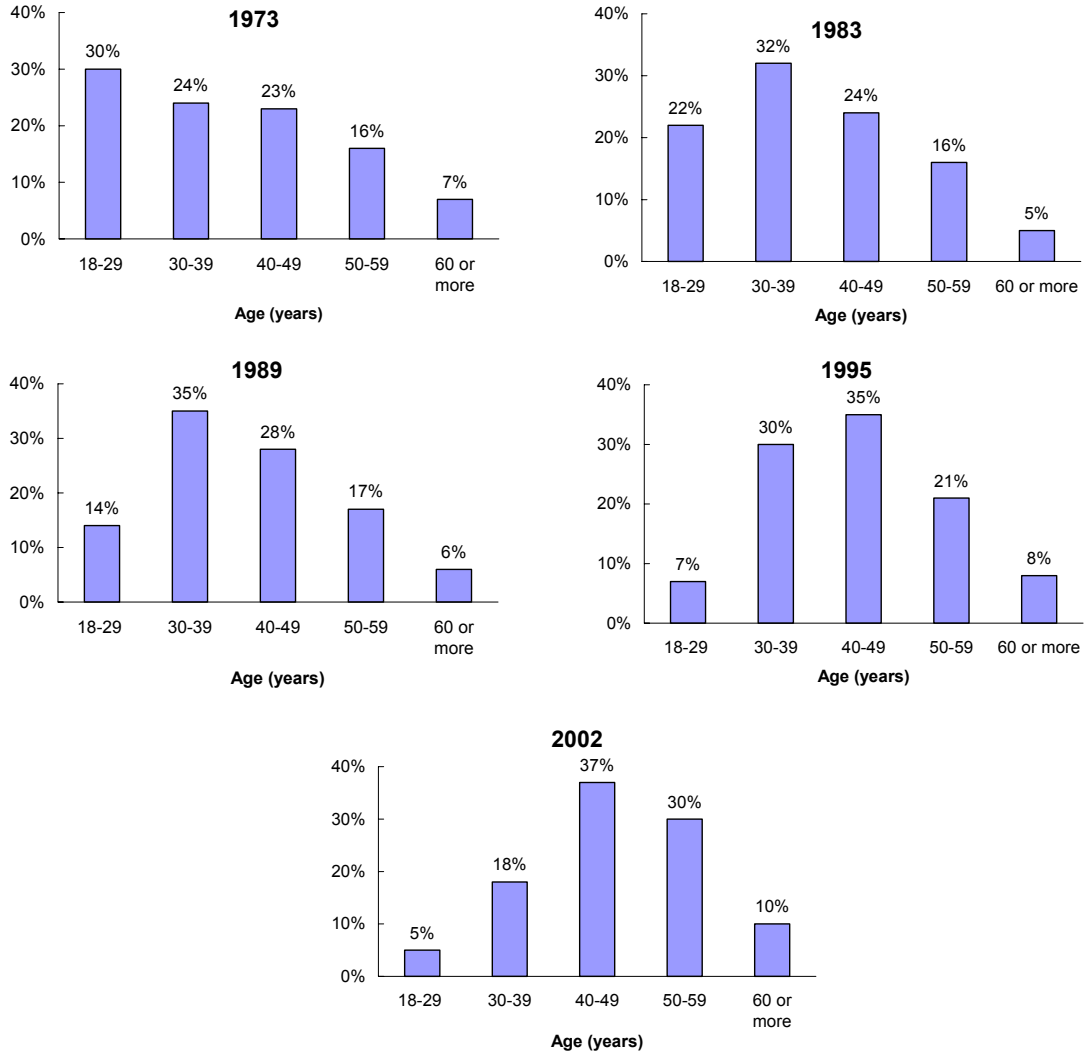



Figure 2.2 shows the shifts in the age distribution from 1973 to 2002. The aging of the nursing workforce as seen in the changing shape of the age distribution, has been steady and dramatic. From the early 1970s through the early 1980s well over half of RNs working in New York were under 40 years old. By the late 1980s, however, fewer than half were under age 40 (49 percent). In 2002 less than a quarter were under age 40 (23 percent), while over a third were in their 40s (37 percent).

The shifts at the upper end of the age distribution have been just as dramatic. From the early 1970s through the 1980s fewer than a quarter of RNs working in New York were 50 or older. Since then, however, the figure has climbed to 40 percent. The proportion of nurses working past age 60 is also increasing. An estimated ten percent of nurses working in New York are now aged 60 or older. These RNs are more likely than others to work part time and less likely to work in direct patient care. Contrasting the proportion of RNs in the 18 to 29 age category with the proportion over 60 suggests that young people are not entering nursing at a sufficient rate to replace those who will soon age out of the nursing workforce. As we will see at the end of this chapter, however, new entrants to nursing are now much older on average than their colleagues were when they entered the profession. The existence of a variety of career paths to nursing appears to be reducing reliance on young people as a source of labor.

Figure 2.2
Changes in the Age Distribution of the New York State Registered Nursing Workforce, 1973-2002




The aging of the nursing workforce has repercussions in terms of the ability of RNs to meet the needs of their patients and the risk of job-related injuries to nurses. Changes in the health care delivery system in recent years, particularly in hospitals, mean that on average patients in these settings today tend to be older, more frail, and more complex in their health needs than patients were even five or ten years ago. Patients thus need more labor-intensive direct care services that place greater physical strain on RNs and increase their risk of occupational injury. This risk increases with a nurse's age.

## EMPLOYMENT STATUS

Chapter 4 reports on RNs' employment status in detail. We offer a brief discussion here to provide evidence of the variety of employment situations occupied by RNs. As Table 2.2 shows, well over half (56.4 percent) of RNs working in New York have one full-time job, less than a quarter (22.5 percent) have one part-time job only. Nearly 14 percent have one or more part-time jobs in addition to a full-time job, while the remaining 7.3 percent have more than one part-time job.

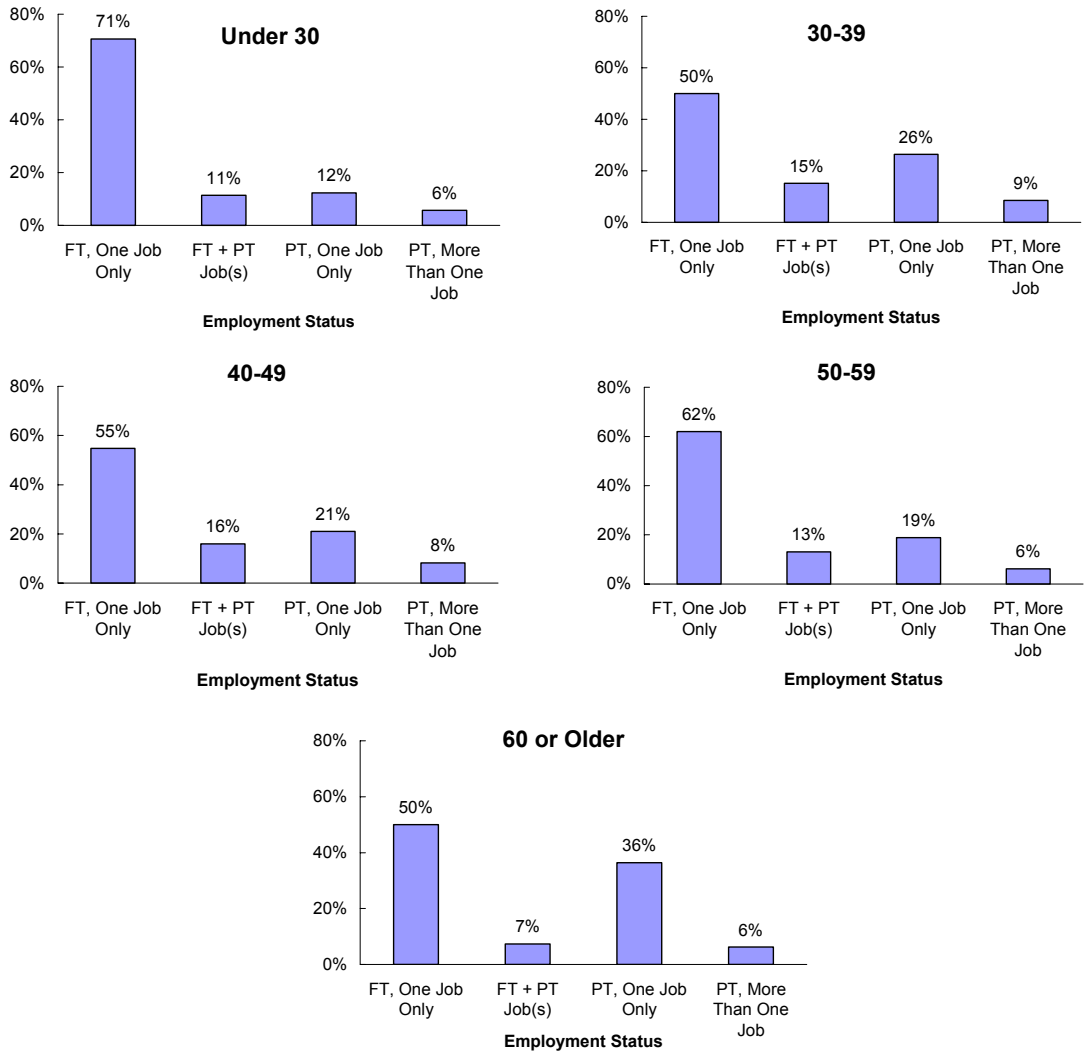
Table 2.2
Employment Status by Age Category for RNs Working in New York State

| | | | Age Categories | | | | |
|---|---|---|---|---|---|---|---|
| | | | Row Percentages | | | | |
| Employment Status | Est. Count | Column % | Under 30 | 30-39 | 40-49 | 50-59 | 60 or Older |
| Full Time, One Job Only | 93,347 | 56.4% | 6.5% | 16.0% | 36.3% | 32.5% | 8.7% |
| FT plus One or More PT Jobs | 22,962 | 13.9% | 4.3% | 19.7% | 43.1% | 27.8% | 5.2% |
| PT, One Job | 37,230 | 22.5% | 2.9% | 21.2% | 35.1% | 24.8% | 16.0% |
| PT, More than One Job | 12,100 | 7.3% | 4.1% | 21.1% | 41.7% | 24.8% | 8.3% |
| **Overall**[a] | **165,640** | **100%** | **5.2%** | **18.1%** | **37.3%** | **29.5%** | **9.8%** |

[a] Overall row percentages are based on all respondents for the column variable. Estimated counts do not total 165,640 due to rounding.

Figure 2.3 shows the employment status of RNs working in New York State by age category. (The bars displayed for each age category represent the column percentages for that category.) The figure shows clearly that RNs under 30 years of age are less likely than others to work part time. RNs in their 30s and 40s are more likely than others to have more than one job. Nearly a quarter of RNs aged 30 to 49 have at least two jobs. Finally, those aged 60 or older are less likely than others to have a full-time job. Well over a third (36 percent) of RNs in this age category have one part-time job only. This suggests that older RNs tend to ease their way out of the workforce, reducing their participation at the end of their careers. Nevertheless, 13 percent of RNs aged 60 or more have more than one job. Some of these respondents are educators who also practice nursing.

Figure 2.3
Employment Status of RNs Working in New York State
by Age Category




The intensity of labor market participation illustrated in Table 2.2 and Figure 2.3 suggests a certain elasticity in the RN labor supply. Money, benefits, or opportunities for professional growth appear to lead some RNs to work more hours. The question then becomes, however, identifying the limits of this elasticity. If the workforce is being stretched, how much more stretching can occur? What factors (monetary incentives, work life quality, job enrichment, etc.) might enhance labor force elasticity? Volume II of this study will discuss RNs' preferences for possible follow-up initiatives.

## GENDER

Although registered nurses employed in New York State are overwhelmingly female, male representation is increasing. Table 2.3 shows the estimated numbers of male and female RNs by gender in 1989, 1995, and 2002. In 2002 males made up 5.3 percent of New York's active nursing workforce, whereas in 1989 the figure was only 3.8 percent. Males represent a large—and largely untapped—segment of the potential RN labor pool. The Board of Regents has advanced the Regents Task Force's important recommendation for recruiting men to a traditionally female-dominated profession.[2]

Table 2.3

Gender of RNs Employed in Nursing in New York State, 1989-2002[a]

| | 1989 | | 1995 | | 2002 | | 1989-2002 |
|---|---|---|---|---|---|---|---|
| | Estimated Count | % | Estimated Count | % | Estimated Count | % | Percentage Change |
| Female | 147,175 | 96.2% | 184,777 | 95.5% | 156,782 | 94.7% | 6.5% |
| Male | 5,814 | 3.8% | 8,712 | 4.5% | 8,858 | 5.3% | 52.4% |
| **Total** | **152,989** | **100.0%** | **193,489** | **100.0%** | **165,640** | **100.0%** | **8.3%** |

[a] Figures from 1989 and 1995 are from the New York State Education Department study, *Registered Nurses in New York State, 1995* (Albany, NY 1998).

Male nurses tend to be slightly younger than female nurses. The mean age for males is 45.6 years old; for females, it is 46.7.

## RACE AND ETHNICITY

The racial/ethnic diversity of the nursing workforce has remained relatively constant over the past decade. Table 2.4 displays trends in the racial/ethnic composition of RNs employed in New York State from 1989 to 2002. The proportions of White and Hispanic nurses have remained fairly constant, while the proportions of Black and Asian nurses have fallen slightly. Some of these changes in the racial/ethnic composition of the workforce may be an artifact of the survey item itself. Unlike the

[2] These recommendations are fully described in two separate full board Regents reports: *Addressing Nursing and Other Professional Work Force Shortages* and *Follow- up Activities on Recommendations of the Regents Blue Ribbon Task Force on the Future of Nursing,* December 4, 2001 and March 4, 2002, respectively (Albany, NY).

1995 survey, the 2002 survey included categories for "other" and "two or more races," while omitting a separate category for Puerto Rican Hispanics.

Table 2.4
Race/Ethnicity of RNs Employed in Nursing in New York State, 1989-2002

| | 1989 | | 1995 | | 2002 | | 1989-2002 | 2000 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | New York State Population[a] | |
| | Est. Count | % | Est. Count | % | Est. Count | % | % Change | Count | % |
| White | 118,439 | 77.4% | 144,721 | 74.8% | 126,351 | 76.3% | 6.7% | 11,760,981 | 62.0% |
| Black, not Hispanic | 19,149 | 12.5% | 22,412 | 11.6% | 15,623 | 9.4% | -18.4% | 2,812,623 | 14.8% |
| Hispanic | 3,222 | 2.1% | 4,533 | 2.3% | 4,026 | 2.4% | 24.9% | 2,867,583 | 15.1% |
| Asian | 11,829 | 7.7% | 21,321 | 11.0% | 15,520 | 9.4% | 31.2% | 1,041,156 | 5.5% |
| Native American | 351 | 0.2% | 502 | 0.3% | 287 | 0.2% | -18.2% | 52,499 | 0.3% |
| Other | N/A | N/A | N/A | N/A | 2,125 | 1.3% | N/A | 75,499 | 0.4% |
| Two or More Races | N/A | N/A | N/A | N/A | 1,708 | 1.0% | N/A | 366,116 | 1.9% |
| **Total** | **152,990** | **100.0%** | **193,489** | **100.0%** | **165,640** | **100.0%** | **8.3%** | 18,976,457 | 100.0% |

[a] Source: U.S. Bureau of the Census. The Census figures for Asians presented here include Hawaiian and Pacific Islanders.

A comparison of the racial/ethnic composition of the nursing workforce in New York to the State's entire population indicates that RNs as a group differ from the population they serve. The RNs working in New York include proportionately more Whites and Asians but fewer Blacks and Hispanics than are found in the population of New York State as a whole. The Regents Task Force anticipated the diminishing representation of minorities in nursing and recommended expanded recruitment efforts targeted to minorities.

Diversity is particularly important within the health care workforce because professionals must be able to exhibit the range of linguistic and cultural competencies needed to serve New York State's increasingly diverse population.[3] If population trends forecast by the Bureau of the Census hold, sometime after the middle of this century, Whites will cease to be a majority of the United States population. New York State will cross this demographic threshold even earlier. The Bureau of the Census projects that by 2025 non-Hispanic Whites will comprise 53 percent of the New York State population.[4]

At the same time, it is important to note that the New York State nursing workforce is more diverse than the rest of the New York State professional labor force. Table 2.5 uses data from the Bureau of the Census' 1990 Equal Employment

[3] See L. Holland and R. Courney. "Increasing Cultural Competence with the Latino Community," *Journal of Community Health Nursing,* 15 (1) (1998): 45-53; and G. Flores, "Culture and the Patient-Physician Relationship: Achieving Cultural Competency in Health Care," *Journal of Pediatrics* 136 (1) (2000): 14-23.

[4] United States Department of Commerce, Bureau of the Census, "Projected State Populations by Sex, Race, and Hispanic Origin: 1995-2025."

Opportunity (EEO) file to compare the racial/ethnic composition of the State's registered nurses to all other professionals, as defined by the New York State Department of Civil Service. The "professional" category includes 112 occupations such as accountanting, engineering teaching, and scientific research. The figures are based on the individuals' place of residence, rather than their place of employment.

Table 2.5
Race/Ethnicity of RNs and All Other Professionals
Living in New York State in 1990[a]

| | RNs | | All Other Professionals[b] | |
|---|---|---|---|---|
| | **Est. Count** | **%** | **Est. Count** | **%** |
| White | 110,996 | 70.1% | 1,532,515 | 81.1% |
| Black, not Hispanic | 28,349 | 17.9% | 171,716 | 9.1% |
| Hispanic | 6,355 | 4.0% | 103,570 | 5.5% |
| Asian | 12,055 | 7.6% | 77,368 | 4.1% |
| Native American | 376 | 0.2% | 3,141 | 0.2% |
| Other | 115 | 0.1% | 1,254 | 0.1% |
| **Total** | **158,246** | **100.0%** | **1,889,564** | **100.0%** |

[a] Source: U.S. Bureau of the Census 1990 Equal Employment Opportunity (EEO) file. The EEO file using data from the 2000 Census was not yet available at the time of writing.

[b] "Professionals" is a broad occupational category used by the New York State Department of Civil Service. Besides RNs it includes 112 occupations such as accountants, teachers, engineers, physicians, and scientists.

As the table shows, non-Hispanic Blacks and Asians are much better represented in the RN workforce than in the professional labor force as a whole. Hispanics, however, appear to be slightly under-represented among registered nurses. We should keep in mind that these figures are from 1990. The EEO file based on the 2000 Census had not yet been released at the time of this writing.

## GEOGRAPHIC DISTRIBUTION OF THE NEW YORK STATE RN WORKFORCE

Four geographic categories were used in this study for purposes of comparison: New York City (the five boroughs), the downstate suburbs (the Long Island counties of Nassau and Suffolk plus the lower Hudson counties of Putnam, Rockland, and Westchester), the upstate metropolitan areas (all upstate counties included in any metropolitan statistical area), and rural counties (all other counties). Appendix E includes a complete list of the counties in each category.

Table 2.6 displays selected demographic characteristics of RNs working in New York State by region. Roughly a third of RNs work in New York City (34.8 percent),

while another third work in the upstate metropolitan areas (34.4 percent). Just under a quarter work in the downstate suburbs (23.2 percent), while fewer than eight percent work in the rural counties. The mean age of working RNs varies little by region. Gender also varies relatively little. Other nursing characteristics, however, such as average annual earnings, minority status, and educational attainment vary dramatically from one region to another.

As expected, after an examination of select characteristics, RNs in New York City differ significantly from RNs working in the rest of the State.

Table 2.6
Selected Demographic Characteristics for RNs Working in New York State by Region

| Region of Practice | Est. Count | % of Total | Mean Age (years) | Mean Annual Earnings from All Nursing Jobs[a] | % Male | % Minority[b] | % Master's or Doctorate |
|---|---|---|---|---|---|---|---|
| NYC | 57,639 | 34.8% | 46.7 | $66,253 | 5.9% | 52.1% | 22.9% |
| Downstate Suburbs | 38,407 | 23.2% | 46.6 | $53,921 | 4.6% | 12.8% | 17.4% |
| Upstate Metropolitan Areas | 56,928 | 34.4% | 46.6 | $41,368 | 5.2% | 3.8% | 13.9% |
| Rural | 12,665 | 7.6% | 47.5 | $40,648 | 5.9% | 3.0% | 10.5% |
| **Statewide Overall[c]** | **165,640** | **100.0%** | **46.7** | **$52,802** | **5.3%** | **22.4%** | **17.5%** |

[a] Excludes 17 cases where the respondents reported their salary as $0.

[b] Category includes non-Hispanic Blacks, Hispanics, Asians, Native Americans, and individuals of two or more races.

[c] Based on all respondents for the column variable. Counts do not total 165,640 because of rounding.

### *Racial/Ethnic Diversity by Region*

The pronounced interregional difference in the ethnic composition of the RN workforce is clearly seen in Table 2.6. For example, racial/ethnic diversity in New York City is much greater than elsewhere in the State. Over half of RNs working in New York City (52.1 percent) are members of "minority" groups (i.e., non-Hispanic Black, Hispanic, Asian, Native American, or "two or more races"), whereas the figure is 12.8 percent in the downstate suburbs, and less than four percent for RNs working in the rest of the State.

### *Earnings by Region*

The earnings figures reported include income from all nursing jobs, including part-time jobs and overtime. The average total annual earnings for all nursing jobs in the five-borough New York City region is over $66,000 per year, which is 25 percent higher than the Statewide average. On the other hand, upstate RNs (both urban and rural) earn around $41,000 per year. The statewide average is approximately $53,000.

### *Education by Region*

The data also show that RNs working in New York City are more likely to have a master's or doctorate degree than RNs working elsewhere in the State. More than one in five New York City nurses (22.9 percent) have earned a master's or doctoral level credential. The comparison figures for upstate metropolitan and rural areas are 13.9 percent and 10.5 percent, respectively.

### *Marital Status by Region*

Table 2.7 displays information on marital status and family responsibilities for RNs currently working in New York State. These variables are useful because they may help explain RNs' decisions about whether or not they chose to remain in the New York State workforce and/or to what extent they choose to practice.

Table 2.7
Marital Status and Family Responsibilities for RNs Working in New York State by Region

| | Marital Status | | | Family Responsibilities | | | | |
|---|---|---|---|---|---|---|---|---|
| | Row Percentage | | | | | | | |
| Region of Practice | Now Married | Widowed, Divorced, Separated | Never Married | Caregiver, Dependent Adult | Children under Six Yrs Old | Children under and over Six | Children Six or over only | No Children at Home |
| NYC | 58.2% | 20.0% | 21.8% | 24.0% | 6.8% | 9.1% | 37.2% | 47.0% |
| Downstate Suburbs | 74.2% | 17.0% | 8.9% | 13.5% | 7.3% | 9.5% | 43.6% | 39.6% |
| Upstate Metropolitan Areas | 72.1% | 18.7% | 9.1% | 11.0% | 5.8% | 7.6% | 41.2% | 45.4% |
| Rural | 73.2% | 21.5% | 5.3% | 11.1% | 4.9% | 5.7% | 40.4% | 48.9% |
| **Statewide Overall[a]** | **67.9%** | **19.0%** | **13.2%** | **16.1%** | **6.4%** | **8.4%** | **40.3%** | **44.9%** |

[a] Based on all respondents for the column variable.

Overall, approximately two-thirds of RNs report being currently married, 13 percent have never been married, while the remaining 19 percent are widowed, divorced, or separated. Once again, the New York City region offers a contrast to the

rest of the State. Fewer than 60 percent of RNs working in New York City are married, while the figure is over 70 percent in other regions. The difference does not appear to be due to higher rates of divorce or separation; rather higher proportions of RNs in New York City have never married (21.8 percent versus 9.1 percent and 5.3 percent in the upstate metropolitan and rural areas respectively).

### *Family Responsibilities by Region*

Table 2.7 also shows that family responsibilities vary by region. RNs working in the downstate suburbs are more likely than other RNs to have children at home. Sixty percent of RNs working in downstate suburbs have children at home, whereas between 51 and 55 percent for RNs working in other parts of the State reported having children at home. In contrast, RNs working in New York City are much more likely to serve as caregivers for dependent adults. Nearly a quarter of RNs working in New York City are caregivers of dependent adults, compared to only 11 to 14 percent of RNs in the rest of the State.

### *Place of Birth, Location of Education, and New York State Residence*

Several survey questions permit us to estimate the prevalence of RNs working in New York State who were born outside of the United States or who received their basic RN degree preparation outside of the country. The survey item used for the analysis shown in Table 2.8 asked respondents where they received their basic nursing education—in New York State, elsewhere in the United States, or in another country.

Table 2.8
Place of Birth, Education, and Residence for RNs Working in New York State by Region

| | | | Percentage | | |
|---|---|---|---|---|---|
| **Region of Practice** | **Est. Count** | **Column %** | **Born Outside U.S.** | **Non-U.S. Educated** | **Non-NYS Resident** |
| NYC | 57,639 | 34.8% | 45.9% | 28.9% | 13.8% |
| Downstate Suburbs | 38,407 | 23.2% | 12.3% | 7.2% | 3.3% |
| Upstate Metropolitan Areas | 56,928 | 34.4% | 4.1% | 1.4% | 3.0% |
| Rural | 12,665 | 7.6% | 3.9% | 2.3% | 4.0% |
| **Statewide Overall[a]** | **165,640** | **100.0%** | **20.4%** | **12.4%** | **6.9%** |

[a] Based on all respondents for the column variable. Estimates do not total 165,640 because of rounding.

Roughly a fifth of RNs working in New York State (20.4 percent) were born outside the U.S. New York City has by far the greatest concentration of RNs born outside of the U.S.—45.9 percent—compared to 12.3 percent in downstate suburbs. In other areas of the State only about one in 25 RNs was born outside the U.S.

Only 12.4 percent completed their basic nursing preparation outside of the U.S. In New York City well over a quarter of RNs were educated abroad (28.9 percent). In the downstate suburbs, the figure is much lower—7.2 percent. In upstate metropolitan areas and rural areas only one to two percent of the active RN workforce was educated abroad. Active recruitment of nurses from other countries by large health care organizations appears to be boosting the proportion of RNs educated outside of the U.S. in the New York State workforce—especially in New York City.

Overall, an estimated 11,392 RNs working in New York State live outside of New York State. This represents 6.9 percent of the State's active RN workforce. More than two-thirds of these (69 percent) work in New York City, presumably residing in contiguous states such as New Jersey and Connecticut.

### *A Closer Look at RNs Educated Outside of the United States*

Tables 2.9 and 2.10 present selected characteristics of RNs working in New York State by where they completed their education. RNs educated outside of the U.S. closely resemble their U.S.-educated counterparts on some characteristics. The average age of RNs and years of nursing experience vary little with the location where they completed their basic nursing education.

Table 2.9
Selected Demographic Characteristics of RNs Working in New York State
by Location of Basic Nursing Education

| | | | | | | | Percentage | |
|---|---|---|---|---|---|---|---|---|
| **Location of Basic Nursing Education** | **Est. Count** | **Column %** | **Mean Age (Years)** | **Mean Years Working in Nursing** | **Mean Years Hiatus** | **Mean Annual Earnings from All Nursing Jobs[a]** | **Minority[b]** | **Master's or Doctorate** |
| New York State | 129,730 | 78.3% | 46.4 | 18.7 | 1.2 | $50,400 | 14.3% | 16.8% |
| U.S., Not New York State | 15,420 | 9.3% | 46.5 | 20.8 | 1.8 | $53,194 | 9.6% | 26.1% |
| Non-U.S. Educated | 20,492 | 12.4% | 48.1 | 21.7 | 3.6 | $68,056 | 84.4% | 15.8% |
| **Statewide Overall[c]** | **165,640** | **100.0%** | **46.7** | **19.3** | **1.5** | **$52,802** | **22.4%** | **17.5%** |

[a] Excludes 17 cases where the respondents reported their salary as $0.

[b] "Minority" is defined as non-Hispanic Blacks, Hispanics, Asians, Native Americans, and individuals of two or more races.

[c] Based on all respondents for the column variable. Estimates do not total 165,640 due to rounding.

While 22.4 percent of nurses Statewide are members of minority groups, 84.4 percent of nurses educated outside of the U.S. are minorities. RNs educated outside of the U.S. account for 45.8 percent of the State's minority RNs.

RNs educated outside of the U.S. are about as likely as New York State educated RNs to hold a master's degree or doctorate. The average number of years RNs educated outside of the U.S. spend away from nursing is higher than the average number of years for nurses educated in the U.S.[5] Among nurses educated outside of the U.S., the average hiatus is 3.6 years, more than double the Statewide average of 1.5 years. In spite of the lengthier career interruption, the annual earnings of RNs educated outside the U.S. from all nursing jobs average $68,056. The Statewide average for all RNs working in New York State is $52,802.

The discrepancy appears to be due largely to the pronounced interregional differences in salary compensation across the State—a topic treated at length in Chapter 5. As shown in Table 2.6, RNs working in the New York City region average $66,253 per year from all nursing jobs.[6] As seen in Table 2.8, RNs educated outside the U.S. are four times more likely to work in New York City than in the downstate suburbs. The contrast between upstate regions and New York City is even more striking. Foreign-educated RNs are 20 times more likely to work in New York City than in upstate metropolitan areas and they are 12 times more likely to work in New York City than in rural areas of the State.

### *Marital Status and Family Responsibilities of RNs Educated Outside of the U.S.*

Table 2.10 reveals that marital status varies relatively little according to the location of basic nursing preparation, although RNs educated outside the U.S. are less likely to be widowed, divorced, or separated. Also, RNs educated in New York State are less likely than others never to have been married.

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[5] The measure for "hiatus" or years away from nursing was constructed by subtracting the number of years worked as an RN in nursing from 2002 minus the year RNs reported finishing their basic nursing preparation. Any resulting negative numbers were changed to zeros. As such, the "hiatus" variable is an approximate measure for time away from nursing over the course of an RN's career.

[6] This figure differs slightly from the figure cited for the New York City Health Service Area in Chapter 5 due to differences in the geographic taxonomy used.

Table 2.10
Selected Demographic Variables by Region
(RNs Working in New York State)

| | | Marital Status | | | Family Responsibilities | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Row Percentages | | | Row Percentages | | | | |
| Location of Education | Est. Count | Now Married | Widowed, Divorced, Separated | Never Married | Caregiver, Dependent Adult | Children Six Yrs Old or under | Children under and over Six | Children over Six only | No Children at Home |
| New York State | 129,730 | 68.2% | 19.6% | 12.3% | 14.4% | 6.5% | 8.3% | 41.0% | 44.1% |
| U.S., Not New York State | 15,420 | 65.2% | 18.3% | 16.5% | 9.0% | 6.5% | 5.4% | 31.4% | 56.7% |
| Non-U.S. Educated | 20,492 | 68.7% | 14.4% | 16.8% | 32.4% | 5.9% | 11.4% | 42.1% | 40.6% |
| **Statewide Overall[a]** | **165,640** | **67.9%** | **19.0%** | **13.2%** | **16.1%** | **6.4%** | **8.4%** | **40.3%** | **44.9%** |

[a] Based on all respondents for the column variable. Estimates do not total 165,640 due to rounding.

Almost 60 percent of nurses educated outside of the U.S have children at home, compared to 55.9 percent of RNs educated in New York and 43.3 percent of RNs educated elsewhere in the U.S. Nearly a third (32.4 percent) of foreign-educated RNs reported being a primary caregiver for a dependent adult, compared to 14.4 percent for RNs educated in New York State and 9.0 percent for RNs educated in other states.

## RNs BY PRIMARY WORK SETTING

### *Estimates of the Supply of RNs by Primary Work Setting, 1989 to 2002*

Table 2.11 estimates the New York State supply of RNs by primary employment setting. As noted earlier, differences in both the sampling design and the categories used to define work settings require comparisons across years to be interpreted with care. Estimates are presented to give the reader a general sense of the distribution of RNs across settings over time. The results tabulated here include all working RNs, both full time and part time.

Although the proportion of RNs employed in hospitals remains at well over half (54.4 percent), it has fallen substantially since 1989, when nearly two-thirds (65.9 percent) of the State's active RNs worked in hospitals. Over the 13-year period from 1989 to 2002, there was an 11.5 percentage point drop in the proportion of hospital-based nurses in the workforce.

Table 2.11
Primary Work Setting (RNs Working in New York State)[a]

| Primary Work Setting | 1989 Estimated Count | 1989 Column % | 1995 Estimated Count | 1995 Column % | 2002 Estimated Count | 2002 Column % |
|---|---|---|---|---|---|---|
| Ambulatory Care | N/A | N/A | 10,172 | 5.3% | 7,462 | 4.5% |
| Armed Services | 153 | 0.1% | 110 | 0.1% | N/A | N/A |
| Business/Industry | 2,907 | 1.9% | 2,524 | 1.3% | 2,796 | 1.7% |
| Community/Public Health/Home Care | 10,709 | 7.0% | 21,175 | 10.9% | 12,626 | 7.6% |
| Diagnostic/Treatment Center/HMO | 1,836 | 1.2% | 3,664 | 1.9% | 3,078 | 1.9% |
| Hospital (inpatient & outpatient) | 100,667 | 65.9% | 112,926 | 58.4% | 90,137 | 54.4% |
| Governmental, Professional, Health Organization | N/A | N/A | N/A | N/A | 3,526 | 2.1% |
| Nursing Home | 12,239 | 8.0% | 15,755 | 8.1% | 14,986 | 9.0% |
| Nursing Education/Institutions of Higher Ed. | 2,754 | 1.8% | 3,722 | 1.9% | 4,236 | 2.6% |
| Physician/Dentist Office | 6,426 | 4.2% | 7,538 | 3.9% | 8,078 | 4.9% |
| Private Practice (self-employed) | N/A | N/A | 1,150 | 0.6% | 1,172 | 0.7% |
| School Health Services | 5,814 | 3.8% | N/A | N/A | 9,383 | 5.7% |
| Temporary Agency | 1,530 | 1.0% | 390 | 0.2% | N/A | N/A |
| Other Health Setting | 7,037 | 4.6% | 9,907 | 5.1% | 7,330 | 4.4% |
| Non-Health Setting | 612 | 0.4% | 4,455 | 2.3% | 833 | 0.5% |
| **Overall[b]** | **152,684** | **100%** | **193,488** | **100%** | **165,640** | **100%** |

[a] Categories varied slightly from one survey to another.

[b] Data from 1989 and 1995, except overall totals are as reported in the 1998 SED report, *Registered Nurses in New York State, 1995* (Albany, NY). Total for 2002 does not add up to 165,640 due to rounding.

### *Age by Primary Work Setting*

Table 2.12 shows how RNs in different age categories are distributed across work settings.[7] The table shows that younger RNs are heavily concentrated in hospitals. The proportion of RNs working in hospitals declines steadily in each age group. Whereas 80 percent of RNs younger than 30 years of age work in hospitals, only 37 percent of RNs aged 60 or more work in hospitals. Older RNs tend to be relatively concentrated in nursing homes, home health agencies, school health settings, and nursing education.

Table 2.12
Age Group by Primary Work Setting
(RNs Working in New York State)

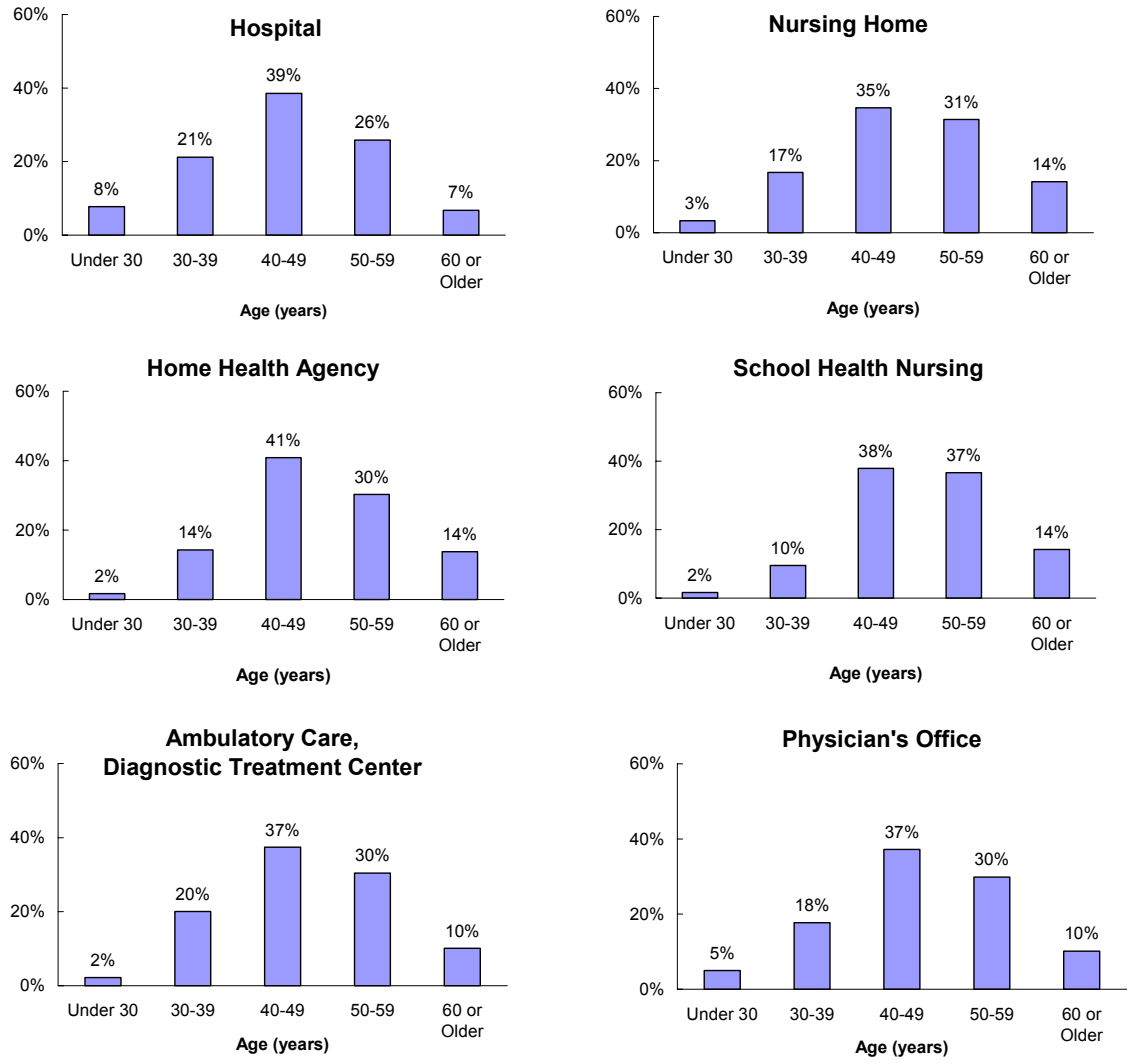
| | Overall | | Age Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Under 30 | | 30-39 | | 40-49 | | 50-59 | | 60 or Older | |
| **Primary Work Setting** | **Est. Count** | **Column %** | **Est. Count** | **Column %** | **Est. Count** | **Column %** | **Est. Count** | **Column %** | **Est. Count** | **Column %** | **Est. Count** | **Column %** |
| Ambulatory Care, Diagnostic Treat. Ctr. | 8,723 | 5.3% | 198 | 2.3% | 1,768 | 5.9% | 3,201 | 5.2% | 2,672 | 5.5% | 897 | 5.5% |
| Gov't, Professional, Health Org. | 3,526 | 2.1% | 45 | 0.5% | 389 | 1.3% | 1,210 | 2.0% | 1,416 | 2.9% | 482 | 3.0% |
| Home Health Agency | 12,626 | 7.6% | 209 | 2.4% | 1,797 | 6.0% | 5,161 | 8.3% | 3,838 | 7.9% | 1,732 | 10.6% |
| Hospital | 90,137 | 54.4% | 6,928 | 80.1% | 19,103 | 63.8% | 34,765 | 56.2% | 23,148 | 47.3% | 6,085 | 37.4% |
| Private Physician's Office | 8,078 | 4.9% | 403 | 4.7% | 1,413 | 4.7% | 3,007 | 4.9% | 2,427 | 5.0% | 817 | 5.0% |
| Nursing Home | 14,986 | 9.0% | 491 | 5.7% | 2,500 | 8.3% | 5,191 | 8.4% | 4,727 | 9.7% | 2,115 | 13.0% |
| Nursing Education | 3,053 | 1.8% | 73 | 0.8% | 339 | 1.1% | 900 | 1.5% | 1,163 | 2.4% | 625 | 3.8% |
| School Health | 9,383 | 5.7% | 151 | 1.7% | 884 | 3.0% | 3,529 | 5.7% | 3,425 | 7.0% | 1,329 | 8.2% |
| Other | 15,128 | 9.1% | 157 | 1.8% | 1,768 | 5.9% | 4,891 | 7.9% | 6,072 | 12.4% | 2,198 | 13.5% |
| **Overall[a]** | **165,640** | **100%** | **8,654** | **100%** | **29,961** | **100%** | **61,855** | **100%** | **48,890** | **100%** | **16,279** | **100%** |

[a] Estimates do not add up to 165,640 due to rounding. Based on all respondents for the column variable. Some totals may not equal 100.0 percent due to rounding.

Figure 2.4 displays age distributions for selected work settings. School health nursing has the fewest young RNs. Only 12 percent of RNs in this setting are under 40 years of age. Home health agencies and nursing homes also have relatively few RNs under 40 (16 and 20 percent, respectively). Even in hospitals, which have the highest concentrations of young RNs, RNs under 40 make up only 29 percent of the RN workforce.

[7] In the 2002 survey, the primary work setting item included 17 settings. To facilitate the interpretation of the data and the presentation of findings, these 17 categories have been reduced to nine.

Figure 2.4
Age Distributions of RNs Working in New York State
for Selected Primary Employment Settings[a]




[a] Some distributions do not add up to 100 percent because of rounding.

## *Gender by Primary Work Setting*

Table 2.13 presents information on gender, minority representation, and education by primary work setting for RNs working in New York State.

Table 2.13
Selected Demographic Characteristics by Primary Work Setting
(RNs Working in New York State)

| | | | RNs Working in Nursing in NYS | | | |
|---|---|---|---|---|---|---|
| | | | Percentage | | | |
| Primary Work Setting | Est. Count | Column % | Male | Minority[a] | Non-U.S. Educated | Master's or Doctorate (Any Field) |
| Ambulatory Care, Diagnostic Treat. Ctr. | 8,723 | 5.3% | 3.9% | 21.6% | 12.5% | 23.4% |
| Gov't, Professional, Health Org. | 3,526 | 2.1% | 7.0% | 20.2% | 5.9% | 19.4% |
| Home Health Agency | 12,626 | 7.6% | 4.0% | 17.2% | 6.1% | 18.7% |
| Hospital | 90,137 | 54.4% | 6.6% | 26.3% | 15.2% | 15.0% |
| Private Physician's Office | 8,078 | 4.9% | 1.7% | 5.7% | 1.8% | 20.7% |
| Nursing Home | 14,986 | 9.0% | 5.0% | 27.3% | 19.1% | 10.8% |
| Nursing Education | 3,053 | 1.8% | 1.6% | 8.9% | 7.7% | 67.3% |
| School Health | 9,383 | 5.7% | 1.4% | 16.6% | 3.3% | 12.4% |
| Other | 15,128 | 9.1% | 4.9% | 13.7% | 6.6% | 24.1% |
| **Overall[b]** | **165,640** | **100%** | **5.3%** | **22.4%** | **12.4%** | **17.5%** |

[a] This category includes, non-Hispanic Blacks, Hispanics, Asians, Native Americans, and individuals of two or more races.

[b] Based on all respondents for the column variable. Estimates do not total 165,640 due to rounding.

As seen in this table, male RNs currently comprise 5.3 percent of the active New York State RN workforce. They continue to be dramatically underrepresented in the profession as a whole, regardless of setting. Male RNs seem to be particularly underrepresented in private physician's offices, nursing education, and school health settings, where they comprise 1.7, 1.6, and 1.4 percent of RNs respectively. Conversely, they appear to be somewhat more heavily concentrated in hospitals, where they make up 6.6 percent of the RN workforce and government, professional, and health organizations, where the figure is 7.0 percent.

### *Representation of Racial/Ethnic Minorities by Primary Work Setting*

Approximately one in five RNs working in New York State (22.4 percent) is a member of a minority group, where "minority" is defined as non-Hispanic Black, Hispanic, Asian, Native American, or someone of "two or more races." An examination of the minority workforce distribution indicates that minorities are underrepresented, relative to their overall representation in the RN workforce, in private physicians' offices (5.7 percent), nursing education (8.9 percent), school health (16.6 percent), home health agencies (17.2 percent), and the "other" setting (13.7 percent). In contrast, they are more heavily concentrated in nursing homes and hospital-based settings, where they constitute over a quarter of the RN workforce (27.3 and 26.3 percent, respectively).

### *RNs Educated Outside of the U.S. by Primary Work Setting*

RNs educated outside of the U.S. working in New York State comprise 12.4 percent of the workforce. They are underrepresented in private physicians' offices (1.8 percent), school health settings (3.3 percent), government and professional organizations (5.9 percent), home health agencies (6.1 percent), the "other" category (6.6 percent) and nursing education (7.7 percent). RNs educated outside of the U.S. tend to be more heavily concentrated in hospitals and nursing homes, where they comprise 15.2 and 19.1 percent of the workforce respectively.

### *RNs with Masters' Degrees or Doctorates by Primary Work Setting*

The nursing workforce is highly educated. Nurses who have obtained either a master's or doctoral level credential represent 17.5 percent of the active nursing workforce as of September 2002. As might be expected, this most highly educated segment of active RNs is heavily overrepresented in nursing education settings. These settings frequently hire staff with advanced degrees. In fact, two-thirds of RNs working in nursing education (67.3 percent) hold a master's degree or doctorate. In contrast, advanced degree holders are far less likely to be working in nursing homes (10.8 percent), school-based health settings (12.4 percent) or hospital settings (15.0 percent).

### *Average Age, Hours Worked, and Salary by Primary Work Setting*

Table 2.14 displays means and standard deviations for age, hours worked, and annual salary by primary work setting. This analysis focuses on full-time RNs working in New York State who have only one job. An estimated 40.8 percent of the RN population in the Department's active registration files and 56.4 percent of RNs working in nursing in New York State worked in this capacity in 2002.

Table 2.14 shows that the average age for full-time RNs working only one job in New York State varies from 45.2 years for hospital nurses to just over 50 years for RNs working in school health, nursing education, and governmental, professional, or health organizations.

The average number of hours RNs working in only one full-time job are regularly scheduled to work per week varies from 37.0 hours for RNs in school health settings to 40.5 for RNs working in nursing education. The average for hospital RNs is 39.1. The standard deviations range from 2.4 for RNs in school health settings to 7.4 for RNs in nursing education.

Average overtime per week for this group of RNs ranges from 0.5 hours for school health RNs to 4.0 hours for nursing home RNs. The relatively high standard deviations on this variable indicate a fair amount of variance. This suggests that while many RNs with one full-time job work little or no overtime, others put in quite a bit of overtime on a regular basis. Chapter 4 analyzes overtime, which includes hours beyond a nurse's regularly scheduled workweek, in more detail.

Table 2.14
Age, Hours Worked, and Salary by Primary Work Setting
(RNs Working in New York State, Full Time, One Job Only)

| | RNs Working in New York State, Full Time, One Job Only | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Age (Years) | | Regularly Scheduled Hours Worked per Week | | Weekly Overtime | | Annual Earnings (Including Overtime)[a] | |
| Primary Work Setting | Est. Count | Column % | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| Ambulatory Care, Diagnostic Treat. Ctr. | 4,756 | 5.1% | 46.7 | 9.1 | 39.6 | 5.4 | 1.6 | 2.9 | $59,606 | $16,927 |
| Gov't, Professional, Health Org. | 2,589 | 2.8% | 50.2 | 8.5 | 38.5 | 2.8 | 2.7 | 4.8 | $53,551 | $15,494 |
| Home Health Agency | 6,909 | 7.4% | 48.2 | 8.4 | 39.0 | 4.6 | 2.5 | 4.4 | $58,168 | $18,738 |
| Hospital | 52,473 | 56.2% | 45.2 | 10.2 | 39.1 | 4.7 | 3.3 | 5.0 | $62,503 | $18,437 |
| Private Physician's Office | 3,144 | 3.4% | 45.6 | 9.7 | 40.2 | 4.3 | 1.4 | 2.5 | $47,814 | $18,138 |
| Nursing Home | 9,233 | 9.9% | 47.8 | 9.8 | 39.7 | 4.9 | 4.0 | 5.3 | $56,272 | $19,545 |
| Nursing Education | 1,347 | 1.4% | 50.2 | 8.9 | 40.5 | 7.4 | 1.7 | 4.2 | $61,153 | $20,336 |
| School Health | 4,383 | 4.7% | 50.1 | 8.0 | 37.0 | 2.4 | 0.5 | 1.9 | $38,433 | $12,473 |
| Other | 8,512 | 9.1% | 49.6 | 8.3 | 39.6 | 4.4 | 1.7 | 3.6 | $56,105 | $23,312 |
| **Overall[b]** | **93,347** | **100%** | **46.7** | **9.8** | **39.0** | **5.2** | **2.9** | **4.7** | **$59,022** | **$19,580** |

[a] Excludes four cases where the reported annual earnings were zero.

[b] Based on all respondents for the column variable.

Earnings also vary by work setting. School health nurses tend to earn the least, with an average of $38,433. The setting with the next lowest average earnings for RNs working full time in one job is private physicians' offices, where RNs earn $47,814, on average. RNs working in hospitals earn the most: $62,503. These figures include overtime.

## RNs Working in New York State by Primary Job Title

### *Estimates of the Supply of RNs by Primary Job Title, 1995 to 2002*

Table 2.15 estimates the number of RNs working in New York State for 1995 and 2002.[8] Both column percentages for each year and the percentage change from 1995 to 2002 are shown so that changes due to the distribution of RNs among titles can be distinguished from compositional shifts in overall supply of RNs in each title. For

[8] The figures from the 1995 survey are as reported in the 1998 State Education Department-sponsored study, *Registered Nurses in New York State, 1995.*

example, although the supply of RNs working in patient care appears to have dropped by 15 percent from 1995 to 2002, the proportion of RNs working in patient care titles has remained steady at approximately 79 percent.

Table 2.15
RNs by Title (1995 and 2002)
RNs Working in Nursing in New York State

| Job Title | | 1995[a] Est. Count | 1995[a] Column % | 2002 Est. Count | 2002 Column % | 1995-2002 % Change |
|---|---|---|---|---|---|---|
| ***Administration*** | ***Subtotal*** | ***9,200*** | ***4.8%*** | ***11,088*** | ***6.7%*** | ***20.5%*** |
| Nursing Executive | | 5,200 | 2.7% | 5,011 | 3.0% | -3.6% |
| Quality Assurance/UR/Risk Mgt | | 4,000 | 2.1% | 5,424 | 3.3% | 35.6% |
| Claims Reviewer | | N/A | N/A | 652 | 0.4% | N/A |
| ***Patient Care*** | ***Subtotal*** | ***153,805*** | ***79.5%*** | ***131,218*** | ***79.2%*** | ***-14.7%*** |
| Certified Nurse Anesthetist | | 846 | 0.4% | 643 | 0.4% | -24.0% |
| Charge Nurse/Head Nurse/Supervisor/Asst | | 35,618 | 18.4% | N/A | N/A | N/A |
| Clinical Nurse Specialist | | 3,651 | 1.9% | 2,910 | 1.8% | -20.3% |
| Independent Practitioner | | N/A | N/A | 1,172 | 0.7% | N/A |
| Midwife | | 411 | 0.2% | N/A | N/A | N/A |
| Nurse Manager/Patient Care Coordinator | | 8,873 | 4.6% | 16,910 | 10.2% | 90.6% |
| Nurse Practitioner | | 3,810 | 2.0% | 7,114 | 4.3% | 86.7% |
| Private Duty Nurse | | 3,235 | 1.7% | 1,659 | 1.0% | -48.7% |
| Public/Community Health Nurse | | N/A | N/A | 7,835 | 4.7% | N/A |
| Staff Nurse | | 97,361 | 50.3% | 92,974 | 56.1% | -4.5% |
| ***Education/Research*** | ***Subtotal*** | ***7,286*** | ***3.8%*** | ***6,815*** | ***4.1%*** | ***-6.5%*** |
| Inservice Nursing Education | | 3,004 | 1.6% | 2,675 | 1.6% | -10.9% |
| Nursing Education | | 3,436 | 1.8% | 3,029 | 1.8% | -11.9% |
| Researcher | | 846 | 0.4% | 1,111 | 0.7% | 31.3% |
| ***Other*** | ***Subtotal*** | ***23,198*** | ***12.0%*** | ***16,520*** | ***10.0%*** | ***-28.8%*** |
| Consultant | | 1,424 | 0.7% | 1,202 | 0.7% | -15.6% |
| Other/No Title | | 21,774 | 11.3% | 15,318 | 9.2% | -29.7% |
| **Overall[b]** | | **193,489** | **100.0%** | **165,640** | **100.0%** | **-14.4%** |

[a] Figures from 1995 are from the 1998 New York State Education Department report, *Registered Nurses in New York State, 1995.*

[b] Totals for 2002 add up to 165,641. The difference from population value of 165,640 is due to rounding. Small differences between the 2002 figures in this table and others using an aggregated set of job titles is inherent to the weighting method used to calculate estimates.

One striking finding is that the presence of RNs in administrative positions appears to be increasing. This increase seems to be due in large part to an increase in the numbers of RNs working in quality assurance, utilization review, and risk management. We suspect that these titles have experienced disproportionate growth (in terms of RNs employed) because the advent of managed care and other cost-containment efforts in the health field have driven up demand for individuals with clinical skills to fill jobs in these titles.

Another noteworthy finding is the increase in nurse practitioners. Nurse practitioners now comprise 4.3 percent of the New York State RN workforce, whereas in 1995 they made up only 2.0 percent of the workforce. In New York State, nurse practitioners became a licensed profession in 1989. Thus, the growth from 1995 to 2002 may be the result of the profession's progressive establishment. The growth may also be due to an increasing reliance on nurse practitioners to take on more primary patient care responsibilities.

### *Age by Primary Job Title*

Table 2.16 shows that younger RNs tend to work as inpatient staff nurses. More than three-quarters of active RNs under age 30 and well over half of those aged 30 to 39 are inpatient staff nurses. Only slightly more than a quarter (26 percent) of RNs aged 60 or older are inpatient staff nurses. RNs aged 60 or older are more likely than others to be outpatient staff nurses, deans or faculty members in nursing education programs, nursing executives, independent practitioners/private duty nurses, consultants/researchers, or in the "other" job title category.

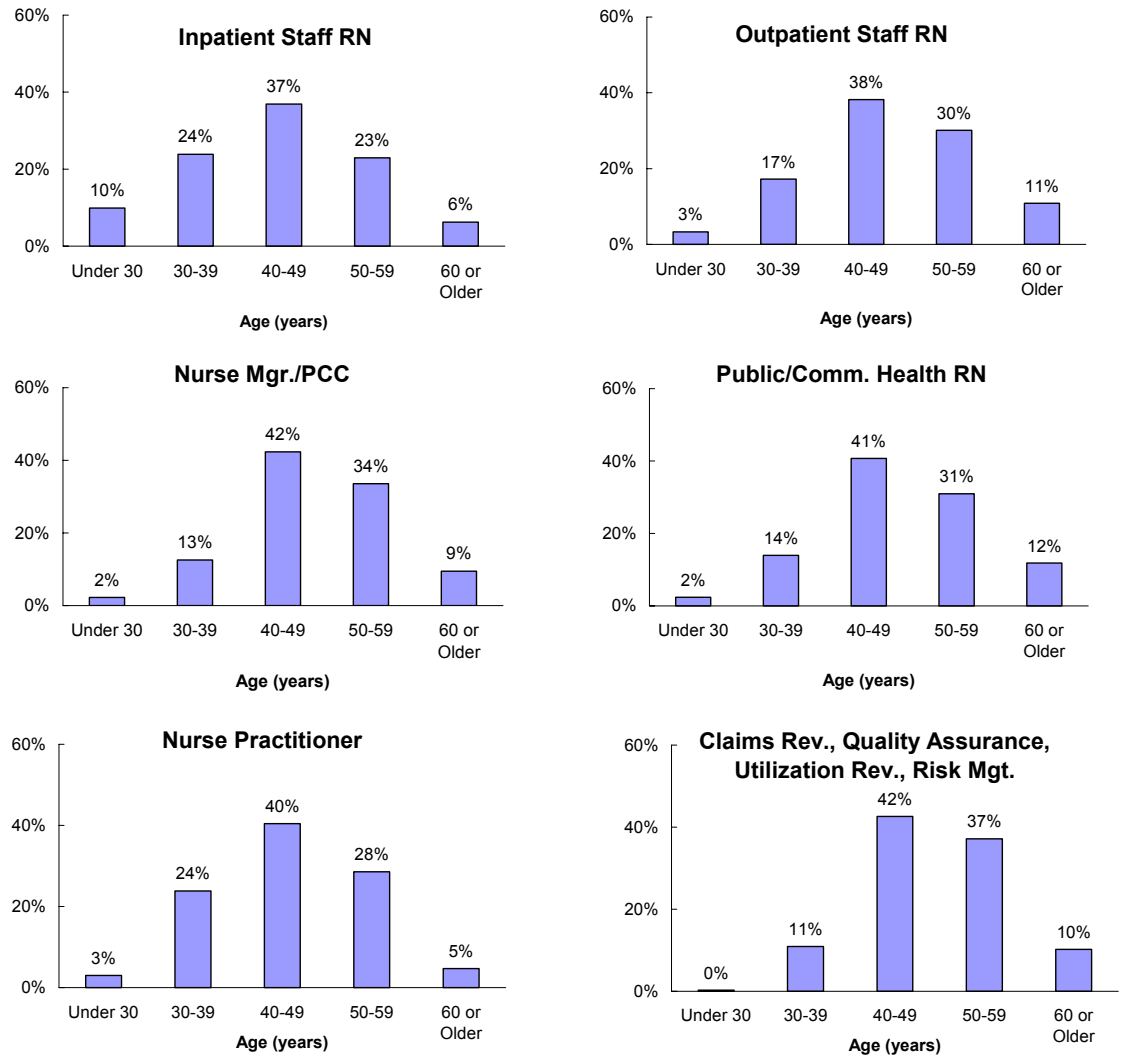
Table 2.16
Age Group by Primary Job Title
(RNs Working in New York State)

| | Overall | | Age Group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Under 30 | | 30-39 | | 40-49 | | 50-59 | | 60 or Older | |
| Primary Job Title | Est. Count | Column % | Est. Count | Column % | Est. Count | Column % | Est. Count | Column % | Est. Count | Column % | Est. Count | Column % |
| Inpatient Staff Nurse | 68,077 | 41.1% | 6,734 | 77.8% | 16,234 | 54.2% | 25,115 | 40.6% | 15,598 | 31.9% | 4,238 | 26.0% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 811 | 9.4% | 4,246 | 14.2% | 9,425 | 15.2% | 7,426 | 15.2% | 2,678 | 16.5% |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 0 | 0.0% | 135 | 0.4% | 304 | 0.5% | 123 | 0.3% | 73 | 0.4% |
| Claims Review, Quality Assurance, Utilization Review, Risk Mgt. | 6,040 | 3.6% | 15 | 0.2% | 660 | 2.2% | 2,574 | 4.2% | 2,244 | 4.6% | 617 | 3.8% |
| Consultant or Researcher | 2,313 | 1.4% | 21 | 0.2% | 388 | 1.3% | 726 | 1.2% | 649 | 1.3% | 532 | 3.3% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 46 | 0.5% | 268 | 0.9% | 855 | 1.4% | 1,103 | 2.3% | 782 | 4.8% |
| Nursing Executive | 4,954 | 3.0% | 8 | 0.1% | 430 | 1.4% | 1,713 | 2.8% | 2,189 | 4.5% | 674 | 4.1% |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 38 | 0.4% | 472 | 1.6% | 2,143 | 3.5% | 2,078 | 4.3% | 755 | 4.6% |
| Nurse Practitioner | 7,084 | 4.3% | 213 | 2.5% | 1,688 | 5.6% | 2,865 | 4.6% | 2,023 | 4.1% | 333 | 2.0% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 380 | 4.4% | 2,114 | 7.1% | 7,144 | 11.6% | 5,665 | 11.6% | 1,599 | 9.8% |
| Independent Practitioner/ Private Duty Nurse | 2,812 | 1.7% | 27 | 0.3% | 308 | 1.0% | 686 | 1.1% | 956 | 2.0% | 845 | 5.2% |
| Public/Community Health Nurse | 7,800 | 4.7% | 187 | 2.2% | 1,088 | 3.6% | 3,174 | 5.1% | 2,397 | 4.9% | 922 | 5.7% |
| Other | 15,850 | 9.6% | 173 | 2.0% | 1,930 | 6.4% | 5,130 | 8.3% | 6,439 | 13.2% | 2,231 | 13.7% |
| **Overall[a]** | **165,640** | **100.0%** | **8,654** | **100.0%** | **29,961** | **100.0%** | **61,855** | **100.0%** | **48,890** | **100.0%** | **16,279** | **100.0%** |

[a] Based on all respondents for the column variable. Estimated counts do not add up to 165,640 because of rounding.

Figure 2.5 displays age distributions for selected job titles. The figure shows that more than a third of inpatient staff nurses and more than a quarter of nurse practitioners are under age 40. However, only a fifth (20 percent) of outpatient staff nurses are less than 40 years old. Even smaller proportions of nurse managers/patient care coordinators and public or community health nurses are younger than 40 years of age. Of the job title categories shown in Figure 2.5, the claims review, quality assurance, utilization review, and risk management category has the smallest concentration of young RNs. Only 11 percent are under age 40. The graying of the nursing profession is especially acute in this job title category. Forty-seven percent of RNs whose primary job is in claims review, quality assurance, utilization review, and risk management are 50 years of age or older.

Figure 2.5
Age Distributions of RNs Working in New York State
for Selected Primary Job Titles




## *Gender by Primary Job Title*

Table 2.17 shows information on gender, race, and education by primary job title for RNs working in nursing in New York State. With one small but notable exception, males make up from 2.4 to 6.8 percent of the practitioners in every title. The noteworthy exception is the certified registered nurse anesthetist category, in which an estimated 28.8 percent of the nurses are male. As shown in Table 2.18, nurses in this particular title also report the highest average annual salary for full-time RNs with only one job ($100,185). The relatively small number of respondents in this job title category, however, means that the standard error of the 28.8 sample percent is high (1 S.E. = 7.35 percent) and thus less reliable for estimation purposes. Nevertheless, the

unusually high proportion of male nurse anesthetists suggests that men may be especially attracted to the most heavily compensated sectors of the profession.

Table 2.17
Gender, Minority Representation, and Education by Primary Job Title
(RNs Working in New York State)

| | | | RNs Working in Nursing in NYS | | | |
|---|---|---|---|---|---|---|
| | | | Percentage | | | |
| Primary Job Title | Est. Count | Column % | Male | Minority[a] | Non-U.S. Educated | Master's or Doctorate (Any Field) |
| Inpatient Staff Nurse | 68,077 | 41.1% | 6.3% | 31.0% | 19.2% | 6.0% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 4.4% | 16.4% | 7.9% | 8.0% |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 28.8% | 20.5% | 13.1% | 60.2% |
| Claims Review, Quality Assur., Utilization Review, Risk Mgt. | 6,040 | 3.6% | 2.4% | 12.4% | 4.7% | 16.5% |
| Consultant or Researcher | 2,313 | 1.4% | 6.8% | 14.3% | 6.1% | 39.4% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 2.5% | 7.1% | 5.4% | 74.2% |
| Nursing Executive | 4,954 | 3.0% | 4.0% | 18.6% | 9.4% | 44.4% |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 4.9% | 14.7% | 8.7% | 44.6% |
| Nurse Practitioner | 7,084 | 4.3% | 4.8% | 11.6% | 3.1% | 88.6% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 6.2% | 20.9% | 9.5% | 18.7% |
| Independent Practitioner/Private Duty Nurse | 2,812 | 1.7% | 5.0% | 18.8% | 17.2% | 15.1% |
| Public/Community Health Nurse | 7,800 | 4.7% | 3.0% | 19.7% | 5.0% | 11.7% |
| Other | 15,850 | 9.6% | 3.9% | 14.7% | 6.9% | 17.2% |
| **Overall[b]** | **165,640** | **100.0%** | **5.3%** | **22.4%** | **12.4%** | **17.5%** |

[a] This category includes, non-Hispanic Blacks, Hispanics, Asians, Native Americans, and individuals of two or more races.

[b] Based on all respondents for the column variable.

RNs who reported their title falls in the category including claims review, quality assurance, utilization review, and risk management are the least likely to be male (2.4 percent versus 5.3 percent overall). Similarly, deans and faculty members in nursing education programs are also less than half as likely to be male as RNs overall.

### *Representation of Racial/Ethnic Minorities by Primary Job Title*

Table 2.17 shows that racial/ethnic diversity varies according to job title. The minority category used in Table 2.17 is defined as non-Hispanic Blacks, Hispanics, Asians, Native Americans, or individuals of two or more races. Based on this definition, 22.4 percent of New York's RN workforce is drawn from one or more minority groups. In examining racial/ethnic diversity, the position titles characterized by the least diversity are deans and faculty members in nursing education programs. Only 7.1 percent of RNs in these titles are members of a minority group.

RNs who are minorities are also substantially less likely—roughly 50 percent less likely—to occupy nurse practitioner positions than their statewide labor force participation across all titles would suggest. Only 11.6 percent of nurse practitioners are members of a minority group. On the other hand, nurses who come from a minority racial/ethnic background are much more likely to be concentrated in inpatient staff positions than in other titles. Thirty-one percent of nurses who work in hospital inpatient staff titles are members of minority groups—a relatively sharp contrast to the overall representation of minorities in the statewide RN workforce, which is 22.4 percent.

### *RNs Educated Outside of the U.S. by Primary Job Title*

Although 12.4 percent of RNs working in New York State completed their basic nursing training outside the U.S., the percentage across job titles varies from only 3.1 percent for nurse practitioners to 19.2 percent for inpatient staff nurses. In addition to nurse practitioner, titles in which foreign-educated RNs are less well represented than in the New York State RN workforce as a whole are: claims review, quality assurance, utilization review, and risk management (4.7 percent), public or community health nurse (5.0 percent), and dean or faculty of a nursing education program (5.4 percent).

### *RNs with Master's Degrees or Doctorates by Primary Job Title*

The wide range of qualifications for different job titles explains why the percentage of RNs with a master's degree or doctorate varies greatly across titles. Not surprisingly, the titles with the highest proportions of RNs with master's degrees or doctorates are nurse practitioner (88.6 percent), dean or faculty member in nursing education (74.2 percent), and certified registered nurse anesthetist (60.2 percent). The titles with the smallest proportions of RNs with master's or doctorates are inpatient and outpatient staff nurse (6.0 and 8.0 percent, respectively). Education by title will be examined in greater detail in Chapter 3.

### *Age, Hours Worked, and Salary by Primary Job Title*

As was the case with job settings, in comparing hours worked and salary across job titles, responses of individuals working part time are distinguished from both those with more than one job and those RNs who work full time in only one job. Table 2.18 presents the average age, average hours regularly scheduled per week, average overtime (extra unscheduled) hours per week, and average annual earnings for RNs working full time in only one job.

Table 2.18
Age, Hours Worked and Annual Salary by Primary Job Title
(RNs Working in New York State, Full Time, One Job Only)

| | RNs Working in New York State, Full Time, One Job Only | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Age (Years) | | Regularly Scheduled Hours Worked per Week | | Weekly Overtime | | Annual Earnings (Incl. Overtime)[a] | |
| Primary Job Title | Est. Count | Col. % | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| Inpatient Staff Nurse | 38,239 | 41.0% | 43.7 | 10.7 | 38.6 | 4.3 | 4.0 | 5.3 | $58,650 | $15,366 |
| Outpatient Staff Nurse | 11,387 | 12.2% | 47.1 | 9.5 | 39.0 | 4.2 | 2.1 | 3.7 | $51,614 | $17,280 |
| Certified Registered Nurse Anesthetist | 363 | 0.4% | 47.4 | 8.5 | 40.4 | 3.4 | 2.2 | 4.3 | $100,185 | $21,356 |
| Claims Review, Quality Assur. Utilization Review, Risk Mgt. | 4,190 | 4.5% | 48.6 | 7.4 | 38.9 | 3.1 | 1.4 | 3.0 | $60,141 | $17,381 |
| Consultant or Researcher | 1,160 | 1.2% | 49.1 | 9.4 | 40.3 | 4.9 | 2.0 | 3.6 | $68,720 | $41,385 |
| Dean or Faculty in Nursing Education | 1,161 | 1.2% | 51.4 | 8.3 | 41.2 | 7.3 | 1.4 | 3.4 | $57,335 | $19,847 |
| Nursing Executive | 3,747 | 4.0% | 50.7 | 7.5 | 41.4 | 6.2 | 2.4 | 4.9 | $78,617 | $37,971 |
| Clinical Nurse Spec., In-Service Dir./Instructor | 3,334 | 3.6% | 50.0 | 7.8 | 39.7 | 4.6 | 1.8 | 4.0 | $65,975 | $17,343 |
| Nurse Practitioner | 3,489 | 3.7% | 45.7 | 8.1 | 39.9 | 3.9 | 1.4 | 3.4 | $68,768 | $13,426 |
| Nurse Manager/Patient Care Coordinator | 12,356 | 13.2% | 48.5 | 8.3 | 40.0 | 5.3 | 3.1 | 4.6 | $61,923 | $16,914 |
| Independent Practitioner/Private Duty Nurse | 843 | 0.9% | 49.9 | 7.7 | 42.2 | 6.4 | 1.8 | 4.0 | $55,304 | $22,784 |
| Public/Community Health Nurse | 4,099 | 4.4% | 48.4 | 8.8 | 38.2 | 4.0 | 2.2 | 4.2 | $49,017 | $15,652 |
| Other | 8,976 | 9.6% | 50.3 | 8.3 | 38.9 | 4.5 | 1.4 | 3.3 | $53,101 | $20,397 |
| **Overall[b]** | **93,347** | **100.0%** | **46.7** | **9.8** | **39.2** | **4.7** | **2.9** | **4.7** | **$59,022** | **$19,580** |

[a] Excludes four cases where the reported annual earnings were zero.

[b] Based on all respondents for the column variable who reported working full time in one job.

Age varies by primary job title. Table 2.18 shows that RNs working as inpatient staff nurses tend to be the youngest, averaging 43.7 years of age—three years younger than the statewide average. In four job title categories the average age is 50 or more: dean or faculty members in nursing education (51.4 years), nursing executive (50.7 years), "other" (50.3 years), and clinical nurse specialist/in-service director or instructor (50.0 years). The average age of RNs in all titles is high enough to warrant concern for the continued supply of RNs.

The average regularly scheduled hours worked per week range from 38 to 42 hours per week across all titles. The relatively large standard deviations indicate a fair amount of variation in workload among RNs in different titles. However, the relatively

small numbers of responses in some titles could also result in large standard deviations in those titles.

Average weekly overtime (including extra unscheduled hours) ranges from 1.4 hours for claims reviewers, quality assurance, utilization review, and risk management; dean or faculty members in nursing education; nurse practitioners; and RNs in the "other" job title category to 4.0 hours for inpatient hospital nurses. The standard deviations are relatively large because although most RNs report working little or no overtime, a few work quite a lot.

Average annual earnings range from $49,017 for public or community health nurses to $100,185 for certified registered nurse anesthetists. These figures include earnings from overtime.

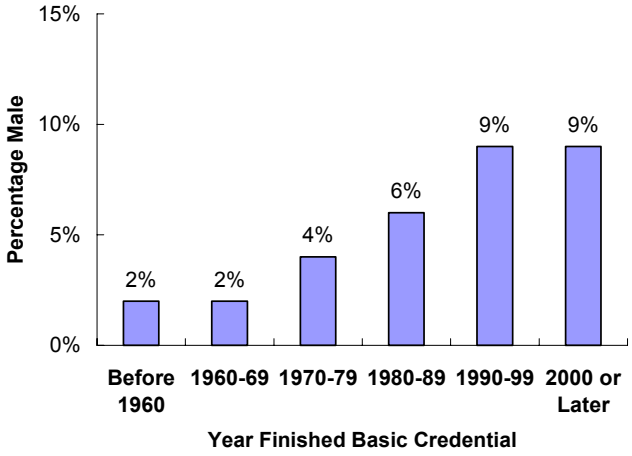
## THE CHANGING FACE OF NEW ENTRANTS TO NURSING

At this time, recruiting and retaining a highly skilled nursing workforce is a critical strategy for addressing the increased health care demands of an aging population. Accordingly, it is important to pay special attention to the characteristics of new entrants to the profession. The survey results indicate that new nurses today differ significantly from their colleagues who entered the profession two or three decades earlier.

### *Gender by Decade of Basic Nursing Preparation*

Figure 2.6 shows male representation by decade of basic nursing preparation. Male representation is higher among more recent nursing graduates. Whereas only two percent of RNs prepared before 1970 RNs are male, nine percent of recent graduates are male.

Figure 2.6
Percentage Male by Decade of Completion of Basic Nursing Credential
(RNs Working in New York State)



### *Selected Characteristics of RNs by Decade of Basic Nursing Preparation*

Table 2.19 shows gender, minority status, and location of basic nursing education by decade of basic nursing preparation. Minority representation is quite low (9.8 percent) among RNs who first completed their basic preparation before 1960. It is more than double that for RNs who completed their education from 1960 to 1999 (in the 21 to 24 percent range).

Minority representation is even higher among the most recent entrants to the New York State nursing workforce. Well over a quarter (29.3 percent) of RNs who completed their basic nursing preparation in 2000 or later are members of minority groups. This increase in minority representation is **not** due to an influx of recent nursing graduates who are educated outside of the U.S. As Table 2.19 shows, RNs educated outside of the U.S. make up only a small proportion of the recent entrants to nursing in the New York State RN workforce.[9] Only 3.7 percent of RNs who completed their basic preparation in the 1990s received their education abroad. The figure for graduates since 2000 is just 2.9 percent.

Table 2.19
Selected Characteristics for RNs Working in Nursing in New York State
By Decade of Basic Preparation Completion

| Year Finished Basic Preparation | Est. Count | Column % | % Male | % Minority[b] | Row Percentage[a] | | |
|---|---|---|---|---|---|---|---|
| | | | | | Basic Ed. in NYS | Basic Ed. in U.S. (not NYS) | Non-U.S. Educated |
| Before 1960 | 4,058 | 2.4% | 1.6% | 9.8% | 70.9% | 16.2% | 12.9% |
| 1960-69 | 23,149 | 14.0% | 1.9% | 21.5% | 64.4% | 14.1% | 21.6% |
| 1970-79 | 46,542 | 28.1% | 3.7% | 22.2% | 77.6% | 8.8% | 13.6% |
| 1980-89 | 47,281 | 28.5% | 5.8% | 24.1% | 78.0% | 7.4% | 14.6% |
| 1990-99 | 38,455 | 23.2% | 8.5% | 21.2% | 87.8% | 8.6% | 3.7% |
| 2000 or Later | 6,155 | 3.7% | 8.9% | 29.3% | 86.6% | 10.4% | 2.9% |
| **Overall[c]** | **165,640** | **100.0%** | **5.3%** | **22.4%** | **78.3%** | **9.3%** | **12.4%** |

[a] Not all row perctages total to 100.0 percent because of rounding.

[b] For this analysis the "minority" category includes non-Hispanic Blacks, Hispanics, Asians, Native Americans, and individuals of "two or more races."

[c] Includes all respondents for the column variable.

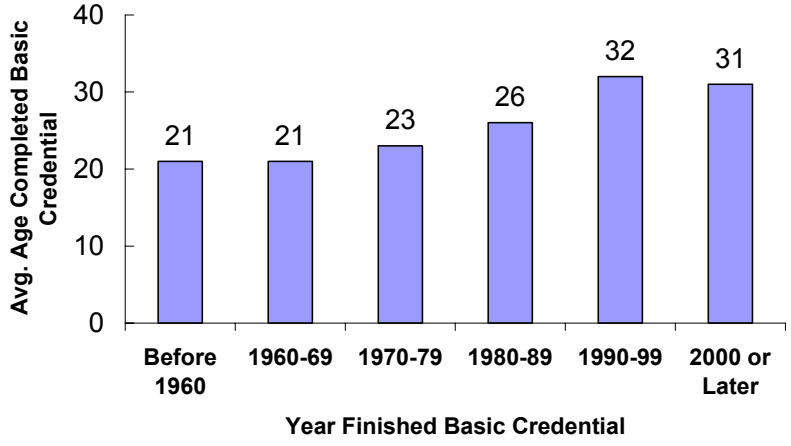
[9] This does not mean that the State is bringing fewer RNs educated outside the U.S. into its workforce than in the past. Currently, the average interval between an RN finishing their education abroad and being licensed in New York State is more than ten years.

At the same time, the proportion of RNs educated in New York State is higher for relatively recent graduates than for those who finished their basic preparation before 1990. Approximately 78 percent of RNs who finished their basic preparation in the 1970s and 1980s were educated in New York State; however the proportion exceeds 86 percent for RNs who finished since 1990.

### *Average Age at Completion of Basic Nursing Preparation*

Figure 2.7 shows the average age at which RNs finished their basic credential by the decade during which they completed their basic credential. The age at which RNs completed their nursing education is calculated by subtracting the year they completed their basic nursing preparation from 2002 and then subtracting that figure from the age they reported at the time of the survey. RNs who finished their basic nursing preparation before 1980 tended to enter the field at a relatively early age. Many of the RNs in the pre-1980 cohort must have begun their nursing studies shortly after high school, since the great majority earned their basic credential for nursing in their early twenties. For RNs who finished their basic preparation in 1980 or later, however, the average age of basic nursing preparation completion is dramatically higher. For RNs who finished their basic preparation since 1990 it stands at over 30 years of age.

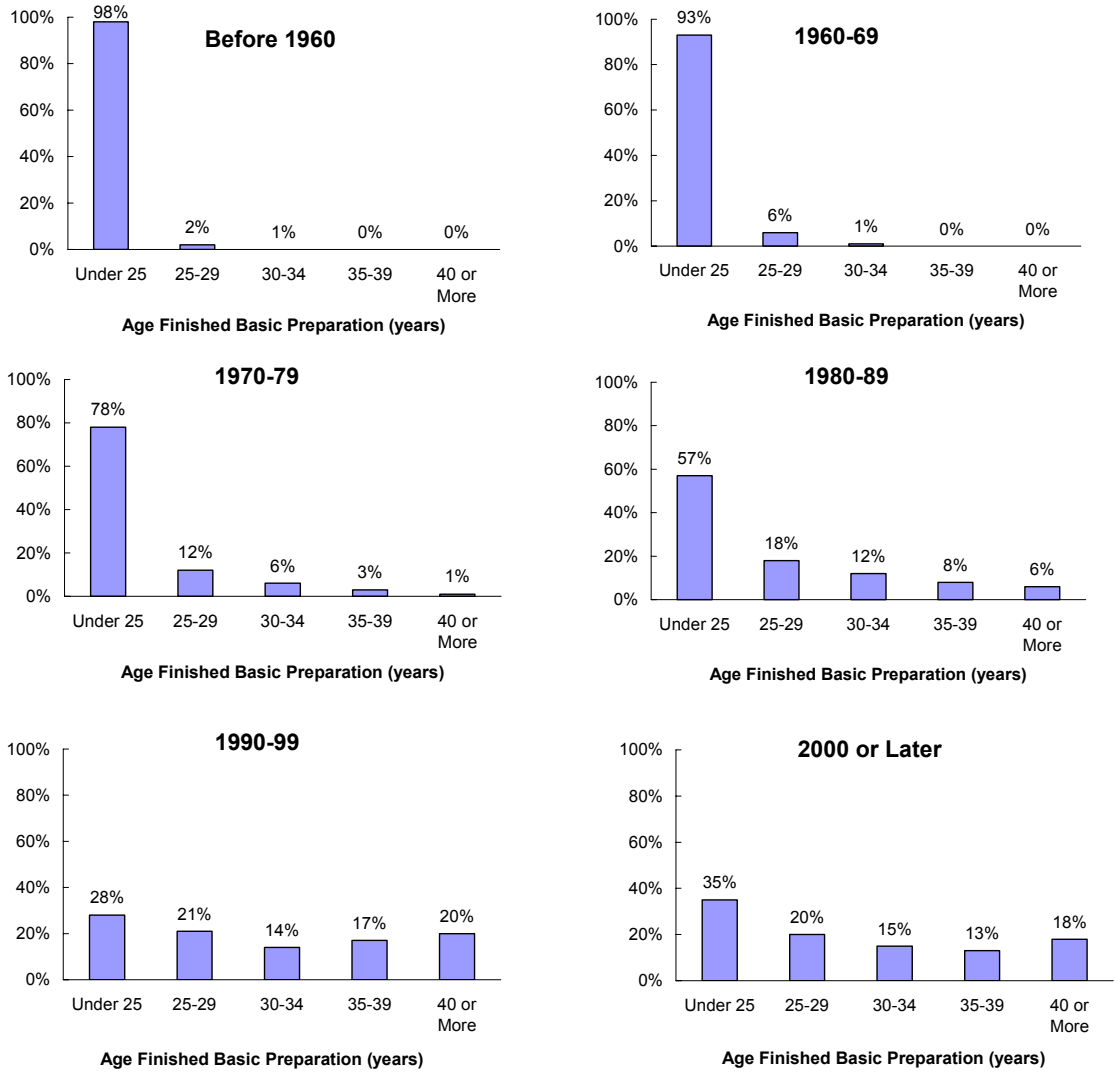
Figure 2.7
Average Age When Completed Basic Nursing Credential by Decade of Completion
(RNs Working in New York State)



### *The Age Distribution by Decade of Completion of Basic Preparation*

As the average age of newly prepared RNs increases so does the variation in the age of entry into the profession (as proxied by the age of completion of the basic nursing preparation). Looking at distributions of the age at which RNs working in New York earned their basic credential by the decade in which they earned it shows just how large the variation of age at entry to the profession has become. (See Figure 2.8.)

Figure 2.8
Age Distributions of RNs Working in New York State
by Decade of Completion of Basic Nursing Preparation



Of RNs working in New York who finished their basic preparation before 1970, well over 90 percent were under 25 years old when they earned their credential. For those who finished their preparation in the 1980s, the distribution is more varied. Only 57 percent were under 25 years old when they finished their basic preparation, while over a third (36 percent) were 30 years old or more. Of course, one reason that RNs prepared before 1970 appear to have entered the profession so young is that those who entered at an older age have already aged out of the workforce. Nevertheless, Figure 2.8 appears to reflect a genuine evolution in the career paths to nursing as well as differential attrition among RNs who completed their preparation in different decades.

The age of recent graduates ranges widely. Over half (51 percent) of RNs who finished their basic preparation in the 1990s were 30 years or older at the time they graduated. Twenty percent were forty years old or more. For graduates since 2000 the proportions have fallen slightly: 46 percent were 30 or older and 18 percent were 40 or older.

Understanding who these new nursing graduates are, learning what attracted them to the field, and identifying policies that will retain them in the nursing workforce will be key to ensuring a stable supply of nurses in the coming years.

# Chapter 3: The Education of New York State's Registered Nurses

## INTRODUCTION

This chapter includes information about educational preparation to become a registered nurse, the highest degree attained by New York State's registered nurses, and the proportions of RNs who have earned additional degrees since their basic preparation. It also examines why RNs choose not to pursue additional education and what preparation they would recommend to someone just beginning her or his nursing preparation. Finally, we compare relatively recent graduates from nursing education programs with other RNs working in New York State.

The data on average age of entry into the profession by decade of basic nursing preparation and by basic nursing credential indicate that RNs come to nursing via a variety of career paths and that these paths are changing over time. As we saw in Chapter 1, the data suggest that in earlier decades most RNs began their nursing preparation by entering a diploma program right after high school. Recent entrants to the profession, however, look quite different. The younger RNs tend to have pursued a bachelor's degree, while older career changers and late entrants to the labor market favored associate's degrees. The shorter preparation time for associate's degrees likely appeals to older individuals who tend to have greater family responsibilities and thus a greater need to realize a rapid return on their investment in education.

Over the course of their careers, many RNs go on to earn additional degrees beyond their basic nursing preparation. As we will see in Chapter 5, holding a higher degree does tend to be rewarded with higher earnings. Advanced degrees can also be a ticket out of direct patient care and mandatory overtime. (See Chapter 6.)

## BASIC NURSING PREPARATION

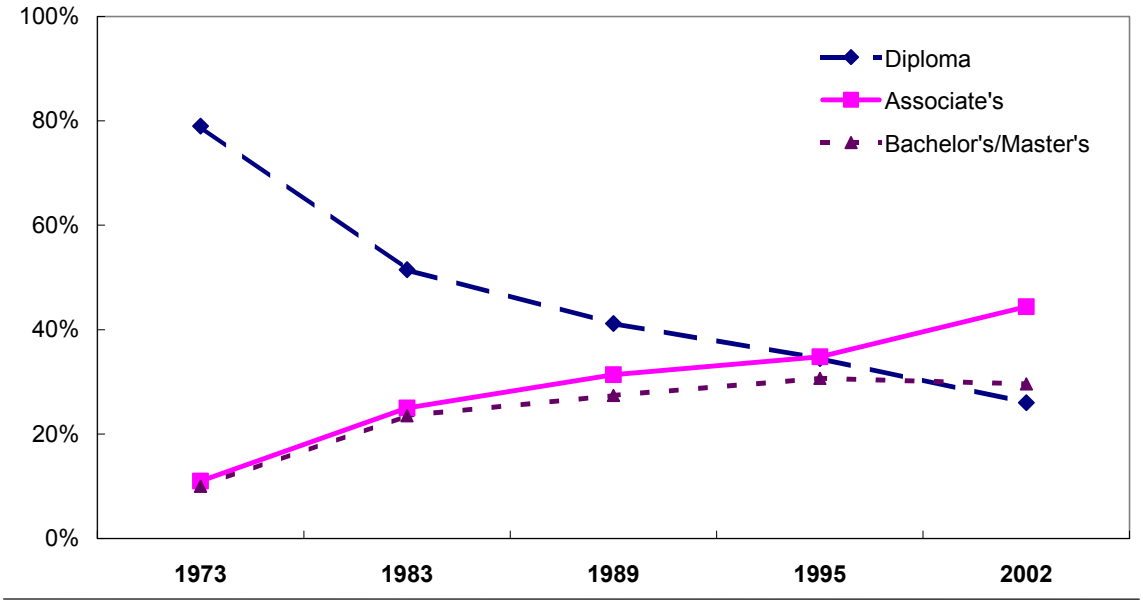
### *Trends in Basic Preparation*

Although this chapter focuses on findings from the 2002 survey, it is important to understand how the basic preparation of New York State's RN workforce has changed over time. As Figure 3.1 indicates, an estimated 79 percent of RNs working in New York State had diplomas in 1973. By 2002, however, the figure had dropped to only 26 percent.

This trend is likely to continue, given that only one nursing program offering a nursing diploma remains in New York State. A recent study by the Center for Health Workforce Studies found that only three nursing diplomas were awarded in New York State in 2002, while enrollments indicate that only five and 15 will be awarded in 2003

and 2004 respectively.[1] Meanwhile, the proportion of RNs whose basic preparation is an associate's degree has continued to increase steadily, from 11 percent in 1973 to 44 percent in 2002. The percentage of RNs whose basic preparation was a bachelor's or master's degree tripled from 1973 to 1995, (from 10 to 31 percent), but fell slightly to 30 percent in 2002.

Figure 3.1
Basic Nursing Preparation, 1973-2002
(RNs Working in Nursing in New York State)




### *Characteristics of RNs by Basic Preparation for Nursing*

Characteristics of RNs working in nursing in New York State vary according to their basic nursing preparation. Tables 3.1 and 3.2 display selected characteristics by basic nursing preparation. As we would expect, given the phasing out of diploma programs, RNs with a diploma tend to be older than other RNs. Their average age of 52.7 years exceeds the statewide average age by six years.

Diploma-prepared RNs also tend to have earned their basic nursing credential at a much younger age than RNs whose basic preparation is an associate's degree or a master's degree (22.2 years versus 29.3 and 29.7 years, respectively). In effect, for many diploma-prepared RNs, entry into diploma-granting institutions was a career path begun immediately after high school graduation. That type of traditional, well-defined, institutional pathway from high school graduation to basic nursing preparation program

[1] Center for Health Workforce Studies, *New York State Registered Nursing Graduations, 1996-2004.* Albany, NY: January 2003, p. 2.

has clearly fallen into disuse (although it remains common among bachelor's-prepared RNs).

Table 3.1
Selected Characteristics of RNs Working in Nursing in New York State
by Basic Preparation

| | | | Age (Years) | | Age When Obtained Basic Credential | | Time to Find First Job (Months) | |
|---|---|---|---|---|---|---|---|---|
| Basic Preparation | Est. Count | Column % | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| Diploma | 43,078 | 26.0% | 52.7 | 8.5 | 22.2 | 3.8 | 1.0 | 2.0 |
| Associate's | 73,465 | 44.3% | 45.4 | 9.2 | 29.3 | 8.4 | 1.5 | 2.7 |
| Bachelor's | 48,251 | 29.1% | 42.6 | 9.4 | 24.4 | 5.2 | 2.0 | 3.0 |
| Generic Master's[a] | 846 | 0.5% | 46.3 | 8.8 | 29.7 | 7.9 | 1.5 | 2.2 |
| **Overall[b]** | **165,640** | **100.0%** | **46.7** | **9.9** | **26.0** | **7.2** | **1.5** | **2.7** |

[a] This category is based on information from only 41 respondents.
[b] Includes all respondents for the column variable.

Table 3.1 also shows that the time to find a first nursing job varies remarkably little by basic preparation. Most RNs regardless of their basic level of preparation found their first job in two months or less—a finding that strongly suggests that market demand is so high with respect to available supply that the time spent in first-time job-seeking is minimal. Table 3.2 also shows that RNs whose basic preparation is an associate's degree have lower average annual earnings from nursing jobs than others ($49,064). RNs whose basic preparation is a master's degree tend to earn the most, with average annual earnings of $58,393. Chapter 5 discusses the relationships among earnings, age, education, years of experience, and region of practice in further detail.

RNs whose basic preparation is a diploma are less than half as likely to be male as RNs working in New York State overall (2.4 percent as opposed to 5.3 percent). RNs whose basic preparation is an associate's degree or bachelor's degree are more likely to be male than RNs as a group. It comes as no surprise that males continue to be highly underrepresented in the profession. Indeed, notwithstanding progressive increases in the rates of male labor force participation in nursing over time, the proportion of males represented in that workforce in 2002 was still less than nine percent in all basic preparation categories. For precisely this reason, the Board of Regents has continued to advocate for recruitment policies designed to enhance the entry of men into the profession.[2]

[2] See for example the Board of Regents, *Addressing Nursing and Other Professional Work Force Shortages*, (December 4, 2001).

Table 3.2
Additional Characteristics of RNs Working in Nursing in New York State
by Basic Preparation

| Basic Preparation | Est. Count | Column % | Mean Annual Earnings (All Jobs) | % Male | % Minority[a] | % Non-U.S. Educated |
|---|---|---|---|---|---|---|
| Diploma | 43,078 | 26.0% | $52,050 | 2.4% | 17.8% | 18.8% |
| Associate's | 73,465 | 44.3% | $49,064 | 7.0% | 17.4% | 2.4% |
| Bachelor's | 48,251 | 29.1% | $57,024 | 5.3% | 32.2% | 19.2% |
| Generic Master's[b] | 846 | 0.5% | $58,393 | 8.4% | 19.2% | 20.6% |
| **Overall[c]** | **165,640** | **100.0%** | **$52,802** | **5.3%** | **22.4%** | **12.4%** |

[a] This category includes non-Hispanic Blacks, Hispanics, Asians, Native Americans, and individuals of "two or more races."

[b] This category is based on information from only 41 respondents.

[c] Includes all respondents for the column variable.

Racial/ethnic diversity also varies by basic preparation. RNs working in New York State whose basic preparation is a bachelor's degree are much more likely to be a member of a minority group than RNs with other basic credentials. Almost a third (32.2 percent) of bachelor's degree-prepared RNs are members of a minority group, whereas fewer than one in five of other RNs are members of a minority group.[3] Associate's degree-prepared RNs are much less likely than others to have received their basic nursing preparation outside the U.S. Only 2.4 percent completed their basic preparation to be a professional nurse outside the U.S. compared to 19.2 percent of bachelor's-prepared RNs and 12.4 percent overall.

Since RNs educated outside the U.S. are more likely than others to be members of a minority group and more likely to have a bachelor's degree as their basic preparation, this accounts for some of the difference in minority representation by basic nursing preparation. Also, downstate U.S.-educated RNs, who are more likely than others to be members of minority groups, have access to more four-year degree programs than residents in rural areas, who tend to be White, and who have greater access to associate's degree programs offered by community colleges.

### *Basic Preparation by Primary Work Setting*

Statewide, 44.3 percent of nurses have an associate's degree as their basic preparation, 29.1 percent have a bachelor's degree, while 26.0 percent have a diploma. Less than one percent have a master's degree as their basic credential. The small proportion of RNs with master's degrees as their basic credential is not surprising; most

[3] "Minority group" is defined in this chapter as non-Hispanic Blacks, Hispanics, Asians, Native Americans, or individuals of "two or more races."

master's in nursing programs are aimed at RNs who are already licensed. Basic preparation varies somewhat by primary work setting as shown in Table 3.3.

Table 3.3
Basic Nursing Preparation and Primary Work Setting
(RNs Working in Nursing in New York State)

| | | | Basic Nursing Preparation | | | |
|---|---|---|---|---|---|---|
| | | | Diploma | Associate's | Bachelor's | Master's (Gen.) |
| Primary Work Setting | Est. Count | Column % | Row % | Row % | Row % | Row % |
| Ambulatory Care, Diagnostic Treat. Ctr. | 8,723 | 5.3% | 27.7% | 40.8% | 30.9% | 0.6% |
| Gov't, Professional, Health Org. | 3,526 | 2.1% | 25.9% | 46.2% | 27.8% | 0.1% |
| Home Health Agency | 12,626 | 7.6% | 24.0% | 42.0% | 33.1% | 0.9% |
| Hospital | 90,137 | 54.4% | 22.8% | 44.4% | 32.5% | 0.3% |
| Private Physician's Office | 8,078 | 4.9% | 31.1% | 47.9% | 20.8% | 0.2% |
| Nursing Home | 14,986 | 9.0% | 29.4% | 51.1% | 18.5% | 1.0% |
| Nursing Education | 3,053 | 1.8% | 31.5% | 24.8% | 42.4% | 1.2% |
| School Health | 9,383 | 5.7% | 36.2% | 40.9% | 22.2% | 0.7% |
| Other | 15,128 | 9.1% | 30.3% | 46.8% | 21.9% | 0.9% |
| **Overall**[a] | **165,640** | **100%** | **26.0%** | **44.3%** | **29.1%** | **0.5%** |

[a] Column estimates do not add to the total shown because of rounding. Overall percentages include all respondents for the column variable.

In all settings except nursing education the largest proportion (between 40 and 51 percent) of RNs have an associate's degree as their basic preparation. In nursing education, a bachelor's degree is the most commonly reported basic credential (42.4 percent). RNs who received their basic credential from a diploma program tend to be slightly more concentrated in school health settings, nursing education, private physicians' offices, and "other" settings, and slightly less concentrated in hospital settings.

### *Basic Preparation by Primary Job Title*

Basic preparation varies more by job title than by work setting. As illustrated in Table 3.4, for example, the greatest concentration of diploma-prepared RNs working in New York State is found among independent practitioners/private duty nurses. Two-fifths (41.1 percent) of these RNs report that a diploma is their basic credential. The smallest concentrations of diploma-prepared RNs are in the nurse practitioner, inpatient staff nurse, and public health/community health nurse titles (19.2, 20.9 and 23.2 percent, respectively).

Table 3.4
Basic Preparation by Primary Job Title
(RNs Working in Nursing in New York State)

| | | | Basic Preparation | | | |
|---|---|---|---|---|---|---|
| | | | Diploma | Associate's | Bachelor's | Master's (Generic) |
| Primary Job Title | Est. Count | Column % | Row % | Row % | Row % | Row % |
| Inpatient Staff Nurse | 68,077 | 41.1% | 20.9% | 47.4% | 31.5% | 0.2% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 29.3% | 47.8% | 22.5% | 0.4% |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 32.7% | 22.4% | 44.8% | 0.0% |
| Claims Review, Quality Assurance, Utilization Review, Claims Review | 6,040 | 3.6% | 30.8% | 43.5% | 25.3% | 0.3% |
| Consultant or Researcher | 2,313 | 1.4% | 33.3% | 27.7% | 36.8% | 2.1% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 28.9% | 27.9% | 42.2% | 1.1% |
| Nursing Executive | 4,954 | 3.0% | 32.2% | 38.9% | 28.0% | 0.9% |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 32.8% | 27.2% | 39.5% | 0.5% |
| Nurse Practitioner | 7,084 | 4.3% | 19.2% | 33.9% | 43.5% | 3.4% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 27.7% | 47.9% | 23.5% | 0.9% |
| Independent Practitioner/Private Duty Nurse | 2,812 | 1.7% | 41.1% | 35.4% | 21.2% | 2.3% |
| Public/Community Health Nurse | 7,800 | 4.7% | 23.2% | 45.3% | 31.1% | 0.4% |
| Other | 15,850 | 9.6% | 35.3% | 41.5% | 23.0% | 0.1% |
| **Overall[a]** | **165,640** | **100.0%** | **26.0%** | **44.3%** | **29.1%** | **0.5%** |

[a] Overall percentages include all respondents for the column variable.

Relatively high concentrations of RNs with associate's degrees as their basic preparation are found among nurse managers/patient care coordinators (47.9 percent),

outpatient staff nurses (47.8 percent), and inpatient staff nurses (47.4 percent). Low concentrations (relative to their overall representation in the nursing workforce) of RNs whose basic preparation is an associate's degree are found in the titles of certified registered nurse anesthetist, clinical nurse specialist/in-service director or instructor, consultant or researcher, and dean or faculty in a nursing education program.

RNs whose basic preparation is a bachelor's degree tend to be concentrated (relative to their overall representation in the workforce) in the certified registered nurse anesthetist, nurse practitioner, dean or faculty in nursing education, clinical nurse specialist/in-service director or instructor, and consultant or researcher titles. They are less concentrated in independent practitioner/private duty nurse, outpatient staff nurse, "other," and nurse manager/patient care coordinator titles as well as in claims review, quality assurance, utilization review, and risk management titles.

## RNs WITH ADDITIONAL CREDENTIALS

In gauging the qualifications of the nursing workforce, we need to consider other credentials held, since many RNs earn additional credentials beyond their basic preparation. Some career changers bring their previous education to the field of nursing. Unfortunately, the responses to survey items designed to elicit information about these credentials yielded inconsistent results. The least ambiguous results were obtained by simply comparing respondents' reported basic preparation to their highest credential held. In doing so, however, it is impossible in many cases—notably those in which the highest credential is outside the field of nursing—to determine whether the highest credential was earned prior to the basic nursing preparation or subsequent to it. Nevertheless, we are reasonably certain that in the great majority of these cases those earning a higher degree than their basic nursing degree did so as part of a career path within nursing and not as a consequence of career shifting.

Figure 3.2 shows the percentage of RNs with a higher credential by level of basic preparation. It shows that 38 percent of diploma-prepared RNs have earned a higher credential. Thirty percent of those whose initial preparation was an associate's degree also hold a higher credential, while over a quarter (27 percent) of bachelor's-prepared RNs hold a higher credential.

We should note that there are qualitative differences in the additional education obtained. A bachelor's-prepared RN who goes on to complete a master's degree generally becomes prepared to offer highly specialized services. An associate's degree holder who goes on to complete a bachelor's degree does not attain the same level of specialization. If the nursing field needs a rapid influx of highly trained specialized RNs, the bachelor's-prepared RNs will be the supply source of choice.

Figure 3.2
Percentage of RNs Who Have Earned Higher Degrees Than Their Basic Nursing Credential
(RNs Working in Nursing in New York State)

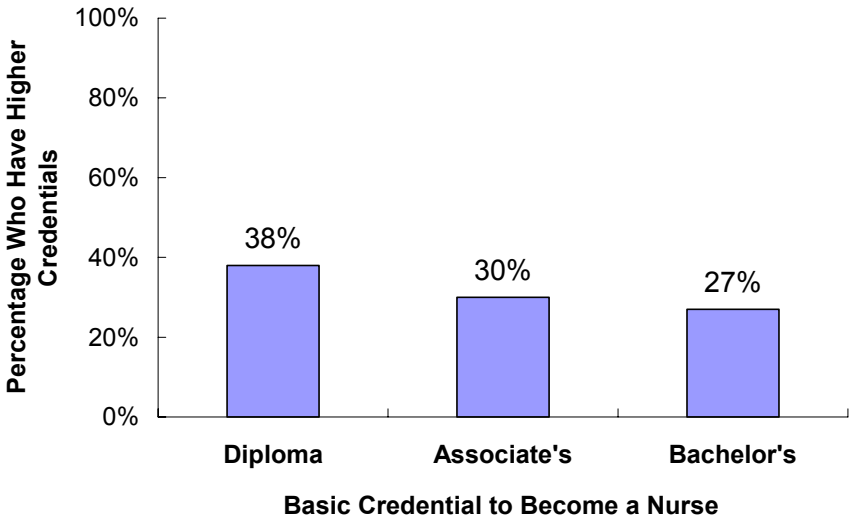



Table 3.5 displays a more detailed view of RNs' highest credential (in any field) by basic preparation. It shows that while 59.2 percent of diploma-prepared RNs do not hold a higher credential, 2.6 percent have an associate's degree, 22.4 percent hold a bachelor's degree, 14.5 percent hold a master's degree, and 1.2 percent have a doctorate. Of RNs working in New York State who have an associate's degree as their basic preparation, 20.6 percent also hold a bachelor's degree, and 9.2 percent hold a master's degree.

One quarter of RNs working in New York State whose basic preparation was a bachelor's degree also hold a master's degree. If—leaving aside those whose highest credential is an associate's degree or diploma as well as those who entered with a master's degree—we add up those who now hold a higher degree than their basic credential, the estimated total amounts to 51,484, or 31 percent of the active New York State RN workforce.

Table 3.5
Percentage of RNs Who Hold Higher Credentials
by Basic Preparation
(RNs Working in Nursing in New York State)

| Highest Credential (Any Field) | Basic Nursing Preparation | | |
|---|---|---|---|
| | Diploma | Associate's | Bachelor's[a] |
| **Diploma** | | | |
| Estimated Count | 25,522 | 231 | 157 |
| Column Percent | 59.2% | 0.3% | 0.3% |
| **Associate's** | | | |
| Estimated Count | 1,133 | 51,068 | 185 |
| Column Percent | 2.6% | 69.5% | 0.4% |
| **Bachelor's** | | | |
| Estimated Count | 9,657 | 15,116 | 35,013 |
| Column Percent | 22.4% | 20.6% | 72.6% |
| **Master's** | | | |
| Estimated Count | 6,253 | 6,766 | 12,054 |
| Column Percent | 14.5% | 9.2% | 25.0% |
| **Doctorate** | | | |
| Estimated Count | 512 | 284 | 842 |
| Column Percent | 1.2% | 0.4% | 1.7% |
| **Total** | | | |
| Estimated Count | 43,078 | 73,465 | 48,251 |
| Column Percentage[b] | 100.0% | 100.0% | 100.0% |

[a] The boxed cells in these columns are logical anomalies that appear to be due to respondent error. The population estimates in the boxes are based on only 17 cases.
[b] Column percentages may not add up to 100 because of rounding.

Close examination of Table 3.5 shows that a small number of respondents gave illogical answers—as indicated in the "boxed" cells. It is possible that these respondents may have confused their basic preparation and their highest credential or otherwise misinterpreted the question.[4] Still, those whose highest credential was also their basic credential fell between 59 and 73 percent.

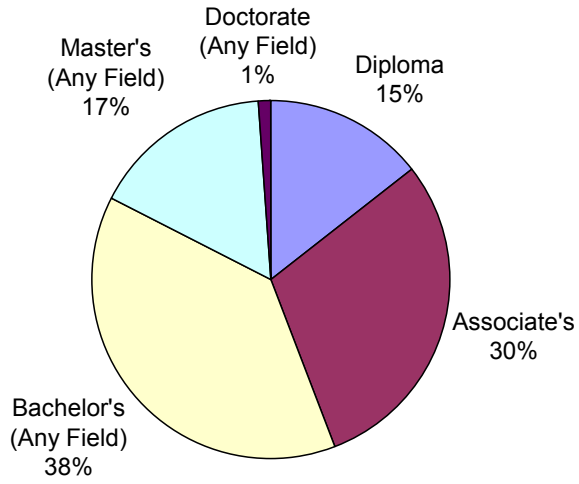
[4] Further, the survey item asking RNs to mark their highest credential listed the possible choices in a different order than the hierarchy ultimately adopted by the research team.

## HIGHEST CREDENTIAL HELD

### *Distribution of RNs Working in New York State by Highest Credential*

Figure 3.3 shows the highest credential held (in any field) for RNs working in nursing in New York State.[5] Overall, the highest credential obtained by more than half (56 percent) of RNs working in New York is a bachelor's degree or higher. Only one percent of RNs hold doctorates; however, 17 percent hold master's degrees and 38 percent hold bachelor's degrees. And while diplomas comprise the basic preparation of more than a quarter (26 percent) of RNs working in New York, only 15 percent have a diploma as their highest credential. Similarly, although 44 percent of RNs working in New York have an associate's degree as their basic preparation, only 30 percent reported having an associate's degree as their highest credential.

Figure 3.3
Highest Credential
(RNs Working in Nursing in New York State)




Note: Figures do not add up to 100 percent because of rounding.

[5] We asked RNs to select their highest credential from a list of eight choices. In the survey instrument the choices appeared in the following order: diploma, associate's degree, bachelor's degree (nursing), bachelor's degree (other field), master's (nursing), master's (other field), doctorate (nursing), and doctorate (other field). In the analyses, however, we adopted a different ordering of these categories than the one implied by the order of the items in the questionnaire. The ordering of these categories used for our analyses is: associate's degree, diploma, bachelors (non-nursing), bachelor's (nursing), master's (non-nursing), master's (nursing), doctorate (non-nursing), and doctorate (nursing). This means that for RNs with multiple credentials, especially both nursing and non-nursing degrees, we may have captured the second-highest rather than the highest credential.

If we distinguish nursing degrees from non-nursing degrees in looking at RNs' highest credential, we can see that the great majority of the RNs working in New York State who reported that their highest credential was a bachelor's degree hold a bachelor's in nursing (50,794 of 63,520, or 80 percent). (See Table 3.6.) Nearly two-thirds (65 percent) of those whose highest credential is a master's degree hold a master's in nursing. However, only about half of doctoral degrees held by RNs working in New York State are in nursing.

### *Characteristics of RNs by Highest Credential*

Table 3.6 also shows the average age at the time of the survey, the average number of years working in nursing, and the average number of years "away" from nursing by the highest credential held. RNs whose highest degrees are the bachelor's in nursing and the associate's degree tend to be younger than other RNs. Their average ages of 43.4 and 44.7 years respectively are lower than the overall average age of 46.7 years for RNs working in New York State. RNs whose highest credential is a doctorate, a non-nursing master's degree, or a diploma tend to be somewhat older. The average age for RNs working in New York State in these categories is over 50 years old. RNs with a nursing doctorate have the highest average age—54.7 years.

Table 3.6
Age, Years Experience, and Years Hiatus by Highest Credential
(RNs Working in Nursing in New York State)

| | | | Age (Years) | | Years Worked in Nursing | | Years Hiatus | |
|---|---|---|---|---|---|---|---|---|
| Highest Credential | Est. Count | Column % | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| Diploma | 24,145 | 14.6% | 52.7 | 8.7 | 27.7 | 9.7 | 3.0 | 5.7 |
| Associate's | 48,944 | 29.5% | 44.7 | 9.2 | 14.5 | 9.1 | 0.9 | 3.0 |
| Bachelor's (Not Nursing) | 12,726 | 7.7% | 49.2 | 9.3 | 20.3 | 11.2 | 1.5 | 4.0 |
| Bachelor's (Nursing) | 50,794 | 30.7% | 43.4 | 9.7 | 17.2 | 9.7 | 1.3 | 3.3 |
| Master's (Not Nursing) | 9,506 | 5.7% | 51.8 | 8.2 | 24.8 | 9.3 | 1.3 | 3.5 |
| Master's (Nursing) | 17,913 | 10.8% | 47.0 | 9.0 | 21.6 | 9.7 | 1.2 | 3.8 |
| Doctorate (Not Nursing) | 778 | 0.5% | 52.4 | 9.1 | 24.7 | 12.7 | 3.7 | 7.9 |
| Doctorate (Nursing) | 835 | 0.5% | 54.7 | 7.6 | 30.2 | 9.7 | 1.7 | 4.1 |
| **Overall**[a] | **165,640** | **100.0%** | **46.7** | **9.8** | **19.3** | **10.7** | **1.5** | **4.0** |

[a] Includes all respondents for the column variable. Estimates do not total 165,640 due to rounding.

The average number of years worked in nursing ranges from 14.5 for RNs whose highest credential is an associate's degree to 30.2 years for those with a doctorate in nursing. Among bachelor's degree- and master's degree-holders, those with non-nursing degrees tend to be older and have more years of experience working in nursing than those with nursing degrees.

The average hiatus—or time away from nursing—is relatively low among RNs working in New York State, averaging 1.5 years among all respondents statewide.[6] It is slightly higher among RNs whose highest credential is a non-nursing doctorate (3.7 years) or a diploma (3.0 years)—the two categories with the greatest average number of years working in nursing. However, even if we control for the length of one's overall career experience (by examining the average hiatus time as a percentage of one's entire career for instance), these two groups do appear to be in a class apart by comparison to other groups in terms of their time away from the profession. In the case of non-nursing doctoral recipients, their longer hiatus times are likely attributable to career interruptions or shifts. In the case of diploma recipients, their longer hiatus times may reflect more significant family, or kinship responsibilities. Associate's degree holders have the least career experience and have spent the least time away from nursing (0.9 years).

Table 3.7 shows selected demographic characteristics of RNs working in nursing in New York State by highest credential. As the table shows, the highest degree held varies by gender, minority status, location of basic education, and annual earnings.

Table 3.7
Selected Characteristics by Highest Credential
(RNs Working in Nursing in New York State)

| | | | | | | Avg. Annual Earnings from All Nursing Jobs | |
|---|---|---|---|---|---|---|---|
| **Highest Credential** | **Est. Count** | **Column %** | **% Male** | **% Minority[a]** | **% Non-U.S. Educated (Basic Credential)** | **Mean** | **S.D.** |
| Diploma | 24,145 | 14.6% | 1.8% | 15.0% | 18.2% | $47,071 | $20,881 |
| Associate's | 48,944 | 29.5% | 6.4% | 14.5% | 2.3% | $46,114 | $18,376 |
| Bachelor's (Not Nursing) | 12,726 | 7.7% | 9.2% | 21.0% | 11.2% | $54,997 | $24,402 |
| Bachelor's (Nursing) | 50,794 | 30.7% | 4.7% | 32.0% | 17.8% | $53,910 | $21,722 |
| Master's (Not Nursing) | 9,506 | 5.7% | 6.6% | 24.3% | 11.5% | $64,782 | $27,633 |
| Master's (Nursing) | 17,913 | 10.8% | 5.1% | 19.7% | 9.1% | $65,217 | $26,137 |
| Doctorate (Not Nursing) | 778 | 0.5% | 15.7% | 15.8% | 16.1% | $65,644 | $22,111 |
| Doctorate (Nursing) | 835 | 0.5% | 2.3% | 15.8% | 18.3% | $75,826 | $22,670 |
| **Overall[b]** | **165,640** | **100.0%** | **5.3%** | **22.4%** | **12.4%** | **$52,802** | **$19,580** |

[a] "Minority" is defined here as non-Hispanic Black, Hispanic, Asian, Native American, and individuals of "two or more races."

[b] Includes all respondents for the column variable. The findings for RNs with doctorates (nursing or non-nursing) are based on 81 cases. Estimates do not total 165,640 due to rounding.

[6] As noted in Chapter 2, the hiatus variable was constructed by subtracting the number of years worked as an RN in nursing from 2002 minus the year RNs reported finishing their basic nursing preparation. Any negative values that resulted were changed to zeros. Thus the hiatus variable is a very rough proxy for time away from nursing.

RNs whose highest degree is a diploma are the least likely to be male (1.8 percent). This of course is largely attributable to both the historic recency of significant male labor force participation in the profession as well as the simultaneous phasing out of diploma-based programs, many of which did not accept male students. RNs with a non-nursing bachelor's degree or doctorate are more likely than others to be male (9.2 and 15.7 percent, respectively).

As we have seen, slightly over a fifth of RNs working in New York are members of a minority group (22.4 percent). RNs whose highest credential is a bachelor's degree in nursing are the most likely to be members of a minority group. Nearly a third (32.0 percent) of the nursing bachelor's degree holders in New York's active RN workforce are members of a minority group. RNs whose highest credential is a diploma, associate's degree, or doctorate (in any field) are the least likely to be members of a minority group. In the case of diploma-holding RNs, low minority representation—like the low level of male representation in this group—is attributable to the diminished availability of these programs in recent years.

Over 97 percent of RNs whose highest credential is an associate's degree were educated in the U.S. In contrast, between 16 and 18 percent of RNs working in New York whose highest credential is a doctorate (any field), a bachelor's degree in nursing, or a diploma, completed their basic nursing preparation outside of the U.S. This compares to 12.4 percent for all RNs working in nursing in New York State.

As we would expect, average annual earnings tend to be higher for RNs with higher credentials. Chapter 5 discusses salary and the relationships among earnings, experience, education, and hours worked in more detail.

### *Highest Credential by Primary Work Setting*

Highest credential varies by primary work setting. As Table 3.8 shows, RNs whose highest credential is a diploma tend to be concentrated (relative to their overall 14.6 percent representation in the workforce) in school health settings (where 23.8 percent have a diploma as their highest credential), private physicians' offices (22.5 percent), and nursing homes (20.8 percent). They are very rare in nursing education settings (1.9 percent). Associate's degree holders are relatively concentrated in nursing homes and private physician's offices, where they constitute 38.9 and 35.8 percent of the RN workforce, and rare in nursing education settings, where they make up only 6.6 percent of the RN staff.

RNs whose highest credential is a bachelor's degree are well represented in most settings. They range from a fifth (21.0 percent) of RNs in private physician's offices to 43.0 percent of the RNs working in New York State hospitals. They tend to predominate in larger organizations because such organizations have greater degrees of specialization and positions involving extensive administrative, record keeping, and data analysis.

Master's degree holders are heavily concentrated in nursing education settings, where they make up well over half of the RN workforce (56.0 percent). Master's degree holders make up a fifth or more of the RNs in ambulatory care, private physicians'

offices, and "other" settings. They tend to be relatively less well represented in nursing homes and school health settings, where they make up 10.4 and 12.4 percent of the RN workforce respectively. Doctorate holders, who make up only one percent of the New York State RN workforce, are most highly concentrated in nursing education settings, where they account for 11.3 percent of active RNs.

Table 3.8
Highest Credential and Primary Work Setting
(RNs Working in New York State)

| | | | Highest Credential | | | | |
|---|---|---|---|---|---|---|---|
| | | | Diploma | Associate's[a] | Bachelor's[a] | Master's[a] | Doctorate[a] |
| Primary Work Setting | Est. Count | Column % | Row % | Row % | Row % | Row % | Row % |
| Ambulatory Care, Diagnostic Treat. Ctr. | 8,723 | 5.3% | 15.2% | 26.4% | 35.0% | 23.4% | 0.0% |
| Gov't, Professional, Health Org. | 3,526 | 2.1% | 12.4% | 28.5% | 39.7% | 18.9% | 0.5% |
| Home Health Agency | 12,626 | 7.6% | 12.5% | 27.1% | 41.7% | 17.6% | 1.0% |
| Hospital | 90,137 | 54.4% | 12.5% | 29.5% | 43.0% | 14.4% | 0.6% |
| Private Physician's Office | 8,078 | 4.9% | 22.5% | 35.8% | 21.0% | 20.3% | 0.3% |
| Nursing Home | 14,986 | 9.0% | 20.8% | 38.9% | 29.5% | 10.4% | 0.4% |
| Nursing Education | 3,053 | 1.8% | 1.9% | 6.6% | 24.2% | 56.0% | 11.3% |
| School Health | 9,383 | 5.7% | 23.8% | 28.1% | 35.6% | 12.4% | 0.0% |
| Other | 15,128 | 9.1% | 14.7% | 28.7% | 32.5% | 20.7% | 3.3% |
| **Overall[b]** | **165,640** | **100%** | **14.6%** | **29.5%** | **38.4%** | **16.5%** | **1.0%** |

[a] Any field.
[b] Estimates do not total 165,640 due to rounding error. Overall percentages include all respondents for the column variable.

### *Highest Credential by Primary Job Title*

As we would expect, certain credentials are more common in some job titles than in others. As Table 3.9 shows, although 14.6 percent of RNs working in New York in 2002 report a diploma as their highest credential, the proportion varies from 1.2 percent for deans or faculty members in nursing education programs to 26.0 percent for independent practitioners/private duty nurses. Roughly a fifth of outpatient staff nurses and RNs in "other" job titles report that a diploma is their highest credential (20.9 and 19.7 percent, respectively). Very few nurse practitioners or education faculty report that a diploma is their highest credential (2.7 and 1.2 percent, respectively). Since nurse

practitioners must have a master's degree, it would appear that some respondents reported their basic credential as their highest credential.

Among inpatient and outpatient staff nurses an associate's degree is the most common highest credential (35.1 and 36.0 percent, respectively). By way of contrast, only 3.1 percent of nurse practitioners and certified registered nurse anesthetists, and 5.8 percent of nursing faculty claim an associate's degree as their highest credential. Again, these responses appear to be questionable, since a master's degree is required to practice in these titles.

Table 3.9
Highest Credential by Primary Job Title
(RNs Working in New York State)

| | | | Highest Credential (Any Field) | | | | |
|---|---|---|---|---|---|---|---|
| | | | Diploma | Associate's[a] | Bachelor's[a] | Master's[a] | Doctorate[a] |
| Primary Job Title | Est. Count | Column % | Row % | Row % | Row % | Row % | Row % |
| Inpatient Staff Nurse | 68,077 | 41.1% | 13.4% | 35.1% | 45.5% | 5.6% | 0.4% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 20.9% | 36.0% | 35.1% | 7.6% | 0.4% |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 14.1% | 3.1% | 22.6% | 60.2% | 0.0% |
| Claims Review, Quality Assurance, Utilization Review, Risk Management | 6,040 | 3.6% | 14.2% | 27.5% | 41.7% | 16.5% | 0.1% |
| Consultant or Researcher | 2,313 | 1.4% | 12.4% | 13.3% | 34.9% | 36.1% | 3.2% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 1.2% | 5.8% | 18.8% | 52.5% | 21.7% |
| Nursing Executive | 4,954 | 3.0% | 10.4% | 18.0% | 27.2% | 42.5% | 1.9% |
| Clinical Nurse Spec., In-Service Dir./Instr. | 5,527 | 3.3% | 13.2% | 14.2% | 27.9% | 43.7% | 0.9% |
| Nurse Practitioner | 7,084 | 4.3% | 2.7% | 3.1% | 5.6% | 87.6% | 1.0% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 13.9% | 30.9% | 36.5% | 18.4% | 0.3% |
| Independent Practitioner/Private Duty Nurse | 2,812 | 1.7% | 26.0% | 24.4% | 34.5% | 13.6% | 1.5% |
| Public/Community Health Nurse | 7,800 | 4.7% | 12.8% | 29.0% | 46.5% | 11.4% | 0.3% |
| Other | 15,850 | 9.6% | 19.7% | 25.9% | 37.2% | 16.7% | 0.5% |
| **Overall[b]** | **165,640** | **100%** | **14.6%** | **29.5%** | **38.4%** | **16.5%** | **1.0%** |

[a] Any field.

[b] Estimates do not total 165,640 due to rounding error. Overall percentages include all respondents for the column variable.

Bachelor's degrees are the most commonly reported highest credential among public/community health nurses; inpatient staff nurses; claims review, quality assurance, utilization review, and risk management titles; "other" titles; nurse managers/patient

care coordinators; and independent practitioners/private duty nurses. They are relatively rare among nurse practitioners and nursing faculty. As we would expect, master's degrees are common among nurse practitioners (87.6 percent), certified registered nurse anesthetists (60.2 percent), and nursing education faculty (52.5 percent). Clinical nurse specialists/in-service educators, nursing executives, and consultants or researchers also have relatively high concentrations of RNs whose highest credential is a master's degree. The only job title with a large proportion of doctoral degree holders is nursing education (not in-service), where over a fifth (21.7 percent) of RNs hold a doctorate.

## MASTER'S DEGREE SPECIALIZATION

The survey instrument employed in the 2002 survey asked those RNs with at least a master's degree in nursing to identify their specialty area. Because of the relatively small number of respondents to this question and because the specialty categories do not align with the job title categories, no attempt was made to determine how many of the RNs with a master's or doctorate in nursing work in their specialty area. Table 3.10 shows that advanced degrees are relatively concentrated in a few fields: adult health or medical/surgical (18.6 percent of advanced degrees), family health (12.8 percent), administration (12.3 percent), and nursing education (11.7 percent). Fewer than two percent of RNs with advanced degrees specialized in maternal and child health (1.8 percent), neonatal care (1.3 percent), school health (1.0 percent), or rehabilitation (0.4 percent).

Table 3.10
Selected Characteristics by Master's Specialty Area
(RNs Working in Nursing in New York State with at Least a Master's in Nursing)

| | | | Age (Years) | | Years Worked in Nursing | | Avg. Annual Earnings from All Nursing Jobs | |
|---|---|---|---|---|---|---|---|---|
| Master's Specialty Area | Est. Count | Column % | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| Administration | 2,403 | 12.3% | 49.4 | 8.6 | 24.8 | 8.2 | $77,020 | $39,199 |
| Adult Health, Medical/Surgical | 3,638 | 18.6% | 46.6 | 8.5 | 22.1 | 9.5 | $64,658 | $24,421 |
| Community & Public Health | 1,071 | 5.5% | 50.7 | 10.2 | 25.8 | 10.6 | $60,292 | $22,827 |
| Family Health | 2,502 | 12.8% | 43.8 | 8.6 | 17.5 | 9.4 | $60,006 | $20,316 |
| Geriatrics | 746 | 3.8% | 48.8 | 8.6 | 22.0 | 8.7 | $56,443 | $23,322 |
| Maternal and Child | 342 | 1.8% | 49.0 | 8.6 | 23.8 | 10.1 | $57,336 | $23,728 |
| Neonatal | 259 | 1.3% | 47.2 | 8.3 | 22.1 | 5.4 | $63,693 | $22,060 |
| Nurse Anesthetist | 419 | 2.1% | 42.5 | 5.6 | 18.0 | 6.4 | $93,237 | $32,365 |
| Nursing Education | 2,285 | 11.7% | 51.3 | 9.2 | 27.0 | 9.6 | $63,702 | $22,508 |
| Obstetrics/Gynecology | 453 | 2.3% | 47.7 | 5.2 | 20.2 | 7.5 | $65,152 | $14,204 |
| Oncology | 422 | 2.2% | 46.8 | 10.4 | 21.0 | 11.3 | $70,106 | $22,407 |
| Pediatrics | 1,234 | 6.3% | 43.4 | 8.0 | 18.1 | 9.1 | $58,246 | $20,962 |
| Mental Health | 1,597 | 8.2% | 51.5 | 8.5 | 24.7 | 10.3 | $65,912 | $25,951 |
| Rehabilitation | 76 | 0.4% | 51.0 | 2.8 | 24.5 | 5.2 | $80,311 | $12,713 |
| School Health | 205 | 1.0% | 49.8 | 11.0 | 24.7 | 12.3 | $53,250 | $9,299 |
| Women's Health | 472 | 2.4% | 46.5 | 7.9 | 18.4 | 8.0 | $60,059 | $20,929 |
| Other | 1,417 | 7.2% | 43.6 | 8.8 | 17.5 | 8.5 | $69,170 | $20,340 |
| **Overall** | **19,543** | **100.0%** | **47.5** | **9.1** | **22.1** | **9.9** | **$65,413** | **$26,280** |

The average age is highest among RNs with an advanced degree specialization in mental health (51.5 years), nursing education (51.3 years), rehabilitation (51.0 years), or community/public health (50.7 years). It is lowest for those with a specialization in nursing anesthesiology (42.5 years), pediatrics (43.4 years), the "other" category (43.6 years), and family health (43.8 years).

The average number of years worked in nursing ranges from 17.5 years for RNs with an advanced degree specialization in family health and the "other" category, to 27.0 years for those who specialized in nursing education.

Table 3.10 also displays average annual earnings for all nursing employment by advanced degree specialization. These should be viewed with caution, as no attempt was made to control for full-time versus part-time employment, hours worked, or geographic location. The small number of respondents in certain categories also makes it difficult to generalize about earnings by advanced degree specialty. The data suggest that RNs with advanced degrees in nurse anesthesiology earn the most ($93,237 per year on average). Degree specialties in administration and rehabilitation also appear to be relatively lucrative, since average annual earnings for RNs in these fields exceed $77,000 and $80,000 per year, respectively. At the other end of the earnings spectrum, RNs with an advanced degree specialization in school health earn $53,250 per year on average. This last finding may reflect a trade-off between earnings and quality of life considerations.

## PLANS FOR FURTHER EDUCATION

### *Many RNs Plan to Further Their Education*

Given both the large proportion of RNs who already hold educational credentials higher than their basic preparation for nursing and the age distribution of the active RN workforce in New York State, it is not surprising that over two-thirds of RNs (69 percent) have no plans for further nursing education. That means, of course that nearly a third of RNs active in New York do plan to pursue additional nursing education.

Figure 3.4 shows the expected time frame for the education of the remaining 31 percent of active RNs who do plan to further their nursing education at some point in the future. An estimated 51,550 RNs fall into this category and the timing of their further educational plans are detailed in the right-hand pie chart. The analysis suggests that slightly less than a third of these RNs plan to further their education within a year. Slightly more than a third plan to continue their education in one to two years, while the remainder—also slightly more than a third—plan to continue their education in three years or more.

Figure 3.4
Plans for Further Education
(RNs Working in Nursing in New York State)

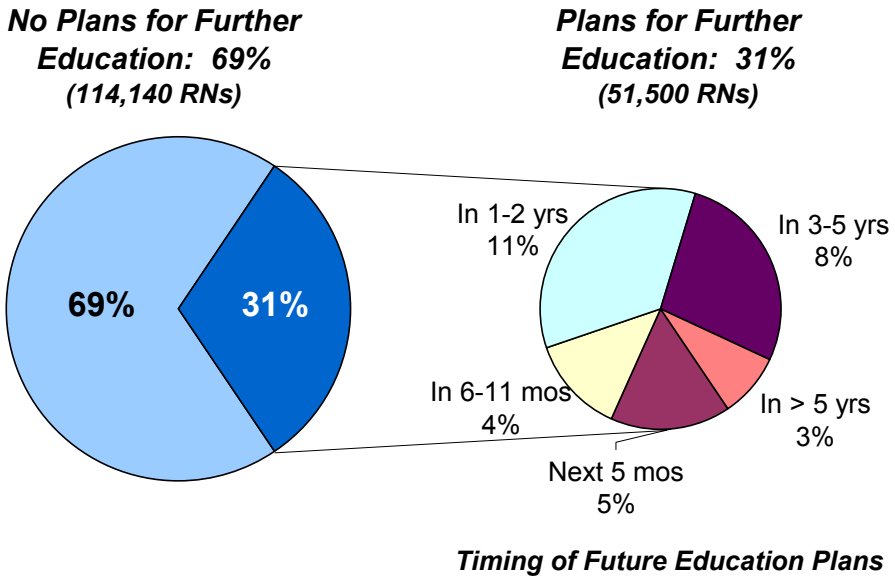



Table 3.11 shows the percentage of RNs working in New York State who have already earned an additional degree since obtaining their basic credential, and describes, as well, RNs' future nursing education plans by highest credential held. In all, only 15.5 percent of RNs who report a basic nursing diploma as their highest credential plan to pursue additional nursing education—a finding that is not surprising, given their age. In contrast, well over a third (37 percent) of RNs whose highest degree is an associate's or bachelor's degree plan to further their nursing education. A fifth (20.1 percent) of RNs with master's degrees plan to earn additional nursing degrees, and a surprising ten percent of those with doctorates (in any field) plan to earn additional nursing degrees. If the RNs follow their plans, an estimated 15,000 should have returned to nursing programs in 2002-03, while 18,000 more plan to return from 2003-05, and another 18,000 expect to return at some time after that.

Table 3.11
Percentage of RNs Who Have Earned Additional Degrees
and Who Have Plans for Further Education by Highest Credential Held
(RNs Working in Nursing in New York State)

| Highest Credential (Any Field) | Already Earned Additional Degree Beyond Basic Preparation | Has Plans for an Additional Nursing Degree… | ...In less than a Year | ...In One to Two Years | ...In Three or More Years |
|---|---|---|---|---|---|
| **Diploma** | | | | | |
| Estimated Count | 1,323 | 3,784 | 1,201 | 1,565 | 1,019 |
| Percentage within Group | 5.6% | 15.5% | 4.9% | 6.4% | 4.2% |
| **Associate's** | | | | | |
| Estimated Count | 3,776 | 18,487 | 5,244 | 6,298 | 6,945 |
| Percentage within Group | 7.8% | 37.4% | 10.6% | 12.7% | 14.1% |
| **Bachelor's** | | | | | |
| Estimated Count | 27,573 | 23,705 | 7,266 | 8,357 | 8,082 |
| Percentage within Group | 43.8% | 37.2% | 11.4% | 13.1% | 12.7% |
| **Master's** | | | | | |
| Estimated Count | 26,023 | 5,366 | 1,343 | 1,730 | 2,294 |
| Percentage within Group | 95.6% | 20.1% | 5.0% | 6.5% | 8.6% |
| **Doctorate** | | | | | |
| Estimated Count | 1,493 | 158 | 28 | 17 | 113 |
| Percentage within Group | 93.4% | 10.0% | 1.8% | 1.0% | 7.1% |
| **Total** | | | | | |
| Estimated Count | 60,188 | 51,500 | 15,081 | 17,967 | 18,451 |
| % of RNs Working in NYS | 36.3% | 31.1% | 9.1% | 10.8% | 11.1% |

In considering RNs' plans for additional nursing degrees, it is helpful to distinguish those who have already earned additional degrees from those who have not. Figure 3.5 is a pie chart showing that while many RNs appear to be satisfied with their basic credential, others pursue multiple degrees after earning their basic credential. The RNs in the largest group (43 percent of the New York nursing workforce) have not earned an additional degree and do not plan to do so in the future. Only ten percent have both earned an additional degree and plan to earn others in the future. Meanwhile, over a quarter of RNs have already earned an additional degree and have no further nursing education aspirations. The remaining fifth have not yet earned additional degrees but plan to do so in the future. Clearly RNs (and the labor market) value continuing professional development.

Figure 3.5
RNs' Plans for Additional Education by Whether or Not They Have Already Earned Additional Degrees
(RNs Working in Nursing in New York State)

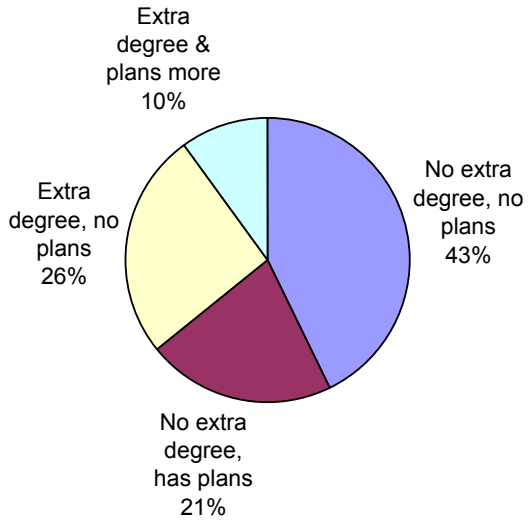



Table 3.12 shows a two-by-two cross tabulation of those who plan to pursue additional nursing degrees by those who have already earned at least one additional degree since completing their basic nursing preparation. As the table illustrates, among the estimated 105,452 nurses currently in the workforce who have **not** already earned an additional degree, one in three (33.0 percent) express an interest in doing so in the future. Conversely, among the estimated 60,188 nurses who have already achieved an additional degree beyond their basic preparation, more than one in four (27.6 percent) express interest in pursuing additional educational degrees.

Table 3.12
Percentage of RNs Who Plan to Earn Additional Degrees
by Those Who Have Already Done So
(RNs Working in Nursing in New York State)

| | | | Already Earned an Additional Degree | | |
|---|---|---|---|---|---|
| | | | No | Yes | Row Total[a] |
| Has Plans for an Additional Nursing Degree | No | Est. Count | 71,049 | 43,085 | 114,140 |
| | | Row % | 62.3% | 37.7% | |
| | | Column % | 67.0% | 72.4% | 68.9% |
| | Yes | Est. Count | 35,058 | 16,448 | 51,500 |
| | | Row % | 68.1% | 31.9% | |
| | | Column % | 33.0% | 27.6% | 31.1% |
| | Column Total[a] | | 105,452 | 60,188 | 165,640 |
| | | Row % | 63.7% | 36.3% | 100.0% |

[a] Cell counts may not equal column and row totals because of rounding.

### *Average Ages of RNs Having or Planning upon Master's Degrees, by Type of Basic RN Preparation*

If increasing specialization in the nursing field is driving up demand for RNs with advanced degrees, it makes sense to consider which educational track is most likely to produce the greatest number of RNs with master's degrees. Combined programs allowing prospective RNs to complete a bachelor's and master's degree in nursing at the same time are one possibility, but such programs are rare. Most master's degree holders will have entered nursing through a more traditional diploma, associate's degree, or bachelor's degree program. In fact bachelor's degree programs look to be the most promising source of future master's degree holders.

The data displayed in Table 3.13 provide a compelling reason for focusing upon bachelor's programs in attempts to boost the future supply of RNs with advanced degrees. This table displays the percentages and average ages of nurses who have obtained master's degrees, or who plan to pursue master's degrees within the next two years, broken down by their basic nursing preparation degree.

Table 3.13
Advanced Degree Status and Education Plans by Basic Nursing Credential
(RNs Working in Nursing in New York State)

| | | Has Obtained Master's or Doctorate (Any Field) | | | | Plans to Pursue Master's Degree in Next Two Years | | | |
|---|---|---|---|---|---|---|---|---|---|
| Basic Credential | Est. Count | Est. Count | % of Basic Credential Category | Mean Age | S.D. | Est. Count | % of Basic Credential Category | Mean Age | S.D. |
| Diploma | 43,078 | 6,767 | 15.7% | 52.3 | 8.4 | 2,298 | 5.3% | 47.7 | 6.6 |
| Associate's | 73,465 | 7,050 | 9.6% | 44.8 | 9.2 | 8,072 | 11.0% | 41.2 | 9.1 |
| Bachelor's | 48,251 | 12,896 | 26.7% | 41.2 | 9.4 | 10,864 | 22.5% | 36.9 | 8.9 |
| **Overall** | **164,794** | **26,713** | **16.2%** | **49.0** | **9.1** | **21,134** | **12.8%** | **39.7** | **9.4** |

Of those New York RNs currently working who finished their basic nursing preparation with an associate's degree, 9.6 percent have obtained master's degrees, and 11.0 percent report plans to obtain a master's degree within the next two years. These figures stand in sharp contrast to those New York RNs who finished their basic nursing preparation with a bachelor's degree. Of these, 26.7 percent report having obtained master's degrees, and 22.5 percent report planning to pursue a master's degree within the next two years.

In other words, RNs whose basic nursing preparation was a bachelor's program are, in the first instance, roughly 2 ½ times more likely than associate's-prepared RNs to already have a master's degree. Moreover, if they do not, they are also twice as likely to plan on obtaining a master's degree within the next two years as their associate's degree holder counterparts. These findings provide compelling evidence of the strategic value of continued support for the bachelor's degree program.

## REASONS FOR NOT PURSUING ADDITIONAL EDUCATION

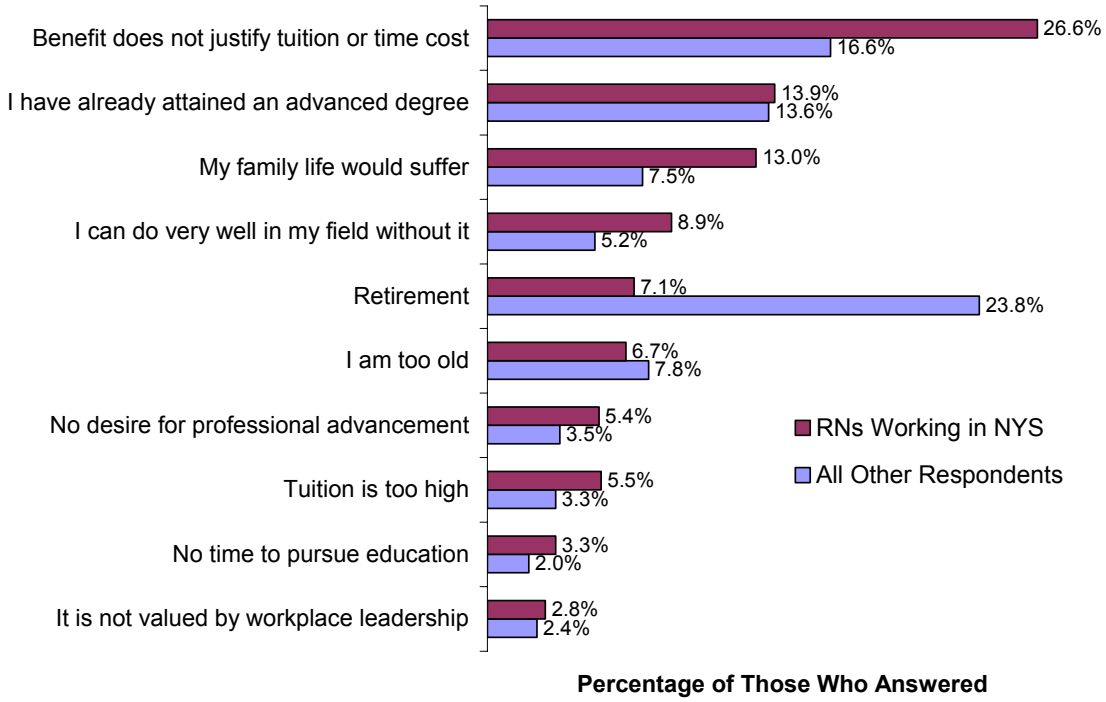
In a profession that places such a high value on lifelong learning and advanced education, those who do **not** plan to pursue further education are of special interest to us. RNs who indicated that they had no plans for further education were asked why they do not wish to continue their education. They could select from a list and rank order up to three reasons for this decision. Figure 3.6 displays their top ten reasons for not pursuing additional education.

The top reason given by RNs working in New York State for not pursuing additional education was that the benefit does not justify the tuition or time cost. Roughly a quarter of all RNs (26.6 percent) working in New York cited this as their top

reason. The second most frequently cited reason was that respondents had already obtained an advanced degree. The third most frequently cited reason was that their family life would suffer. Other top reasons chosen by at least five percent of RNs working in New York were: "I can do very well in my field without it" (8.9 percent), "Retirement" (7.1 percent), "I am too old" (6.7 percent), "Tuition is too high" (5.5 percent), and "No desire for professional advancement" (5.4 percent).

The top reasons given were slightly different for other respondents—for example, those licensed and registered RNs who work in other states, are retired, unemployed, or who work in fields other than nursing. Among these RNs, retirement was the top reason for not pursuing additional education (cited by 23.8 percent). Next came "benefit does not justify tuition or time cost" (16.6 percent), and "I have already attained an advanced degree" (13.6 percent).

Figure 3.6
Top Reason for Not Pursuing Additional Education




Since respondents could choose up to three answers, the data were also tabulated by how many people selected each reason as one of their three possible answers. Figure 3.7 shows the results of this analysis. Once again, the most frequently cited reason for not pursuing additional education for RNs working in New York was that the "Benefit does not justify the tuition or time cost." Over half (52.8 percent) selected this reason among their top three. The second and third most often cited reasons for RNs working in New York were: "My family life would suffer" and "I can do very well in

my field without it." For all other RNs retirement was again the most frequently cited reason when considering all three responses—cited by 41.1 percent—followed by "benefit does not justify tuition or time cost" (36.0 percent) and "I am too old" (23.4 percent).

Figure 3.7
Most Frequently Cited Reasons for Not Pursuing Additional Education (Respondents Could Choose Up to Three)

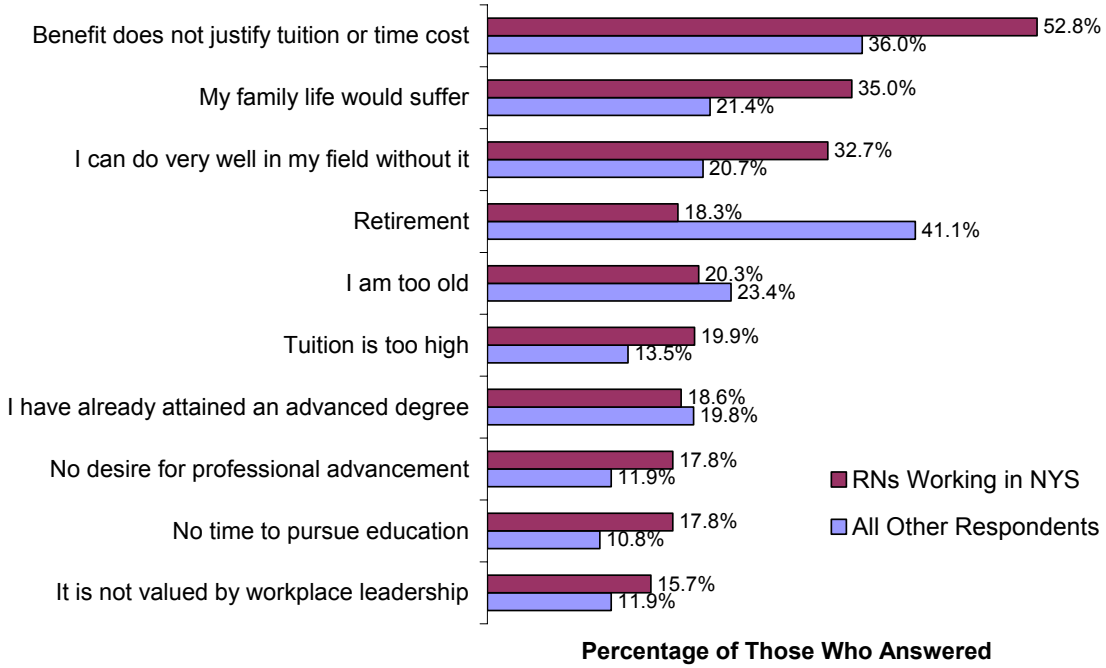



Table 3.14 shows the complete results, including all of the reasons from which RNs could choose. The least frequently cited reasons are especially noteworthy. Very few RNs, for example, indicate that a lack of programs in their geographic areas or specialty areas prevents them from pursuing additional education at this time. While this evidence is indirect, it certainly suggests that nursing education programs across the State are doing a good job of providing structural access to a wide range of programs in various specialty areas. In addition, since very few RNs indicated they were unable to find courses to fit with their work schedules, it would appear that nursing programs are either flexible enough to accommodate the work schedules of most nurses or that employers are willing to make schedule adjustments for RNs who wish to pursue additional education.

Table 3.14

Reasons for Not Pursuing Additional Education

(RNs Working in Nursing in New York State Compared to All Other Respondents)

| | RNs Working in NYS | | All Other Respondents | |
|---|---|---|---|---|
| | Top Reason | Among Top Three Reasons | Top Reason | Among Top Three Reasons |
| Benefit does not justify tuition or time cost | 26.6% | 52.8% | 16.6% | 36.0% |
| I have already attained an advanced degree | 13.9% | 18.6% | 13.6% | 19.8% |
| My family life would suffer | 13.0% | 35.0% | 7.5% | 21.4% |
| I can do very well in my field without it | 8.9% | 32.7% | 5.2% | 20.7% |
| Retirement | 7.1% | 18.3% | 23.8% | 41.1% |
| I am too old | 6.7% | 20.3% | 7.8% | 23.4% |
| Tuition is too high | 5.5% | 19.9% | 3.3% | 13.5% |
| No desire for professional advancement | 5.4% | 17.8% | 3.5% | 11.9% |
| No time to pursue education | 3.3% | 17.8% | 2.0% | 10.8% |
| Other | 2.8% | 11.1% | 3.6% | 16.6% |
| It is not valued by workplace leadership | 2.8% | 15.7% | 2.4% | 11.9% |
| I've never considered it | 1.0% | 4.1% | 0.9% | 4.5% |
| I haven't the intellectual interest | 1.0% | 6.2% | 0.9% | 4.8% |
| My work life would suffer | 0.8% | 5.4% | 0.5% | 2.6% |
| Management does not expect it | 0.4% | 3.3% | 0.1% | 1.5% |
| It is not available in my geographic area | 0.3% | 2.0% | 0.6% | 2.8% |
| I have left the nursing profession | 0.2% | 0.5% | 7.4% | 18.2% |
| No programs available for my specialty area | 0.2% | 1.3% | 0.2% | 1.1% |
| No courses available with my work schedule | 0.2% | 1.6% | 0.1% | 1.3% |
| **Total**[a] | **100%** | **285%** | **100%** | **264%** |

[a] Figures for the "top reason" are the percentage of those who responded to the question. Totals of the "among top three reasons" columns do not add up to 300 because some respondents chose fewer than three answers.

## RNs' Recommendations for Those Starting Their Basic Nursing Education

In view of both the evident phase-out of diploma-granting programs and growing concerns about the steady aging of the nursing workforce, recommendations for initiatives designed to attract and retain new entrants to the profession take on considerable importance. As reported in the extreme right-hand column of Table 3.15, when survey respondents were asked what course of study they would recommend to someone just starting her or his basic nursing education, more than two-thirds of RNs

working in New York State (69.7 percent) chose a bachelor's degree program. Slightly less than a quarter (23.4 percent) would recommend an associate's degree, while only 6.3 percent would recommend a master's degree. Less than one percent thought that a doctorate would be a good way to launch a career in nursing.

Table 3.15
Recommended Course of Study for Others Starting Their Basic Nursing Education by the Recommender's Own Basic Preparation
(RNs Working in Nursing in New York State)

| Recommended Course of Study | Basic Preparation | | | | Overall |
|---|---|---|---|---|---|
| | Diploma | Associate's | Bachelor's | Generic Master's | All RNs Working in NYS |
| | Column % | Column % | Column % | Column % | Column % |
| Associate's | 17.0% | 38.1% | 8.6% | 10.8% | **23.4%** |
| BS in Nursing | 75.2% | 56.2% | 85.0% | 59.1% | **69.7%** |
| Master's (Generic) | 7.1% | 5.4% | 5.8% | 26.2% | **6.3%** |
| Entry-Level Doctorate | 0.8% | 0.3% | 0.7% | 3.9% | **0.6%** |
| **Total**[a] | **100%** | **100%** | **100%** | **100%** | **100%** |

[a] Some column percentages do not total 100.0 percent because of rounding.

These recommendations are useful because they indicate RNs' own perceptions of the relative value of different basic degrees. This relative value may reside in the nature of the preparation provided, or in the differential monetary returns to various levels of basic nursing education, or in the differential opportunities for future career advancement each type of preparation affords.

### *Recommended Course of Study by the Recommender's Own Basic Preparation*

As Table 3.15 also shows, if we examine the recommendations offered by the recommender's own basic preparation, we can see that a bachelor's degree program is by far the most frequently recommended program by all categories of RNs. While it is most frequently recommended by those RNs whose own basic preparation was a bachelor's degree (85.0 percent), it is noteworthy that older, highly experienced diploma-prepared nurses also strongly favored a bachelor's degree for new entrants to nursing.

In fact, fully three-quarters of diploma-prepared nurses (75.2 percent) recommended that new nurses would be well advised to enter bachelor's degree programs. Support for bachelor's programs was also high among RNs whose basic preparation was an associate's degree program or a master's degree program. Well

over half of them would recommend a B.S. in nursing to someone just beginning his or her nursing preparation. In short, the level of agreement among groups with vastly different educational preparation as to the value of a B.S. in nursing program as the entry-program of choice for new entrants to the field was remarkable.

RNs prepared with an associate's degree tend to favor associate's degree preparation more than other RNs (38.1 percent versus 23.4 percent for all RNs working in New York). Similarly, RNs whose basic preparation is a master's degree tend to favor master's degrees to a much greater extent than other RNs (26.2 percent versus 6.3 percent overall).

### *Recommended Course of Study by the Recommender's Job Title*

Table 3.16 further confirms the evident career value of the B.S. degree as the recommended training of choice—in this case by job title. By a wide margin a B.S. in nursing was again the top choice across all job titles. Indeed, except for those RNs who worked as independent practitioners/private duty nurses (a very small group), more than two-thirds of the RNs in every job title recommended a B.S. in nursing as the preferred credential for beginning a nursing career. For independent practitioners/private duty nurses, the figure is 59.1 percent.

Support for an associate's degree as a basic preparation entry path ranged from 10.9 percent for consultants and researchers to 30.4 percent for independent practitioner/private duty nurses. Support for a master's degree as basic preparation ranged from 4.0 percent among nursing executives to 12.4 percent of certified registered nurse anesthetists. Very few RNs working in any job title favored an entry-level doctorate. The greatest level of support for an entry-level doctorate was among independent practitioners/private duty nurses, where 2.9 percent indicated they would recommend an entry-level doctorate.

In summary, these results strongly confirm the types of educational policy direction consistently advocated by the Regents and confirmed by important clinical research on this point. According to research done by the American Association of Critical-Care Nurses (AACN), the most acute shortages of experienced nurses now faced by the profession are in specialty areas where more advanced training and skills are required. The AACN attributes this acute shortage of nurses with specialty training in part to fewer new graduates from baccalaureate programs.[7] An examination of RNs' recommended courses of study by the decade in which they completed their own basic preparation to become a nurse reveals a partial explanation for this policy concern.

[7] American Association of Critical-Care Nurses, *American Association of Critical-Care Nurses Backgrounder: The Nursing Shortage* (March, 2002).

Table 3.16
Recommended Course of Study for Others Starting Their Basic Nursing Education by the Recommender's Primary Job Title
(RNs Working in Nursing in New York State)

| Primary Job Title | Est. Count | Column % | Recommended Course of Study[a] — Row Percentages: Associate's | BS in Nursing | Master's (Generic) | Entry-Level Doctorate |
|---|---|---|---|---|---|---|
| Inpatient Staff Nurse | 68,077 | 41.1% | 26.3% | 67.1% | 6.0% | 0.6% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 21.8% | 70.1% | 7.8% | 0.3% |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 13.5% | 74.1% | 12.4% | 0.0% |
| Claims Review, Quality Assurance, Utilization Review, Risk Management | 6,040 | 3.6% | 20.0% | 72.6% | 7.0% | 0.3% |
| Consultant or Researcher | 2,313 | 1.4% | 10.9% | 78.4% | 9.0% | 1.7% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 28.2% | 67.5% | 4.3% | 0.0% |
| Nursing Executive | 4,954 | 3.0% | 23.2% | 71.9% | 4.0% | 0.9% |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 12.9% | 79.0% | 8.1% | 0.0% |
| Nurse Practitioner | 7,084 | 4.3% | 15.4% | 75.5% | 7.7% | 1.3% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 22.7% | 72.3% | 4.6% | 0.3% |
| Independent Practitioner/Private Duty Nurse | 2,812 | 1.7% | 30.4% | 59.1% | 7.7% | 2.9% |
| Public/Community Health Nurse | 7,800 | 4.7% | 21.6% | 73.0% | 5.4% | 0.0% |
| Other | 15,850 | 9.6% | 23.8% | 69.4% | 6.0% | 0.8% |
| **Overall[b]** | **165,640** | **100.0%** | **23.4%** | **69.7%** | **6.3%** | **0.6%** |

[a] Any field.

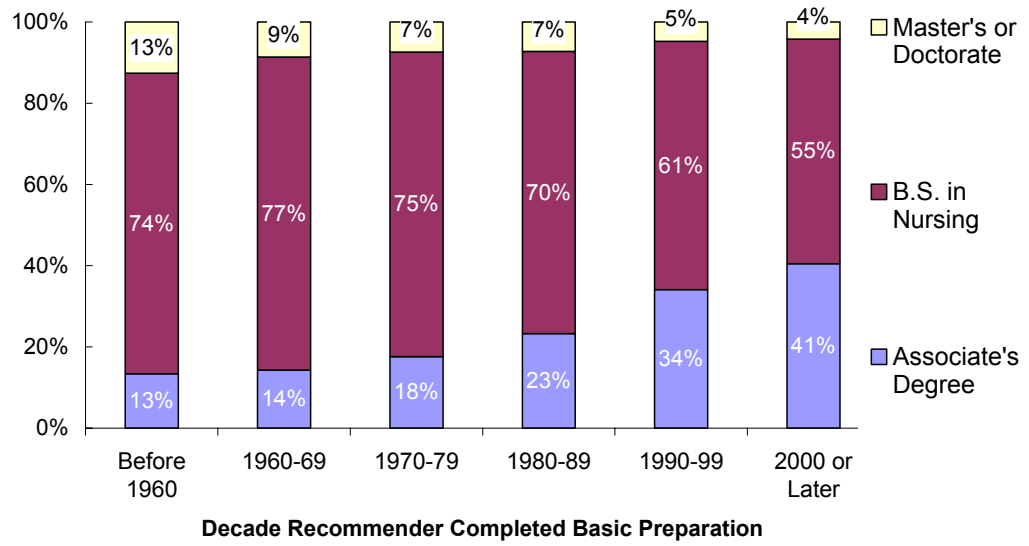
[b] Based on all respondents for the column variable.

### *Recommended Course of Study by the Recommender's Decade of Basic Preparation*

When we checked to see whether more recent entrants to nursing would make the same recommendations as RNs who completed their basic preparation several decades ago we noted two things. First, while RN support for a bachelor's or master's level preparation as the recommended basic preparation for entry into the field is still very high, that support is much weaker among recent entrants to the profession.

For those RNs in our study sample who completed their own basic preparation before 1960, for example, 87 percent recommended either a B.S. degree (74 percent) or a master's degree (13 percent). Far fewer recent graduates would recommend a B.S. or master's degree. Among those graduating since 2000 only 55 percent would recommend a B.S. in nursing and only 4 percent would recommend the master's. In short, as shown in Figure 3.8, the differences in preferences between the seasoned professionals and newly licensed professionals are substantial. Whereas 87 percent of the former support a B.S. or master's as basic preparation, only 59 percent of the latter do so—a 28 percentage point difference.

Figure 3.8
Recommended Course of Study by the Recommender's Decade of Basic Preparation (RNs Working in Nursing in New York State)




Secondly, diminished support among new entrants is offset by a clear-cut increase in support for associate's degree level training during. Among survey respondents who received their basic nursing preparation in the 1960s, only 14 percent recommend an associate's degree as the entry-level training of choice. In sharp contrast, among those RNs who finished their basic preparation as recently as two or three years ago (i.e., in 2000 or later) pursuit of a two-year associate's degree as a preferred basic preparation strategy is now recommended by 41 percent—a dramatic difference in support for this particular strategy.

Table 3.17 provides a more detailed look at the recommended course of study by the decade the respondent completed her or his own basic preparation.

Table 3.17
Recommended Course of Study for Others Starting Their Basic Nursing Education by the Decade the Recommender Completed Her or His Own Basic Preparation (RNs Working in Nursing in New York State)

| | Year Recommender Completed Basic Nursing Preparation | | | | | | |
|---|---|---|---|---|---|---|---|
| | Column Percentages | | | | | | |
| **Recommended Course of Study** | **Before 1960** | **1960-69** | **1970-79** | **1980-89** | **1990-99** | **2000 or Later** | **Overall[a]** |
| Associate's | 13.4% | 14.3% | 17.6% | 23.4% | 33.9% | 40.5% | **23.4%** |
| BS in Nursing | 74.1% | 77.1% | 75.1% | 69.9% | 60.9% | 55.4% | **69.7%** |
| Master's (Generic) | 11.3% | 7.8% | 6.9% | 6.0% | 4.7% | 3.2% | **6.3%** |
| Entry-Level Doctorate | 1.3% | 0.8% | 0.5% | 0.7% | 0.4% | 0.9% | **0.6%** |
| **Total Column %[b]** | **100.1%** | **100.0%** | **100.1%** | **100.0%** | **99.9%** | **100.0%** | **100.0%** |
| Estimated Count | 4,058 | 23,149 | 46,542 | 47,281 | 38,455 | 6,155 | **165,640** |
| Row % | 2.4% | 14.0% | 28.1% | 28.5% | 23.2% | 3.7% | **100.0%** |

[a] Includes all respondents for the row variable.

[b] Some column totals do not add up to 100.0 percent because of rounding.

Understanding what accounts for the lack of enthusiasm for the bachelor's training model and the popularity of the less rigorous associate's degree model among new entrants to nursing takes on added significance given the importance assigned to high levels (bachelor's and master's degree) of training as a prerequisite for successfully tackling nursing shortages in acute care titles.

## CHANGING CAREER PATHS TO NURSING

Table 3.18 provides the average age at completion of the basic nursing credential by the decade of completion. It also provides the standard deviations. The standard deviations provide a simple but useful way of highlighting the level of dispersion around the average age. The standard deviations associated with the average age of receipt of the basic education credential suggest that the age at entrance to the profession has increased dramatically and now varies much more widely than in earlier decades. Of course, this effect is exaggerated by the fact that many former RNs who entered the profession several decades ago have already aged out of the workforce. (And those who entered at an older age would tend to age out more quickly than those who entered in their early twenties.) Nevertheless, the relatively high average age at completion of the basic nursing credential among RNs who finished their basic preparation since 1990 suggests that people come to nursing through a wider variety of career and life paths than in the past.

Table 3.18
Basic Nursing Credential and Average Age by Decade of Basic Preparation
(RNs Working in Nursing in New York State)

| | Year Completed Basic Nursing Preparation | | | | | | |
|---|---|---|---|---|---|---|---|
| | Column Percentages | | | | | | |
| **Basic Credential** | **Before 1960** | **1960-69** | **1970-79** | **1980-89** | **1990-99** | **2000 or Later** | **Overall[a]** |
| Diploma | 81.7% | 71.4% | 34.5% | 12.6% | 4.0% | 1.4% | **26.0%** |
| Associate's | 6.3% | 14.3% | 37.3% | 48.7% | 66.0% | 61.3% | **44.4%** |
| Bachelor's | 12.0% | 14.0% | 27.9% | 37.8% | 29.5% | 37.0% | **29.1%** |
| Master's (Generic) | 0.0% | 0.3% | 0.3% | 1.0% | 0.5% | 0.4% | **0.5%** |
| **Total Column %[b]** | **100.0%** | **100.0%** | **100.0%** | **100.1%** | **100.0%** | **100.1%** | **100.0%** |
| Mean Age When Completed Basic Preparation | 21.0 | 21.5 | 23.3 | 26.3 | 31.5 | 30.9 | **26.0** |
| S.D. | 1.5 | 2.3 | 4.5 | 6.5 | 8.6 | 9.0 | **7.2** |
| Estimated Count | 4,058 | 23,149 | 46,542 | 47,281 | 38,455 | 6,155 | **165,640** |
| Row % | 2.4% | 14.0% | 28.1% | 28.5% | 23.2% | 3.7% | **100.0%** |

[a] Includes all respondents for the row variable.

[b] Some column totals do not add up to 100.0 percent because of rounding.

Of those completing their basic education credential in 2000 or later, roughly two thirds fell within +/- 9 years of the average age—meaning that many of these entrants are literally "worlds apart" in terms of their life experience, their stage in the life cycle, the generations of which they feel a part, etc.

This apparently increasing heterogeneity accompanies a dramatic shift in basic preparation as associate's and bachelor's degree programs have displaced diploma programs. Curiously, however, their relative shares of the basic credential "market" appear to have fluctuated from decade to decade. The 37 percentage point drop in diplomas from the 1960s to the 1970s seems to have been taken up by associate's degrees by a roughly three to two margin. From the 1970s to the 1980s, however, associate's and bachelor's degrees gained favor roughly equally. Then, from the 1980s to the 1990s, while the proportion of diploma-prepared RNs continued to plummet, so did the proportion of bachelor's-prepared RNs. Meanwhile, associate's programs gained further ground as the basic credential of choice. Nearly two-thirds of RNs working in New York who completed their basic credential in the 1990s report an associate's degree as their basic preparation. Since 2000, the bachelor's degree has gained back most of the ground it lost from the 1980s to the 1990s, while the associate's degree has lost some ground. Nevertheless, it remains strong. The survey results suggest that more than 60 percent of RNs working in New York who entered nursing in 2000 or later hold an associate's degree as their basic nursing credential.

It would be useful to know whether these fluctuations have to do with responses to crises in the nursing supply. For example, a severe shortage may spur a move towards quicker associate's degree programs, while a robust supply may encourage people to invest in a four-year program to improve their qualifications and job prospects.

### *Average Age at Completion of Basic Nursing Preparation by Type of Preparation*

In Table 3.19, we control for both graduation timing and basic degree preparation. The table shows the average age of graduation from a basic nursing preparation program by both decade and type of basic credential. (The information is based only on the responses of nurses who reported that they are currently working in nursing in New York State.) The average age of graduates is given for nurses graduating before 1970, between 1970 and 1989, and in 1990 or later.

The average ages for graduation displayed in Table 3.19 show two things. First, they clearly indicate that the trend for nurses to complete their preparation later in life is true regardless of degree granting preparation program. However, that overall trend toward deferral of basic nursing preparation until the early thirties is much more pronounced among graduates of associate's programs than among graduates of bachelor's programs.[8] Conversely, bachelor's programs are clearly the route of choice for younger prospective nurses. The average age of nurses graduating from bachelor's programs in or after 1990 was 27.3 years of age—an increase of 4.0 years over the graduation age of the comparable 1970-1989 group. The average age of nurses graduating from associate's programs in or after 1990, however, was 33.4 years of age—an increase of over 6.6 years in the average graduation age compared to the 1970-89 group. Moreover, for nurses graduating in or after 1990, the average age of graduates of associate's programs is now 6.1 years older than the age of nurses graduating from bachelor's programs.

[8] Diploma graduates are also increasing in age, but because the diploma programs are rapidly being phased out, this trend does not have a significant effect on the average age of graduating nurses, and so will not be discussed further.

Table 3.19
Average Age at Completion of Basic Nursing Preparation by Decade of Basic Preparation Completion and Basic Credential (RNs Working in Nursing in New York State)

| Year of Completion of Basic Nursing Preparation & Basic Credential | | Est. Count | Mean Age at Completion (Years) | S.D. |
|---|---|---|---|---|
| ***Before 1970*** | | | | |
| | Diploma | 19,551 | 21.2 | 1.8 |
| | Associate's | 3,521 | 21.6 | 3.6 |
| | Bachelor's | 3,671 | 21.9 | 1.5 |
| ***1970-1989*** | | | | |
| | Diploma | 21,853 | 22.5 | 3.7 |
| | Associate's | 40,039 | 26.8 | 7.0 |
| | Bachelor's | 30,613 | 23.3 | 3.8 |
| ***1990 or Later*** | | | | |
| | Diploma | 1,674 | 29.8 | 9.4 |
| | Associate's | 29,906 | 33.4 | 8.5 |
| | Bachelor's | 13,968 | 27.3 | 7.1 |
| **Overall**[a] | | **164,794** | **26.0** | **7.2** |

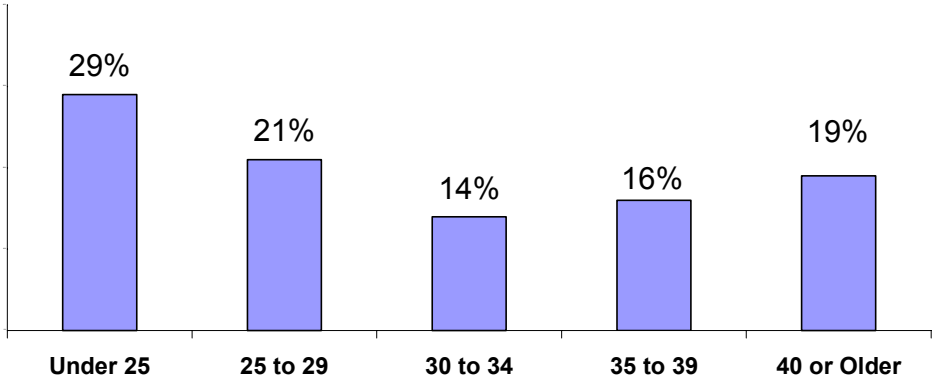
[a] Overall mean age is for all RNs working in New York, even those whose basic nursing preparation is a master's degree.

## *A Closer Look at New Entrants to Nursing*

This increase in age at entry into the profession merits further attention. Specifically, it makes sense to try to understand what these new entrants look like and what path they took to enter nursing. Studying important shifts occurring at the front end of the nursing supply pipeline will help policymakers target recruitment strategies to particular demographic groups of potential candidates and develop incentives and policies to retain recent entrants to the profession.

Figure 3.9 shows just how old recent entrants to nursing are getting. While half of those who completed their basic credential in 1990 or later were under 30 years of age when they completed their basic nursing preparation, 30 percent were in their 30s, and 19 percent were 40 years of age or older.

Figure 3.9
Age at Completion of Basic Preparation to Become a Nurse
(RNs Working in New York State Who Finished Their Basic Preparation in 1990 or Later);
Est. Count = 44,610

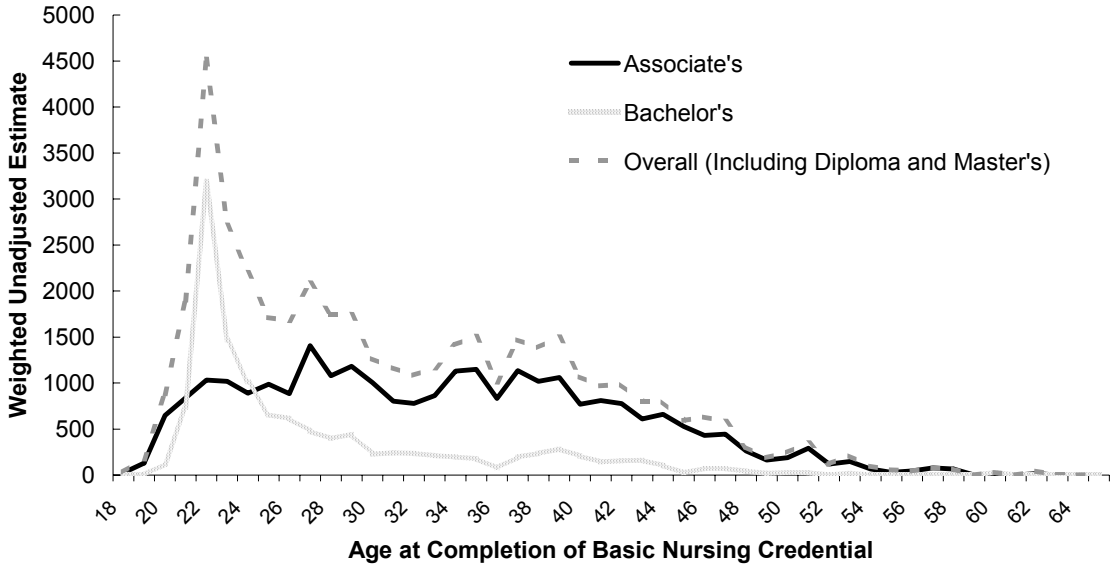



Note: Percentages do not add up to 100 because of rounding.

Looking at this distribution in more detail and by basic nursing credential reveals that recent entrants to nursing fall into two distinct groups. Figure 3.10 displays estimated frequencies of RNs working in New York by the age at the completion of the basic nursing credential with separate lines for those who entered with associate's and bachelor's degrees. The figure shows unequivocally that individuals who enter nursing in their early twenties strongly favor a bachelor's degree. In sharp contrast, older individuals opt overwhelmingly for associate's degrees. Indeed, most of the new entrants who completed their basic preparation in their late twenties or later entered nursing with an associate's degree.

As policymakers weigh the desirability of the extensive educational investment required by bachelor's degree programs, they must also weigh the risks to the nursing supply that could come with heavier reliance on bachelor's degree programs. In other words, how many of the nurses who entered with an associate's degree would have opted for a career in nursing had they had been obliged to complete a bachelor's degree instead? It does seem likely that many mid-life entrants to the profession would balk at such a sharp increase in their investment of time and money to become a nurse. Thus, it is possible that any move to raise the requirements for entry would have to be offset by aggressive recruitment of young people, who appear more willing to make a four-year commitment to preparation, or of foreign nurses, who have already completed bachelor's degrees abroad.

Figure 3.10
Age at Basic Credential by Basic Credential Type
(RNs Working in NYS Who Finished Basic Preparation in 1990 or Later)




Furthermore, the ongoing need for hospital and nursing home staff nurses suggests that having a relatively quick and low-cost entryway to nursing will enhance labor market's ability to respond to shortages while encouraging a broad range of individuals to consider a career in nursing.

On the other hand, at least two other strategic considerations argue for focusing recruitment efforts on bachelor's degree programs. First, the substantial age differences between the average bachelor's degree recipient and the associate's degree recipient have important implications for overall career longevity. The greater delay in entry into the field characteristic of the associate degree holder has significant, and negative, supply-side implications that do not affect most bachelor's degree holders.

Secondly, given the increased importance of specialized nursing knowledge, it makes sense to support investment in those programs and candidates most likely to continue their education training at more advanced levels. As we have seen, RNs who enter the profession with a bachelor's degree are more likely than associate's-prepared RNs to go on to complete a master's degree.

# Chapter 4: Employment Status and RN Job Characteristics

## INTRODUCTION

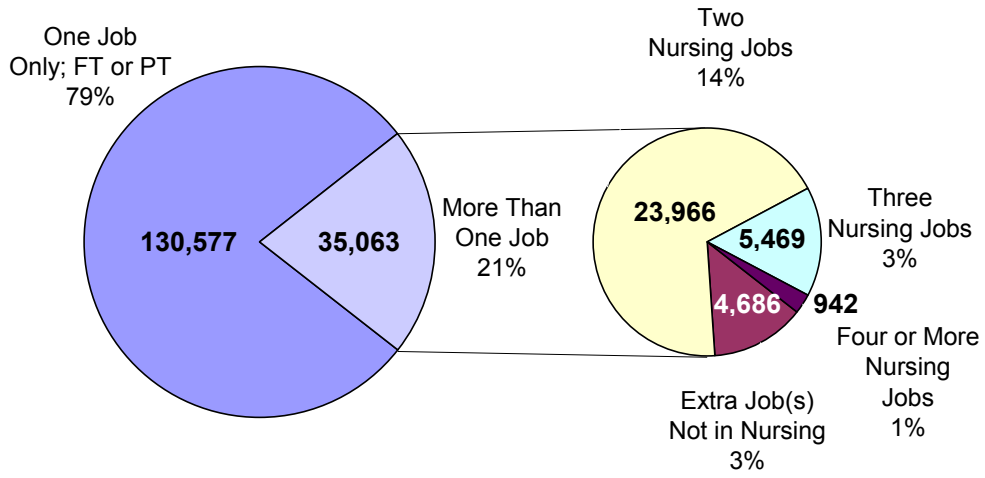
This chapter presents a detailed view of active New York RN job characteristics. It provides information about RNs' employment status, employer type (state or local agency, private, not-for-profit, etc.), and the proportions of RNs who work in direct care by work setting and job title. For RNs working in direct patient care the analysis shows how much of their workday RNs who work in direct care allocate to direct patient care, paperwork, and other tasks. The chapter also examines the prevalence of overtime and the average amount of overtime worked per week. The last section contains a brief glimpse of bivariate correlations of variables associated with the number of hours RNs work per week.

## EMPLOYMENT STATUS OF RNS WORKING IN NEW YORK STATE

The survey instrument contained several items designed to elicit information about RNs' employment status. One item asked RNs if they were currently working in the field at the time of the survey. They could choose from three answers: "yes," in which case they were instructed to indicate whether they worked full time or part time, "no—currently working outside the nursing field," or "no—currently not working or retired." Another item asked if they had more than one job. Those who answered "yes" were then asked how many of their extra jobs were in nursing. The choices ranged from "none" to "four or more."

As Figure 4.1 shows, almost four-fifths of RNs working in New York State (79 percent) have only one job, which may be either full time or part time. Among the remaining fifth of RNs who have more than one job, the vast majority of extra jobs are in nursing. Fourteen percent of RNs have two nursing jobs, three percent have three nursing jobs, and less than one percent have four or more nursing jobs. Three percent of RNs with more than one job report that their extra jobs are in non-nursing positions.

Figure 4.1
Number of Jobs per RN (RNs Working in New York State)




To facilitate both the development of supply estimates and the analysis of work life, the work status variables were combined into a single "employment status" variable. For many analyses in this chapter, which deals only with RNs working in nursing in New York State, we place RNs in one of four employment status categories: RNs with just one full-time nursing job, RNs with a full-time nursing job plus one or more part-time jobs, RNs with just one part-time job, and RNs with more than one part-time nursing job. In Table 4.1, however, we separate the RNs with a full-time nursing job plus one or more part-time job(s) into two groups: those whose part-time jobs are in nursing, and those whose part-time jobs are not in nursing.

If we examine employment status by age and years of experience, we find relatively little variation. Table 4.1 shows that RNs who work part time and have only one job are slightly older (47.7 years old, on average) and slightly more experienced (20.6 years on average) than others. As we would expect, the average total weekly hours worked varies greatly by employment status. For RNs who have one full-time job (57.2 percent of RNs working in New York) the average number of hours worked per week, including overtime, is 42.0 hours. For RNs who have a full-time job plus one or more part-time nursing jobs (12.4 percent of the workforce) it is 55.7 hours per week. For those who have just one part-time job (22.5 percent of active New York RNs) the average is 23.7 hours per week, including overtime, while for those who have more than one part-time job (7.3 percent of the RN workforce) the average is 31.3 hours per week.

RNs whose employment status tends to lead them to work more hours also tend to earn more. RNs who have one full-time job average $59,022 per year, while those who have a full-time job plus one or more part-time nursing jobs average $66,152 per

year. RNs with only one part-time job average $32,982 per year, while those with more than one part-time nursing job average $40,244 per year. As we will see in Chapter 5, these compensation levels vary quite dramatically depending on location, other things being equal.

Table 4.1
Selected Characteristics of RNs Working in New York State
by Employment Status

| Employment Status | Est. Count | Column % | Age | | Years Working as an RN in Nursing | | Total Weekly Hours, Including Overtime in All Nursing Jobs | | Annual Earnings from all Nursing Jobs | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | S.D | Mean | S.D | Mean | S.D | Mean | S.D |
| Full Time, One Job Only | 93,347 | 56.4% | 46.7 | 9.8 | 19.2 | 10.8 | 42.0 | 7.0 | $59,022 | $19,580 |
| FT plus One or More PT Nursing Jobs[a] | 20,518 | 12.4% | 45.3 | 8.6 | 17.5 | 9.7 | 55.7 | 14.0 | $66,152 | $23,071 |
| FT plus One or More PT Non-Nursing Jobs | 2,444 | 1.5% | 47.2 | 9.2 | 19.4 | 9.8 | 41.7 | 5.1 | $54,953 | $17,097 |
| PT, One Job | 37,230 | 22.5% | 47.7 | 10.8 | 20.6 | 11.2 | 23.7 | 9.0 | $32,982 | $16,825 |
| PT, More than One Job | 12,100 | 7.3% | 45.9 | 9.5 | 18.5 | 10.5 | 31.3 | 15.4 | $40,244 | $20,704 |
| **Overall[b]** | **165,640** | **100.0%** | **46.7** | **9.9** | **19.3** | 10.7 | 39.1 | 13.7 | $52,802 | $22,882 |

[a] Unlike other tables in this chapter, the figures in this category do not include RNs whose one part-time job is not in nursing.

[b] Overall parameters are based on all respondents (RNs working in nursing in New York State) for the column variable. Column percentages do not total 165,640 due to rounding.

The "overtime" hours reported in this survey are simply weekly hours worked in addition to RNs' regularly scheduled work hours. This is a much broader definition than that used by some employers, who limit the definition of overtime to work in addition to a full-time workload, paid at a higher hourly rate than the regular salary. This broad definition is being used in an attempt to measure all of the RN labor supplied, regardless of the method of compensation used. This approach is likely to capture extra hours worked by part-time employees in large settings such as hospitals.

### *Employment Status by Marital Status and Family Responsibilities*

Overall, two-thirds of RNs are married (67.9 percent). As Table 4.2 shows, RNs working in a full-time job are less likely to be married than RNs working on a part-time basis. Whereas over 60 percent of RNs working in full-time jobs are married, the figure is over 80 percent for RNs working in one part-time job and nearly 75 percent for those

with more than one part-time job. It seems likely that many part-time RNs with only one job live in double-income households.

Table 4.2
Employment Status by Marital Status for RNs Working in New York State

| | | | Marital Status | | |
|---|---|---|---|---|---|
| | | | Row Percentages | | |
| **Employment Status** | **Est. Count** | **Column %** | **Now Married** | **Widowed, Divorced, Separated** | **Never Married** |
| Full Time, One Job Only | 93,347 | 56.4% | 63.5% | 19.9% | 16.5% |
| FT plus One or More PT Jobs | 22,962 | 13.9% | 60.2% | 25.2% | 14.6% |
| PT, One Job | 37,230 | 22.5% | 81.3% | 12.8% | 5.9% |
| PT, More than One Job | 12,100 | 7.3% | 74.9% | 18.0% | 7.1% |
| **Overall[a]** | **165,640** | **100%** | **67.9%** | **19.0%** | **13.2%** |

[a] Based on all respondents for the column variable. Estimates do not total 165,640 because of rounding.

Table 4.3 displays variables indicating the level of family responsibilities of RNs working in New York State. RNs with full-time jobs are more likely than other RNs to serve as caregivers for a dependent adult. Notably, the group most likely to serve as adult caregivers is also the group that tends to work the greatest number of hours per week. Nearly a quarter (24.4 percent) of RNs working in a full-time job plus one or more part-time jobs are adult caregivers. As we saw in Table 4.1 this group's workweek totals 55.7 hours on average. Comparing the within-group averages for adult caregivers and non-adult caregivers reveals that adult caregivers who have a full-time job plus one or more part-time jobs work 57.5 hours per week on average, while the non-adult caregivers in the same group work average only 53.3 hours.

Table 4.3
Employment Status by Family Responsibilities for RNs Working in New York State

| | | | Family Responsibilities | | | | |
|---|---|---|---|---|---|---|---|
| | | | Row Percentages | | | | |
| Employment Status | Est. Count | Column % | % Caregiver, Dependent Adult | % Children under Six yrs old | % Children under and over Six | % Children Six or over only | % No Children at Home |
| Full Time, One Job Only | 93,347 | 56.4% | 16.2% | 5.2% | 6.2% | 38.7% | 50.0% |
| FT plus One or More PT Jobs | 22,962 | 13.9% | 24.4% | 5.0% | 9.0% | 44.7% | 41.2% |
| PT, One Job | 37,230 | 22.5% | 12.0% | 10.1% | 12.7% | 39.6% | 37.6% |
| PT, More than One Job | 12,100 | 7.3% | 12.3% | 7.6% | 11.0% | 46.6% | 34.8% |
| **Overall**[a] | **165,640** | **100%** | **16.1%** | **6.4%** | **8.4%** | **40.3%** | **44.9%** |

[a] Based on all respondents for the column variable. Estimates do not total 165,640 because of rounding.
Row and column percentages may not total 100.0 percent due to rounding.

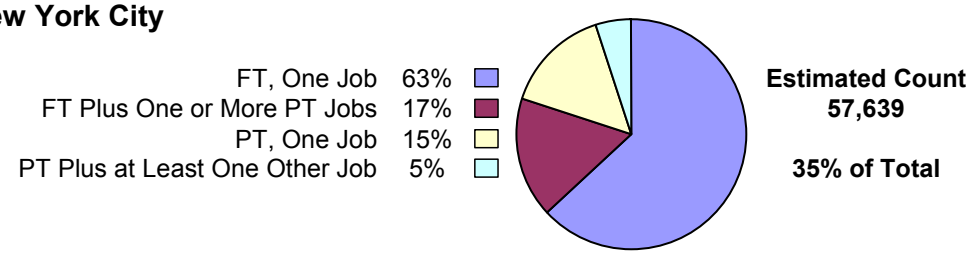
RNs working full time with only one job are less likely than other RNs to have children at home. Only half of these single-job, full-time only RNs have children at home, whereas 58.8 percent of those working full time with one or more extra jobs have children at home. Over 60 percent of RNs working in part-time jobs have children at home (62.4 percent for RNs with only one part-time job, and 65.2 percent for those with more than one part-time job).

### *Employment Status by Region*

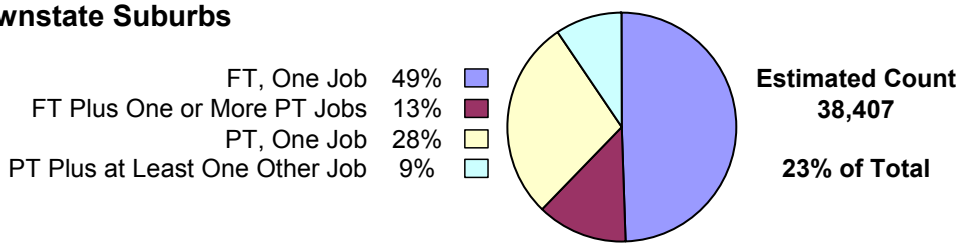
Employment status varies substantially by region. (See Appendix E for a listing of counties included in the four regions used in this analysis.) As Figure 4.2 shows, RNs working in New York City are the most likely to work full time in only one job (63.0 percent) and least likely to work in part-time jobs only (20 percent). RNs in the downstate suburbs are more likely than others to work in part-time jobs exclusively (37 percent) and least likely to work in one full-time job only (49 percent). RNs in upstate metropolitan areas are the least likely, by a very small margin, to work in a full-time job plus one or more extra jobs (11 percent), while those in New York City are the most likely to do so (17 percent).

Figure 4.2
Employment Status by Region of Practice
(RNs Working in New York State)[a]

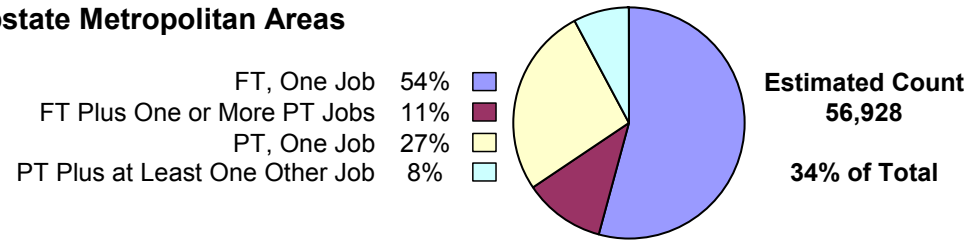
**New York City**



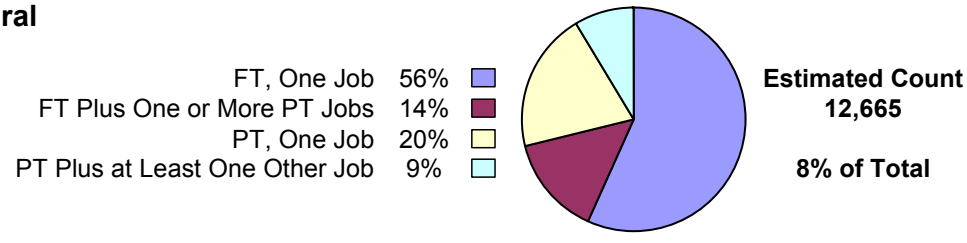

**Downstate Suburbs**



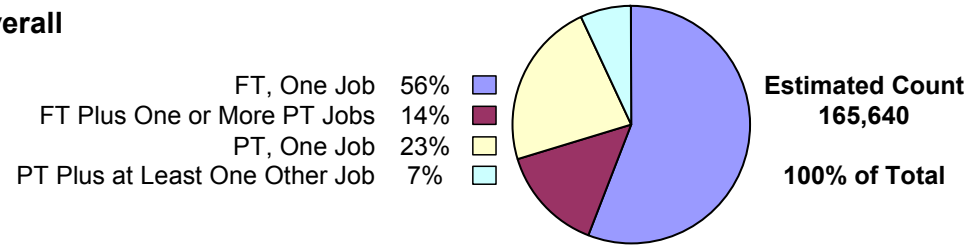

**Upstate Metropolitan Areas**




**Rural**




**Overall**




[a] Some totals do not add up to 100 percent because of rounding.

### *Employment Status by Primary Work Setting and Primary Job Title*

Employment status also varies by primary work setting. As Table 4.4 shows, RNs whose primary work setting is a government, professional, or health organization are the most likely to work in one full-time job only. Nearly three-quarters (73.4 percent) fall in this category, while only 15.0 percent work in part-time jobs only. These nurses are also among the least likely to have more than one job (16.7 percent). In contrast, RNs working in private physicians' offices are the least likely to have one full-time job only (39.0 percent) and the most likely to work in part-time jobs only. Fully half of them work exclusively in part-time jobs—most in just one part time job (41.5 percent)—while only ten percent work a full-time job plus one or more extra jobs. RNs working in nursing education are the most likely to have more than one job (31.8 percent).

Table 4.4
Employment Status by Primary Work Setting
(RNs Working in Nursing in New York State)

| | | | Row Percentages | | | |
|---|---|---|---|---|---|---|
| **Primary Work Setting** | **Est. Count** | **Column %** | **Full Time, One Job** | **Full Time Plus One or More Part-Time Jobs** | **Part Time, One Job** | **Part Time Plus at Least One Other Job** |
| Ambulatory Care, Diagnostic Treat. Ctr. | 8,723 | 5.3% | 54.6% | 14.5% | 22.8% | 8.1% |
| Gov't, Professional, Health Org. | 3,526 | 2.1% | 73.4% | 11.7% | 10.0% | 5.0% |
| Home Health Agency | 12,626 | 7.6% | 54.9% | 13.9% | 22.8% | 8.4% |
| Hospital | 90,137 | 54.4% | 58.3% | 13.6% | 21.7% | 6.4% |
| Private Physician's Office | 8,078 | 4.9% | 39.0% | 10.2% | 41.5% | 9.3% |
| Nursing Home | 14,986 | 9.0% | 61.6% | 13.0% | 19.9% | 5.5% |
| Nursing Education | 3,053 | 1.8% | 44.1% | 19.2% | 24.1% | 12.6% |
| School Health | 9,383 | 5.7% | 46.7% | 17.5% | 26.8% | 9.1% |
| Other | 15,128 | 9.1% | 56.2% | 13.7% | 20.1% | 10.0% |
| **Overall**[a] | **165,640** | **100%** | **56.4%** | **13.9%** | **22.5%** | **7.3%** |

[a] Based on all respondents for the column variable. Estimates do not total 165,640 due to rounding.

Table 4.5 displays employment status by primary job title. Here we can see wide variation across titles. Nursing executives and nurse managers/patient care

coordinators are the most likely to work full time in only one job. Roughly three-quarters of them fall in that category (76.0 and 73.6 percent, respectively). Not surprisingly, then, they are also the least likely to work exclusively in part-time jobs (8.0 percent of nursing executives and 10.5 percent of nurse managers/patient care coordinators). Conversely, independent practitioners/private duty nurses are the most likely by far to work in part-time jobs exclusively. Over 60 percent have part-time jobs only. After them, the most likely to work exclusively in part-time jobs are deans or faculty in nursing education programs, consultants or researchers, and outpatient staff nurses (42.5, 41.2, and 40.9 percent, respectively).

Table 4.5

Employment Status by Primary Job Title

(RNs Working in Nursing in New York State)

| | | | Row Percentages | | | |
|---|---|---|---|---|---|---|
| **Primary Job Title** | **Est. Count** | **Column %** | **Full Time, One Job** | **Full Time Plus One or More Part-Time Jobs** | **Part Time, One Job** | **Part Time Plus at Least One Other Job** |
| Inpatient Staff Nurse | 68,077 | 41.1% | 56.4% | 13.3% | 23.6% | 6.7% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 46.3% | 12.8% | 30.5% | 10.4% |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 57.9% | 27.5% | 6.0% | 8.6% |
| Claims Review, Quality Assurance, Utilization Review, Risk Mgt. | 6,040 | 3.6% | 69.6% | 9.2% | 16.5% | 4.7% |
| Consultant or Researcher | 2,313 | 1.4% | 50.3% | 8.5% | 30.5% | 10.7% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 38.7% | 18.7% | 29.6% | 12.9% |
| Nursing Executive | 4,954 | 3.0% | 76.0% | 16.0% | 6.1% | 1.9% |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 60.5% | 13.7% | 17.8% | 8.0% |
| Nurse Practitioner | 7,084 | 4.3% | 49.4% | 18.0% | 22.5% | 10.1% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 73.6% | 15.9% | 8.0% | 2.5% |
| Independent Practitioner/Private Duty Nurse | 2,812 | 1.7% | 30.1% | 9.1% | 48.7% | 12.2% |
| Public/Community Health Nurse | 7,800 | 4.7% | 52.7% | 14.0% | 24.2% | 9.1% |
| Other | 15,850 | 9.6% | 56.9% | 13.6% | 22.0% | 7.4% |
| **Overall**[a] | **165,640** | **100%** | **56.4%** | **13.9%** | **22.5%** | **7.3%** |

[a] Based on all respondents for the column variable.

Since inpatient staff nurses constitute a sizeable portion of New York State's RN workforce (41.1 percent), it makes sense to pay close attention to them. Over two-thirds of inpatient staff RNs have at least one full-time job, while nearly a quarter (23.6 percent) have only one part-time job.

Certified registered nurse anesthetists and deans or faculty in education programs are the most likely to have more than one job. Roughly a third have two or more jobs (36.1 percent of certified registered nurse anesthetists and 31.6 percent of deans or faculty members in nursing education programs). Nurse anesthetists are also the most likely to have one or more part-time jobs in addition to a full-time job (27.5 percent). RNs in claims review, quality assurance, utilization review, and risk management titles are the least likely to have two or more jobs; only 13.9 percent fall into this category.

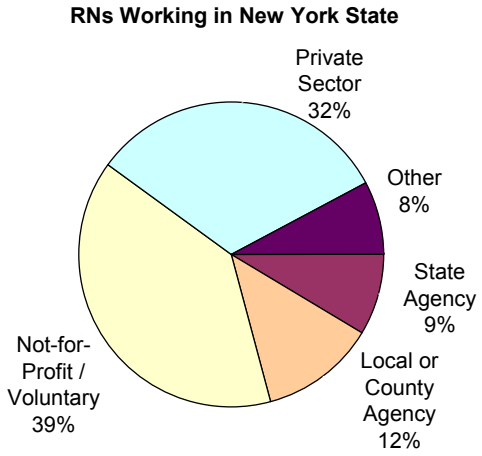
## EMPLOYER TYPE

The health care field is unusual in that government agencies, private sector firms, and not-for-profit organizations are all well represented employers in the labor market. Figure 4.3 is a pie chart showing how RNs working in New York are distributed among different types of employers. The figures include only RNs' primary jobs, whether full time or part time. In interpreting the results, it is important to keep in mind that the employer type is as reported by RNs. Distinctions among public and private sector employers that are obvious to employers (and some researchers) may be much more opaque to RNs—especially given the multiplicity of funding sources on which many health care organizations rely.

Figure 4.3

Distribution of RNs among Types of Employers

(Primary Job Only)



As Figure 4.3 shows, not-for-profit or voluntary organizations employ the most RNs in New York. Survey results suggest that 39 percent of RNs active in New York State work for not-for-profit or voluntary organizations. Just under a third work for private sector employers, while just over a fifth work for State or local agencies. The remaining eight percent work for other types of employers, including the federal government.

Table 4.6 shows that with one exception, RNs' average age, years of nursing experience and years in their current jobs vary little by employer type. The only exception is RNs who work for private sector employers. Those RNs tend to be slightly younger, have slightly less experience, and have slightly less tenure in their current jobs than other RNs. The differences, however, are minimal—roughly a year and a half for age and experience, and 1.2 years for job tenure compared to the overall averages.

Table 4.6
Average Age, Experience, and Years in Current Job by Primary Employer Type
(RNs Working in Nursing in New York State)

| | | | Age (Years) | | Years Working as an RN in Nursing | | Years in Current Job | |
|---|---|---|---|---|---|---|---|---|
| **Primary Employer Type** | **Est. Count** | **Column %** | **Mean** | **S.D.** | **Mean** | **S.D.** | **Mean** | **S.D.** |
| State Agency | 14,374 | 8.7% | 47.2 | 9.7 | 19.1 | 10.7 | 9.6 | 7.7 |
| Local/County Agency | 20,024 | 12.1% | 46.9 | 10.0 | 18.3 | 10.7 | 8.8 | 7.4 |
| Not-for-Profit/Voluntary | 65,002 | 39.2% | 47.6 | 9.4 | 20.7 | 10.5 | 9.8 | 8.5 |
| Private Sector | 53,476 | 32.3% | 45.1 | 10.3 | 17.8 | 10.9 | 7.9 | 7.2 |
| Other | 12,763 | 7.7% | 47.3 | 10.0 | 19.7 | 10.6 | 9.7 | 7.7 |
| **Overall[a]** | **165,640** | **100%** | **46.7** | **9.8** | **19.3** | **10.7** | **9.1** | **7.9** |

[a] Based on all respondents for the column variable. Estimated count does not total 165,40 due to rounding.

Table 4.7 shows the percentage of RNs who are members of a minority group, the percentage who received their basic nursing education outside the U.S., and the percentage who hold a full-time job by region and primary employer type.

Table 4.7
Selected Characteristics by Region of Practice and Primary Employer Type
(RNs Working in New York State)

| Primary Employer Type by Region | Est. Count | Within Region Column % | % Minority[a] | % Non-U.S. Educated | % One Full-Time Job or More |
|---|---|---|---|---|---|
| **New York City** | | | | | |
| State Agency | 4,238 | 7.4% | 67.8% | 43.2% | 87.4% |
| Local/County Agency | 5,761 | 10.0% | 62.7% | 22.7% | 76.8% |
| Not-for-Profit/Voluntary | 23,116 | 40.1% | 44.5% | 23.6% | 81.9% |
| Private Sector | 20,082 | 34.8% | 54.2% | 33.0% | 77.1% |
| Other | 4,442 | 7.7% | 52.3% | 30.5% | 80.4% |
| ***Sub-Total*** | ***57,639*** | ***100.0%*** | | | |
| **Downstate Suburbs** | | | | | |
| State Agency | 3,436 | 8.9% | 18.0% | 7.6% | 72.8% |
| Local/County Agency | 4,457 | 11.6% | 16.7% | 7.7% | 62.4% |
| Not-for-Profit/Voluntary | 15,561 | 40.5% | 9.8% | 6.1% | 62.5% |
| Private Sector | 12,097 | 31.5% | 13.7% | 8.6% | 56.0% |
| Other | 2,856 | 7.4% | 12.0% | 5.8% | 74.4% |
| ***Sub-Total*** | ***38,407*** | ***100.0%*** | | | |
| **Upstate Metropolitan Areas** | | | | | |
| State Agency | 5,237 | 9.2% | 2.7% | 0.8% | 82.3% |
| Local/County Agency | 7,137 | 12.5% | 5.7% | 1.9% | 70.0% |
| Not-for-Profit/Voluntary | 21,949 | 38.6% | 2.8% | 1.1% | 66.9% |
| Private Sector | 17,906 | 31.5% | 3.9% | 1.6% | 56.3% |
| Other | 4,699 | 8.3% | 5.3% | 2.2% | 70.5% |
| ***Sub-Total*** | ***56,928*** | ***100.0%*** | | | |
| **Rural** | | | | | |
| State Agency | 1,463 | 11.6% | 6.6% | 5.4% | 76.7% |
| Local/County Agency | 2,669 | 21.1% | 1.3% | 1.7% | 69.8% |
| Not-for-Profit/Voluntary | 4,376 | 34.6% | 3.1% | 2.2% | 73.0% |
| Private Sector | 3,390 | 26.8% | 2.9% | 2.0% | 66.3% |
| Other | 766 | 6.1% | 1.1% | 1.1% | 69.2% |
| ***Sub-Total*** | ***12,665*** | ***100.0%*** | | | |
| ***Overall***[b] | | | | | |
| State Agency | 14,374 | 8.7% | 25.6% | 15.4% | 80.9% |
| Local/County Agency | 20,024 | 12.1% | 23.8% | 9.1% | 70.2% |
| Not-for-Profit/Voluntary | 65,002 | 39.2% | 19.1% | 10.4% | 71.6% |
| Private Sector | 53,476 | 32.3% | 24.7% | 15.0% | 64.7% |
| Other | 12,763 | 7.7% | 22.7% | 12.8% | 74.8% |
| ***Total*** | ***165,640***[c] | ***100.0%*** | | | |

[a] For this analysis, "minority" includes non-Hispanic Blacks, Hispanics, Asians, Native Americans, and individuals of "two or more races."

[b] Based on all respondents for the column variable.

[c] Total does not add up to 165,640 due to rounding.

As we saw in Chapter 2, minority representation varies by region. Here we see that it also varies by employer type. For example, in New York City, two-thirds of the RNs who work for State agencies are members of a minority group, compared to only 44.5 percent of RNs working for not-for-profit or voluntary organizations. In the downstate suburbs, RNs working for State agencies are almost twice as likely to be members of a minority group as those working for not-for-profit/voluntary organizations. In the upstate metropolitan areas, on the other hand, local or county agencies are the most likely to employ RNs who are members of a minority group, while State agencies are the least likely to do so. In that geographic category, however, minority representation is rather low across the board: just 5.7 percent of RNs working for local or county governments are members of a minority group compared to 2.7 percent of RNs employed by State agencies. In rural areas, as in upstate metropolitan areas, few RNs are members of minority groups. However, the proportion is much higher for State agencies than for other types of employers (6.6 percent, versus 3.1 percent for not-for-profit/voluntary organizations and even less for other types of employers).

As we saw in Chapter 2, an estimated 12.4 percent of RNs active in the New York State workforce received their basic nursing education outside of the U.S. Statewide, RNs working in State agencies are the most likely to be educated outside of the U.S. (15.4 percent). RNs employed by counties or other local government agencies are the least likely to be educated outside of the U.S. (9.1 percent). New York City has the highest proportions of RNs educated outside of the U.S. State agencies in New York City are the most likely to employ RNs educated outside of the U.S. Over forty percent of the RNs in New York City who work for a State agency were educated outside of the U.S. By way of contrast, less than a quarter (22.7 percent) of RNs working in New York City for a local government agency were educated outside of the U.S. The downstate suburbs have far fewer RNs educated outside of the U.S. Their representation ranges from 5.8 percent of RNs working for employers in the "other" category, to 8.6 percent of those working in the private sector. Upstate areas, both metropolitan and rural, have very few RNs educated outside of the U.S.

Whether or not an RN's primary job is full time or part time appears to be associated with the employer type. Statewide, RNs working for State agencies are much more likely to work full time than RNs in private sector jobs (80.9 versus 64.7 percent). In all regions except for the downstate suburbs State agencies have the highest percentage of full-time RNs, and in the downstate suburbs State agencies follow closely behind the "other" category (with 72.8 percent to the "other" category's 74.4 percent). Similarly, in all regions except New York City, the private sector's workforce has the smallest proportion of full-time RNs—and in New York City the private sector has an only marginally greater proportion of full-time RNs than local government agencies (77.1 percent compared to 76.8 percent).

Private sector employers in the downstate suburbs and upstate metropolitan areas appear to rely the most heavily on part-time RNs. Only 56 percent of RNs in those regions whose primary job is in the private sector work in full-time jobs. Generally part-time employees do not receive health or pension benefits, and so they cost less to employ on an FTE-basis than do full-time workers. In a nursing shortage situation, it is possible that employers may have to offer full-time jobs with benefits in order to attract

qualified candidates. On the other hand, part-time jobs may have special appeal for nurses who are married with children living in suburbs or others who are eligible for health insurance under a spouse or partner's benefits plan, for example. For these individuals household income and family responsibilities may combine to make part-time participation in the labor market the most attractive employment option.

## DIRECT CARE

As Figure 4.4 shows, the great majority of RNs work in direct patient care in their primary jobs. Nearly four in five RNs working in New York spend at least part of their workday providing direct patient care. Of course that means that the remainder—21 percent—do not work in direct care. This represents over 35,000 of the State's approximately 166,000 active RNs. Thus, in considering the supply of RNs available to meet the growing health care needs of an aging population with increasing numbers of individuals with long-term chronic diseases, policymakers need to keep in mind both the importance of retaining existing direct-care RNs while making direct-care jobs more attractive to those RNs currently working in other capacities.

Figure 4.4

Percentage of RNs Who Work in Direct Care

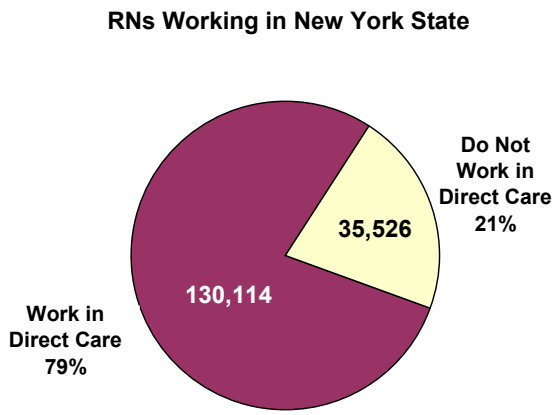
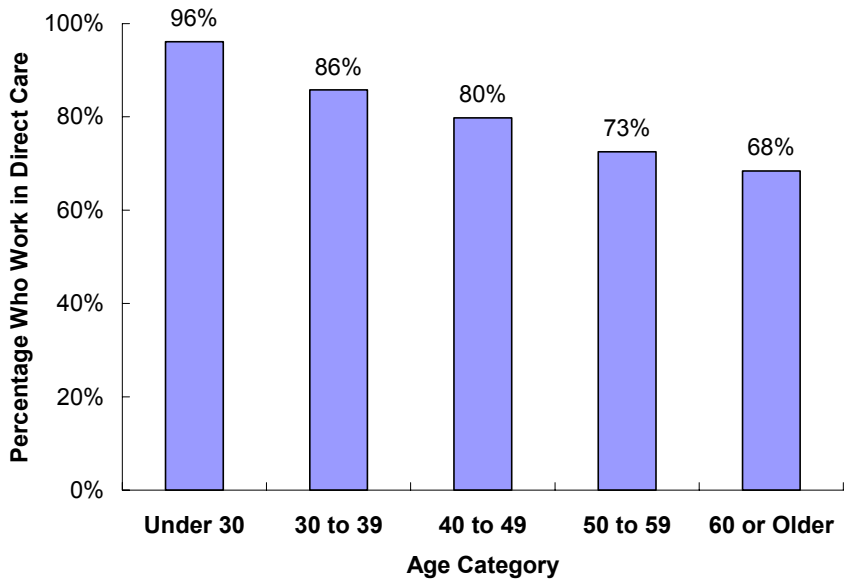



Figure 4.5 shows the percentage of RNs who work in direct patient care in their primary job by age category. Almost all RNs under the age of 30 work in direct patient care (96 percent). As nurses get older, however, the percentage working in direct care drops. Eighty-six percent of RNs in their thirties, 80 percent of those in their forties, fewer than three-quarters of those in their fifties, and only about two-thirds of those aged 60 or older work in direct patient care in their primary jobs.

Figure 4.5
Percentage of RNs Who Work in Direct Care in Their Primary Job by Age (RNs Working in Nursing in New York State)




### *Direct Care by Advanced Degree Status*

RNs with advanced degrees are less likely than others to work in direct patient care. As Table 4.8 shows, only three out of five advanced degree holders (62 percent) work in direct patient care, whereas four out of five RNs whose highest credential is a bachelor's degree or less work in direct patient care. Put another way, RNs who work in direct patient care are less than half as likely as those who do not to have an advanced degree (14 versus 31 percent).

Table 4.8
Percentage of RNs Who Work in Direct Patient Care by Advanced Degree Status[a]
(RNs Working in Nursing in New York State)

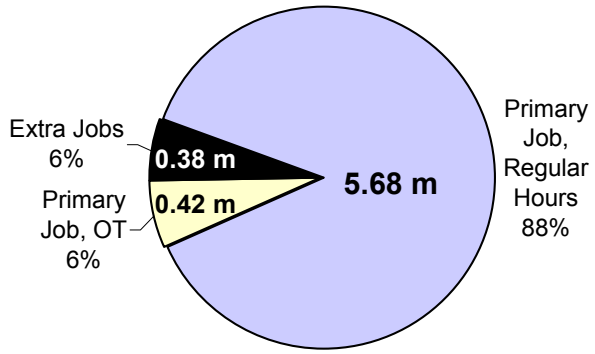
| | | | Holds a Master's Degree or Doctorate (Any Field) | | |
|---|---|---|---|---|---|
| | | | No | Yes | Row Total |
| Works in Direct Patient Care in Primary Job | No | Est. Count | 24,512 | 11,013 | 35,526 |
| | | Row % | 69% | 31% | |
| | | Column % | 18% | 38% | 21% |
| | Yes | Est. Count | 112,192 | 17,922 | 130,114 |
| | | Row % | 86% | 14% | |
| | | Column % | 82% | 62% | 79% |
| | Column Total | | 136,608 | 29,032 | 165,640 |
| | | Row % | 82% | 18% | |

[a] Cell estimates may not equal row and column totals due to uncertainty inherent to the weighting method used.

### *How RNs Spend Their Workday*

Figure 4.6 shows the estimated number of hours RNs in New York State work each week. As the figure indicates, RNs work some 6.48 million hours per week. Of these, 88 percent (or 5.68 million hours) are regularly scheduled hours in RNs' primary jobs, while 0.42 million hours (6 percent) are devoted to overtime (that is, work beyond an RNs' regularly scheduled workday), and 0.38 million hours are spent on extra nursing jobs.

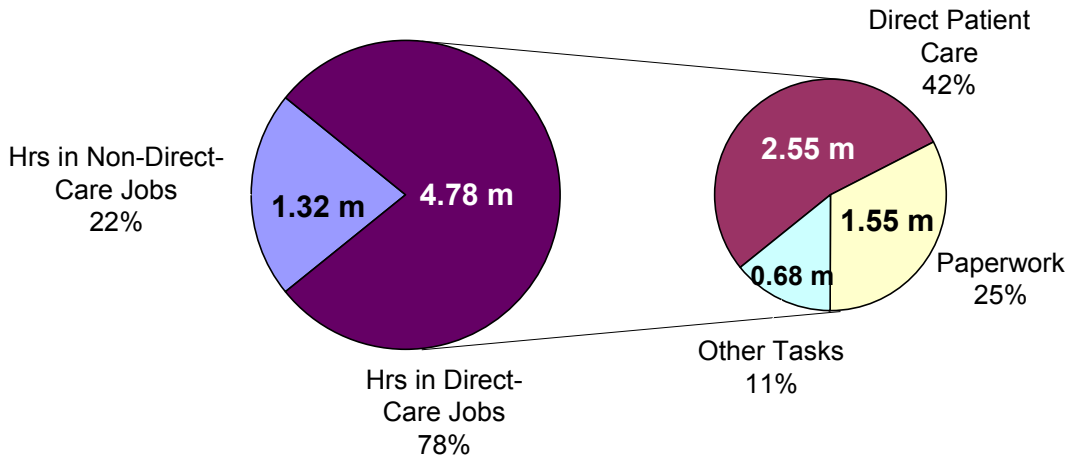
Figure 4.6
Total Weekly Hours Worked by RNs Working in Nursing in New York State
(Millions of Hours)




The survey instrument asked those RNs who indicated that they work in direct patient care to estimate the percentage of the day they spend on direct patient care, paperwork, and other tasks. These percentages were then applied to RNs' reported weekly hours to estimate the number of hours RNs spend on direct patient care in their primary jobs. As Figure 4.7 shows, of the 6.10 million hours RNs work each week in their primary jobs, 4.78 are spent in jobs involving direct patient care. We estimate that only 2.55 million hours (or 42 percent of all primary job hours) are spent on direct patient care. In other words, 58 percent of RNs' time in their primary jobs—some 3.55 million hours per week—is spent on tasks other than direct patient care.

Furthermore, RNs who do work in direct patient care spend a great deal of time on paperwork and other non-direct-care duties. Paperwork consumes 1.55 million hours of time for these RNs. That represents nearly a third (32 percent) of direct-care RNs' work time and a quarter of all time spent by RNs in their primary jobs. If our data allowed us to determine how much time RNs spend on paperwork in their extra jobs and as part of non-direct-care jobs, the number of hours RNs spend on paperwork would be even higher.

Figure 4.7
Hours Spent in Primary Jobs per Week, Including Overtime
(RNs Working in Nursing in New York State)
(Figures in Millions)




### *Direct Patient Care by Primary Work Setting*

As Table 4.9 shows, RNs working in private physicians' offices are the most likely to work in direct patient care. More than nine out of ten (92.0 percent) do so. The great majority of RNs working in hospitals, ambulatory care or diagnostic and treatment centers, and school health settings also work in direct patient care (89.2, 88.4, and 85.0 percent, respectively). In contrast, RNs who work for government agencies, health maintenance organizations, or professional associations are the least likely to work in direct patient care. Only 44.1 of RNs in these settings do so.

Naturally, RNs in different work settings tend to devote different proportions of their workday to patient care, paperwork, and other tasks. RNs in private physician's offices who work in direct patient care spend the most time on patient care and the least on paperwork. On average, they spend 62.3 percent of their day on patient care, and only about a quarter on paperwork (26.5 percent). School health, ambulatory care/ diagnostic and treatment centers, and hospitals are the only other settings where more than half of the average RN's day is spent on patient care (of those nurses who provide any direct patient care at all).

Table 4.9
Direct Patient Care by Primary Work Setting
(RNs Working in Nursing in New York State)

| Primary Employment Setting | Est. Count | Column % | % Who Work in Direct Patient Care | For RNs Who Work in Direct Patient Care…[a] Average % of Day on Direct Patient Care | Average % of Day on Paperwork | Average % of Day on Other Tasks |
|---|---|---|---|---|---|---|
| Ambulatory Care, Diagnostic Treat. Ctr. | 8,723 | 5.3% | 88.4% | 56.5% | 30.3% | 13.2% |
| Gov't, Professional, Health Org. | 3,526 | 2.1% | 44.1% | 42.4% | 41.5% | 16.5% |
| Home Health Agency | 12,626 | 7.6% | 60.8% | 47.4% | 38.8% | 13.7% |
| Hospital | 90,137 | 54.4% | 89.2% | 54.6% | 31.0% | 14.4% |
| Private Physician's Office | 8,078 | 4.9% | 92.0% | 62.3% | 26.5% | 11.3% |
| Nursing Home | 14,986 | 9.0% | 64.2% | 41.1% | 43.4% | 15.6% |
| Nursing Education | 3,053 | 1.8% | 19.8% | 39.8% | 29.3% | 30.9% |
| School Health | 9,383 | 5.7% | 85.0% | 57.1% | 31.3% | 11.5% |
| Other | 15,128 | 9.1% | 47.5% | 49.0% | 35.1% | 16.6% |
| **Overall[b]** | **165,640** | **100%** | **78.6%** | **53.4%** | **32.4%** | **14.2%** |

[a] Estimates do not total 165,640 due to rounding. Row percentages may not add up to 100 percent because they are averages.

[b] Based on all respondents for the column variable.

Nursing home RNs merit special attention. Less than two-thirds (64.2 percent) of RNs in nursing homes work in direct care at all. Moreover, on average, those who do work in direct care spend more of their day on paperwork than on patient care (43.4 percent versus 41.1 percent). Although it cannot be said with any certainty, it appears likely that processing documents needed for reimbursement from the government and insurance companies occupies a significant amount of nursing home RNs' workdays.

Government, health maintenance organizations, and professional organizations constitute another work setting category where paperwork time requirements are greater than average for RNs. The 44.1 percent of RNs in these settings who work in direct care spend on average 42.4 percent of their workday on patient care, 41.5 percent on paperwork, and 16.5 percent on other tasks.

Nursing education is the work setting with the smallest proportion of RNs working in direct patient care (19.8 percent). On average these nurses spend less time in patient care than those in other settings (39.8 percent); however they spend more of their day on "other" tasks (such as teaching, presumably) than RNs in any other setting.

Table 4.10

Direct Patient Care by Primary Job Title (RNs Working in New York State)

| Primary Job Title | Est. Count | Column % | % Who Work in Direct Patient Care | For RNs Who Work in Direct Patient Care…[a] Average % of Day on Direct Patient Care | Average % of Day on Paperwork | Average % of Day on Other Tasks |
|---|---|---|---|---|---|---|
| Inpatient Staff Nurse | 68,077 | 41.1% | 98.5% | 54.8% | 31.3% | 13.9% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 93.9% | 56.4% | 31.0% | 12.6% |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 97.3% | 82.7% | 10.4% | 6.9% |
| Claims Reviewer, Quality Assurance, Utilization Review, Risk Mgt. | 6,040 | 3.6% | 5.5% | 22.8% | 64.0% | 16.1% |
| Consultant or Researcher | 2,313 | 1.4% | 30.2% | 38.7% | 44.3% | 17.1% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 20.6% | 47.2% | 26.1% | 26.7% |
| Nursing Executive | 4,954 | 3.0% | 22.6% | 21.9% | 52.0% | 26.1% |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 51.9% | 47.5% | 30.2% | 22.3% |
| Nurse Practitioner | 7,084 | 4.3% | 94.3% | 65.2% | 25.1% | 9.7% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 62.2% | 36.9% | 43.8% | 19.4% |
| Independent Practitioner/Private Duty Nurse | 2,812 | 1.7% | 90.9% | 74.6% | 15.5% | 10.6% |
| Public/Community Health Nurse | 7,800 | 4.7% | 74.3% | 44.4% | 41.1% | 14.7% |
| Other | 15,850 | 9.6% | 52.5% | 51.8% | 33.3% | 14.8% |
| **Overall[b]** | **165,640** | **100%** | **78.6%** | **53.4%** | **32.4%** | **14.2%** |

[a] Totals do not add up to 100 percent because they are averages.

[b] Based on all respondents for the column variable.

### *Direct Patient Care by Primary Job Title*

The proportion of RNs working in direct care varies more across job titles than across employment settings. As we would expect, the overwhelming majority of RNs in many titles work in direct patient care. Over 90 percent of independent practitioners/private duty nurses, outpatient staff nurses, nurse practitioners, certified registered nurse anesthetists, and inpatient staff nurses work in direct patient care. The figure is highest for inpatient staff nurses, of whom 98.5 percent work in direct care. RNs working in care coordinator, claims review, quality assurance, utilization review,

and risk management titles are the least likely to work in direct patient care (5.5 percent). Other titles where relatively few RNs work in direct patient care are: dean or faculty in a nursing program (20.6 percent), nursing executive (22.6 percent), and consultant/researcher (30.2 percent).

Looking at how RNs working in direct care divide their workday among patient care, paperwork, and other tasks reveals that RNs in some titles tend to spend much more of their time providing direct patient care than others. Those who spend the greatest part of their day on patient care are: certified registered nurse anesthetists (82.7 percent of their workday on average), independent practitioners/private duty nurses (74.6 percent), and nurse practitioners (65.2 percent). Nursing executives and RNs in claims review/quality assurance/utilization review/risk management titles spend the smallest portion of their workday on patient care on average (21.9 and 22.8 percent, respectively). These are also the only two job title categories where RNs spend more than half their workday on paperwork. Claims review, quality assurance, utilization review, and risk management nurses average 64.0 percent of their day on paperwork, while nursing executives spend 52.0 percent of their day on paperwork on average. In both of these job title categories RNs spend on average well over twice as much time on paperwork as on direct patient care. The only other RNs who spend more time on paperwork than on direct patient care are consultants/researchers, who average 44.3 percent of their day on paperwork and 38.7 percent on patient care, and nurse managers/patient care coordinators, who average 43.8 percent of their day on paperwork and 36.9 percent on direct patient care.

On average both inpatient and outpatient staff RNs spend somewhat more than half of their day on direct patient care (54.8 and 56.4 percent, respectively) and slightly less than a third on paperwork (31 percent).

## OVERTIME, INCLUDING EXTRA ASSIGNED HOURS

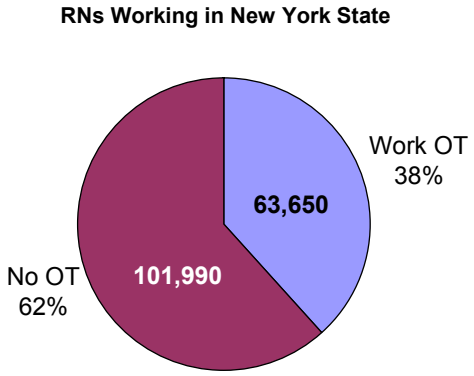
Because health emergencies and patient care needs do not conform to predictable schedules, overtime and other forms of supplemental hours beyond a regularly scheduled workweek are commonplace in the nursing profession. Many RNs report working overtime on a regular basis. Overtime as discussed in this report refers to hours beyond nurses' regularly scheduled workweeks, regardless of whether they receive a higher hourly wage or other extra compensation for these extra hours.[1] This definition of overtime includes extra assigned hours, regardless of the level of compensation, as well as officially sanctioned overtime compensated at a higher hourly rate than the regular base wage. As Figure 4.8 shows, by this definition an estimated 38 percent of RNs working in New York work overtime in their primary jobs.

[1] Please note: Nursing administrators, managers, faculty members, and other RNs in salaried rather than hourly positions may not have reported all hours they work for which they do not receive compensation.

Figure 4.8

Percentage of RNs Working Overtime (OT) in Their Primary Jobs

(Includes any Hours beyond Regularly Scheduled Workweek)




## *Overtime by Employment Status*

Table 4.11 shows the percentage of RNs who work overtime in their primary jobs by employment status. It also shows, for those who work overtime, the percentage for whom overtime is always mandatory, sometimes mandatory, and never mandatory as well as the average number of hours of overtime worked per week.

Table 4.11

Overtime (OT) for Primary Nursing Job by Employment Status[a]
(RNs Working in Nursing in New York State)

| | | | For RNs Who Work Overtime in Primary Job… | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | Weekly OT Hours in Primary Job | |
| **Employment Status** | **Est. Count** | **% Working OT in Primary Job** | **% OT is Always Mandatory** | **% OT is Sometimes Mandatory** | **% OT is Never Mandatory** | **Mean** | **S.D** |
| Full Time, One Job Only | 93,347 | 44.9% | 14.9% | 43.2% | 41.9% | 6.8 | 5.0 |
| FT plus One or More PT Jobs | 22,962 | 41.0% | 16.6% | 42.6% | 40.8% | 7.7 | 5.2 |
| PT, One Job | 37,230 | 25.2% | 17.8% | 44.1% | 38.1% | 5.3 | 4.2 |
| PT, More than One Job | 12,100 | 24.6% | 20.9% | 41.8% | 37.3% | 5.2 | 4.1 |
| **Overall[b]** | **165,640** | **38.4%** | **15.9%** | **43.2%** | **40.9%** | **6.6** | **4.9** |

[a] Overtime includes average weekly hours beyond a nurse's regularly scheduled workweek.

[a] Based on all respondents for the column variable. Estimates do not total 165,640 due to rounding.

RNs with full-time jobs are much more likely to work overtime than other RNs. Over 40 percent of RNs with full-time jobs work overtime in their primary jobs (44.9 percent of RNs with only one job, and 41.0 percent of RNs with more than one job). In contrast, only a quarter of RNs whose primary job is part time work overtime.

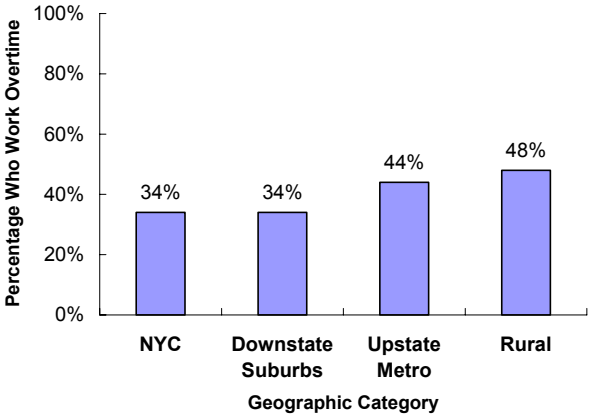
When those who work overtime in their primary jobs were asked whether the overtime in their primary jobs was always mandatory, sometimes mandatory, or never mandatory, 40.9 percent said that overtime was never mandatory. Another 43.2 percent said that overtime was sometimes mandatory, while only 15.9 percent indicated that overtime was always mandatory. These figures vary relatively little by employment status, although it appears that RNs working overtime whose primary job is part time are slightly more likely to have overtime work that is always mandatory.

RNs who work overtime average 6.6 hours of overtime per week. The RNs with a full-time job combined with extra part-time jobs work the most hours of overtime, on average, in their primary jobs (7.7 hours per week). RNs whose primary job is part time tend to work fewer overtime hours per week than those with full-time jobs. The relatively large standard deviations in weekly overtime suggest that there is a good deal of variance in weekly overtime.

### *Overtime by Region*

RNs working downstate are less likely to work overtime than RNs who work upstate. As Figure 4.9 shows, only about a third (34 percent) of RNs working in New York City or the downstate suburbs work overtime in their primary jobs. For RNs working in upstate metropolitan areas the figure is 44 percent, and for RNs in rural areas it is nearly half (48 percent).

Figure 4.9
Percentage of RNs Who Work Overtime in Their Primary Jobs by Geographic Category[a]
(RNs Working in New York State)




[a] Overtime includes average hours worked beyond a nurse's regularly scheduled workweek.

### *Overtime by Age*

Figure 4.10 shows the percentage of RNs who work overtime in their primary jobs by age. As we might expect, the youngest RNs are the most likely to work overtime while the oldest are the least likely to do so. Close to half (46 percent) of RNs under 30 years of age work overtime, while only slightly more than a quarter of RNs aged 60 or older work overtime.

Figure 4.10
Percentage of RNs Who Work Overtime in Their Primary Jobs by Age
(RNs Working in New York State)

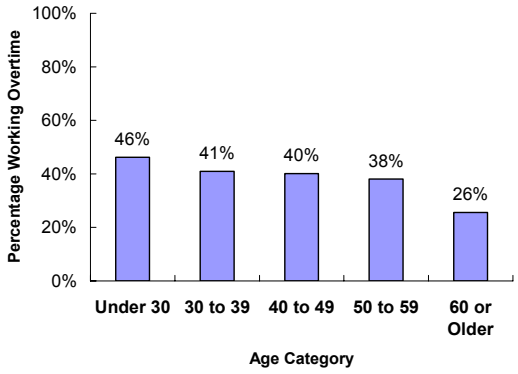



Table 4.12
Overtime (OT) by Age[a]
(RNs Working in Nursing in New York State)

| | | | | For RNs Who Work OT in Primary Job… | | |
|---|---|---|---|---|---|---|
| Age | Est. Count | Column % | % Who Work OT in Primary Job | % OT is Always Mandatory | % OT is Sometimes Mandatory | % OT is Never Mandatory |
| Under 30 | 8,654 | 5.2% | 46.2% | 10.4% | 37.0% | 52.6% |
| 30 to 39 | 29,961 | 18.1% | 40.9% | 14.9% | 43.3% | 41.8% |
| 40 to 49 | 61,855 | 37.3% | 40.1% | 17.1% | 43.2% | 39.7% |
| 50 to 59 | 48,890 | 29.5% | 38.1% | 17.0% | 42.8% | 40.2% |
| 60 or Older | 16,279 | 9.8% | 25.6% | 13.3% | 46.5% | 40.2% |
| **Overall[b]** | **165,640** | **100%** | **38.4%** | **15.9%** | **43.2%** | **40.9%** |

[a] Overtime includes average weekly hours beyond a nurse's regularly scheduled workweek.

[b] Based on all respondents for the column variable.

Table 4.12 shows that except for young RNs, whether or not RNs' overtime work is mandatory varies relatively little. RNs under 30 years old are the most likely to say that their overtime work is never mandatory. Indeed, over half (52.6 percent) said overtime in their primary jobs is never mandatory, whereas no more than 42 percent of RNs in other age groups said so.

### *Overtime by Primary Work Setting*

Given the wide variation of nursing duties by employment setting, it is hardly surprising that the percentage of RNs who work overtime varies by work setting. As Table 4.13 shows, RNs working in hospitals are the most likely to work overtime in their primary jobs (46.5 percent), followed by those working in nursing homes (41.9 percent). RNs in school health and nursing education settings are the least likely to work overtime (13.2 and 15.8 percent, respectively). RNs in private physician's offices and "other" employment settings are also much less likely to work overtime than RNs overall. Less than a quarter (24 percent) of RNs in these settings work overtime.

Table 4.13

Overtime (OT) by Primary Work Setting[a]
(RNs Working in Nursing in New York State)

| | | | | For RNs Who Work OT in Primary Job… | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Weekly OT in Primary Job | |
| Primary Work Setting | Est. Count | Column % | % Who Work OT in Primary Job | % OT is Always Mandatory | % OT is Sometimes Mandatory | % OT is Never Mandatory | Mean | S.D. |
| Ambulatory Care, Diagnostic Treat. Ctr. | 8,723 | 5.3% | 34.1% | 17.2% | 40.5% | 42.2% | 4.7 | 3.8 |
| Gov't, Professional, Health Org. | 3,526 | 2.1% | 37.6% | 20.1% | 38.0% | 41.9% | 6.4 | 5.3 |
| Home Health Agency | 12,626 | 7.6% | 30.2% | 17.8% | 35.7% | 46.5% | 7.0 | 4.8 |
| Hospital | 90,137 | 54.4% | 46.5% | 15.2% | 43.9% | 40.9% | 6.7 | 5.0 |
| Private Physician's Office | 8,078 | 4.9% | 23.7% | 30.1% | 29.3% | 40.6% | 4.5 | 2.8 |
| Nursing Home | 14,986 | 9.0% | 41.9% | 11.6% | 50.2% | 38.2% | 7.9 | 5.0 |
| Nursing Education | 3,053 | 1.8% | 15.8% | 4.8% | 36.1% | 59.1% | 8.2 | 4.8 |
| School Health | 9,383 | 5.7% | 13.2% | 21.3% | 30.4% | 48.3% | 3.7 | 3.2 |
| Other | 15,128 | 9.1% | 23.7% | 15.7% | 47.8% | 36.5% | 6.7 | 4.7 |
| **Overall[b]** | **165,640** | **100%** | **38.4%** | **15.9%** | **43.2%** | **40.9%** | **6.6** | **4.9** |

[a] Overtime includes average weekly hours beyond a nurse's regularly scheduled workweek.

[b] Based on all respondents for the column variable. Estimates do not total 165,640 due to rounding.

Except for RNs in nursing education settings, more than half of nurses who work overtime said that their overtime was always or sometimes mandatory. RNs working in nursing homes and "other" settings were the most likely to report some degree of mandatory overtime (61.8 and 63.5 percent). RNs in private physician's offices were the most likely to say that their overtime was always mandatory (30.1 percent). Nursing education RNs were least likely to say that their overtime is always mandatory (4.8 percent) followed by nursing home RNs (11.6 percent). Indeed, half of nursing home nurses who work overtime say that it is sometimes mandatory, while 38.2 percent said it is never mandatory. In hospitals, where well over half of New York's active RNs work, 15.2 percent of nurses working overtime said that overtime is always mandatory, 43.9 said it is sometimes mandatory, and 40.9 percent said it was never mandatory.

Among those who work overtime, the average number of overtime hours worked per week in RNs' primary jobs ranges from 3.7 hours for RNs in school health settings to 8.2 hours in nursing education settings (the setting where the smallest proportion of overtime worked is mandatory).

### *Overtime by Primary Job Title*

Table 4.14 displays overtime by primary job title. Not surprisingly, overtime varies widely across job titles. Inpatient staff nurses are by far the most likely to work overtime in their primary jobs. Over half of them (52 percent) work overtime in their primary jobs. (As we saw in Chapter 2, younger RNs tend to be concentrated in this title.) A relatively high proportion of nurse managers/patient care coordinators also work overtime (40.9 percent). Together these titles make up over half of the New York RN workforce. RNs in independent practitioner/private duty nurse titles and dean or faculty in nursing education programs are the least likely to work overtime (11.6 and 12.8 percent, respectively).

Certified registered nurse anesthetists who work overtime are the most likely to say that overtime is always or sometimes mandatory (74.7 percent). Nurse anesthetists are also the most likely to say that overtime is always mandatory (25.2 percent). At the other extreme, only a third (33.4 percent) of independent practitioners/private duty nurses who work overtime indicate that it is ever mandatory. As we would expect, RNs who work overtime and whose jobs tend not to involve much direct care are less likely to say that their overtime is always mandatory. Relatively few RNs in claims review, quality assurance, utilization review, and risk management titles work overtime (19.5 percent). Of those, only 2.8 percent say that their overtime is always mandatory. RNs in consultant or research titles are also relatively unlikely to work overtime; only a fifth do so (20.5 percent). Of those who do, overtime is always mandatory for only 8.7 percent.

Among RNs who work overtime, nursing executives put in the greatest amount of overtime per week (9.9 hours), followed by RNs who serve as deans or faculty in nursing education programs (8.0 hours). Outpatient staff nurses work the fewest hours of weekly overtime on average. The 37.6 percent of outpatient RNs who said they work overtime in their jobs put in an average of 4.9 overtime hours per week.

Table 4.14
Overtime (OT) by Primary Job Title[a]
(RNs Working in Nursing in New York State)

| Primary Job Title | Est. Count | Column % | % Who Work OT in Primary Job | For RNs Who Work OT in Primary Job… | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | % OT is Always Mandatory | % OT is Sometimes Mandatory | % OT is Never Mandatory | Weekly OT in Primary Job | |
| | | | | | | | Mean | S.D. |
| Inpatient Staff Nurse | 68,077 | 41.1% | 52.0% | 14.8% | 46.4% | 38.8% | 7.0 | 5.1 |
| Outpatient Staff Nurse | 24,663 | 14.9% | 37.6% | 21.6% | 41.5% | 36.9% | 4.9 | 4.3 |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 32.8% | 25.2% | 49.5% | 25.2% | 6.4 | 4.1 |
| Claims Review, Quality Assurance, Utilization Review, Risk Mgt. | 6,040 | 3.6% | 19.5% | 2.8% | 38.7% | 58.5% | 5.5 | 3.5 |
| Consultant or Researcher | 2,313 | 1.4% | 20.5% | 8.7% | 40.9% | 50.5% | 6.3 | 3.7 |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 12.8% | 14.7% | 27.5% | 57.8% | 8.0 | 3.4 |
| Nursing Executive | 4,954 | 3.0% | 23.3% | 19.1% | 33.9% | 47.0% | 9.9 | 5.3 |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 25.2% | 13.1% | 39.0% | 47.9% | 6.3 | 4.9 |
| Nurse Practitioner | 7,084 | 4.3% | 20.9% | 23.6% | 29.8% | 46.5% | 6.1 | 3.8 |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 40.9% | 13.6% | 40.9% | 45.5% | 7.5 | 4.6 |
| Independent Practitioner/ Private Duty Nurse | 2,812 | 1.7% | 11.6% | 11.4% | 22.0% | 66.5% | 7.5 | 4.7 |
| Public/Community Health Nurse | 7,800 | 4.7% | 28.3% | 16.1% | 34.7% | 49.1% | 6.0 | 4.7 |
| Other | 15,850 | 9.6% | 21.9% | 16.4% | 42.6% | 41.0% | 5.7 | 4.4 |
| **Overall[b]** | **165,640** | **100%** | **38.4%** | **15.9%** | **43.2%** | **40.9%** | **6.6** | **4.9** |

[a] Overtime includes average weekly hours beyond a nurse's regularly scheduled workweek.
[b] Based on all respondents for the column variable.

## VARIABLES ASSOCIATED WITH HOURS WORKED PER WEEK

Many factors influence nurses' decisions regarding whether or not, and to what extent, to participate in the labor force. Balancing competing priorities such as family responsibilities, quality of life concerns, financial needs, and the desire for fulfilling work help determine how many hours nurses choose to work. While a full investigation of this question falls outside the scope of Volume I of this report, a brief discussion of variables associated with the number of hours worked per week is presented here.

Table 4.15 is a correlation matrix displaying the strength of the bivariate associations of seven continuous variables. Correlations may range from -1.00 to 1.00, where zero indicates there is no relationship between the variables and 1.00 means that they are so strongly related that one may be used to accurately predict the other using a linear equation. Positive correlations mean that an increase in one variable is associated with an increase in the other, while negative correlations indicate that an increase in one variable is associated with a decrease in the other.

Table 4.15

Correlation Matrix of Selected Continuous Variables

| | Pearson Correlation | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Total Hours per Week** | **Annual Earnings** | **Weekly Overtime Hours** | **Hourly Wage** | **Experience (Years)** | **Percentage of Day on Paperwork** | **Travel Time (Minutes)** |
| **Annual Earnings** | .514** | 1.00 | | | | | |
| **Weekly Overtime Hours** | .458** | .131** | 1.00 | | | | |
| **Hourly Wage** | -.206** | .561** | -.179** | 1.00 | | | |
| **Experience (Years)** | -.084** | .106** | -.106** | .162** | 1.00 | | |
| **Percentage of Day on Paperwork** | .093** | .007 | .066** | -.052** | -.053** | 1.00 | |
| **Travel Time (Minutes)** | .062** | .198** | .016 | .151** | -.021* | -.005 | 1.00 |

** Significant at the .01 level (two-tailed).

* Significant at the .05 level (two-tailed).

Some of the strongest relationships displayed in the matrix are predictable consequences of each other. Both higher annual earnings and higher numbers of overtime hours are associated with higher total hours worked per week. Similarly, higher hourly earnings are associated with higher annual earnings.

Less predictable, however, is the negative correlation between hourly earnings and total hours worked per week. As the RNs' hourly earnings increase, their total hours worked decrease.[2] This suggests that RNs in low-wage jobs have to work extra hours to make ends meet.

[2] The hourly earnings variable was constructed by dividing total annual earnings reported by 50 and multiplying by 1000 to get the dollars earned per week and then dividing that result by the total number of weekly hours, including overtime, in order to obtain the earnings as dollars per hour. No attempt was made to calculate separate hourly wages for regularly scheduled hours and overtime.

# Chapter 5: The Salaries of Registered Nurses

## INTRODUCTION

In April 2001, the State Education Department presented the Board of Regents a report on the nursing shortage.[1] That report emphasized how the current nursing shortage differs from shortages in earlier decades. The increased availability of attractive career opportunities in other professions for women makes the current shortage significantly different from previous shortages. According to the report:

> "Today, women have many more career opportunities than they did just a few decades ago. Women are now pursuing many competitive, attractive, and **lucrative** careers that were virtually closed to them when 'baby boomers' made their career choices…Research indicates that 35 percent fewer women would choose nursing as a career in the 1990s than they would have in the 1970s."

One of the important corollaries of the expanded-mobility thesis is that salary compensation may become a more important determinant of career choice than it has in the past. Thus, as career opportunities expand, it is reasonable to expect that the monetary compensation of the job opportunities available—not just the "conditions of the workplace"—will take on added importance.

From this view, salary compensation can be expected to have important impacts upon both the supply and demand sides of the nursing equation, but particularly the former. In this chapter we describe the changing patterns of nursing compensation and examine variation in these salary patterns across regions, workplace settings, levels of educational attainment, and other selected factors.

## A BRIEF METHODOLOGICAL NOTE

Before describing our salary findings, it is necessary to explain the survey respondent weighting methods used throughout this first report. Two different types of weighting strategies were employed depending on the specific research objectives

[1] See The New York State Board of Regents, Office of the Professions, *The Nursing Shortage*, BR (D) 6.1-2 and attachment, April 16, 2001 (Albany, NY). This report is available online at http://www.op.nysed.gov/nurseshortage.htm.

involved. In all of the volume I chapters, the case weights applied have the effect of reweighting 14,237 individual survey respondents to provide proper population estimates of the entire registered RN population of 228,661 in the New York State licensure files as of September, 2002. Those weighting procedures are described in detail in Appendix C. Based upon these case-weighting procedures, the population estimate of those RNs who were "working" in one capacity or another in September 2002 was 165,640.[2]

The terms "workload-adjusted" or "workweek-adjusted" annual salary are used interchangeably in this chapter. These terms refer not to actual salary compensation, but rather to an annualized calculation of salary compensation normed to the standard 39.05 average hourly workweek found statewide. Thus, if one earns $60,000 in salary compensation annually based upon on a longer-than-average 45-hour workweek, the workload-adjusted equivalent would actually be $52,067, i.e., $60,000 x (39.05 / 45). This convention has been used to equalize or put comparisons of annual salary compensation "on the same footing."

## GEOGRAPHIC GROUPINGS (HSAS)

Many findings in this chapter and the two that follow are presented based upon the Health Service Area (HSA) concept. This geographic scheme is detailed in a map in Appendix F and is based on research by the federal Centers for Disease Control (CDC). In their construction of HSAs, the CDC chose to aggregate contiguous counties that share patterns of hospital admissions that "cluster" together in order to create single hospital service delivery areas.[3] In other words, the same counties that "feed" admissions to hospitals are in the same HSAs as the counties in which their "receiving" hospitals are located. Health service delivery areas are generally smaller than Metropolitan Statistical Areas (MSAs) or some other indicator of labor markets.[4] Furthermore, since hospitals are also the largest employer of nursing labor—employing more than half of the State's nurses—this taxonomy is especially well suited for our analysis.

## SALARY VARIATION BY HEALTH SERVICE AREA

Table 5.1 displays the annual salary compensation of 165,640 RNs who were working on either a part-time or full-time basis in the field of nursing in New York State

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[2] In those circumstances in which a certain percentage of the respondents did not answer a particular question, the percentages calculated for the valid or known distribution of responses were used to re-estimate the actual population frequency counts. In effect, the conventional assumption used throughout the report was that the percentage distribution of the known cases mirrored the distribution of the unknown cases for population estimation purposes.

[3] Centers for Disease Control, National Center for Health Statistics, *Health Service Areas for the United States,* 1991.

[4] See Frech, H.E. III, "Comments on (Hospital) Antitrust issues" in *Advances in Health Economics and Health Services Research,* 7 (1987): 853-872.

as of September 2002. As noted, these data are typically presented in two ways: a) as the actual annual compensation received from their jobs; or as b) a workweek-adjusted annual compensation. In the later case, compensation has been normed to an average hourly workweek of 39.05 hours.[5] Thus, for individuals whose compensation is based upon a longer workweek, their actual hourly wage is simply multiplied by the statewide average work hours.

When we examine the salary compensation of RNs working among the economic regions of the State, the observed inter-regional variation is striking. Table 5.1 displays these data. As Table 5.1 makes clear, downstate Health Service Areas have higher average salaries relative to the State overall. For example, the New York City, Brooklyn and Long Island HSAs have average workweek-adjusted salaries that are 21 percent, 16 percent and 12 percent higher than the State overall, respectively.

Table 5.1

Average Reported Earnings, Adjusted by Workweek Length and as a Percentage of the Statewide Average by Health Service Area

| Health Service Area | Average Salary | Adjusted by Work Hours | Adjusted Salary as a % of State Average | Health Service Area | Average Salary | Adjusted by Work Hours | Adjusted Salary as a % of State Average |
|---|---|---|---|---|---|---|---|
| Albany | $42,987 | $47,153 | 87% | New York City | $67,692 | $65,623 | 121% |
| Binghamton | $37,321 | $41,948 | 77% | Newburgh | $49,095 | $49,879 | 92% |
| Brooklyn | $64,015 | $63,158 | 116% | North Country West | $41,134 | $40,663 | 75% |
| Columbia Greene | $41,480 | $43,887 | 81% | Plattsburgh | $41,703 | $43,082 | 79% |
| Finger Lakes | $39,687 | $40,850 | 75% | Rockland | $50,274 | $53,299 | 98% |
| Glens Falls | $40,107 | $43,687 | 81% | South/Central NY | $40,939 | $41,589 | 77% |
| Gloversville | $40,041 | $41,595 | 77% | Southern Tier East | $40,912 | $38,808 | 72% |
| Hudson Valley | $52,168 | $54,505 | 100% | Southern Tier West | $34,292 | $33,528 | 62% |
| Ithaca | $37,803 | $39,204 | 72% | Syracuse | $42,075 | $42,423 | 78% |
| Jamestown | $36,363 | $37,459 | 69% | Utica | $42,312 | $41,450 | 76% |
| Long Island | $56,486 | $60,727 | 112% | Western NY | $39,834 | $42,498 | 78% |
| **Statewide Average** | **$52,831** | **$54,257** | | | | | |

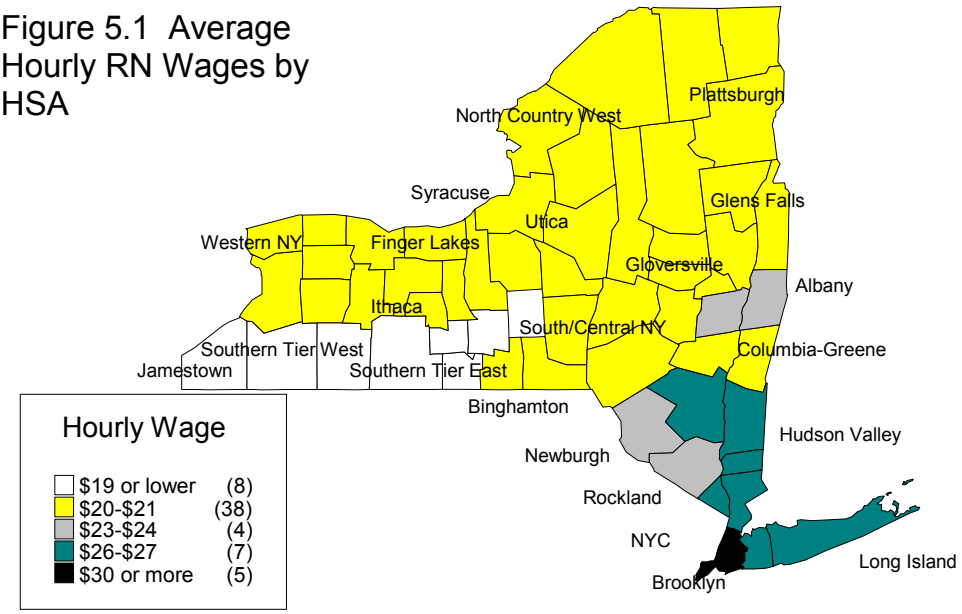
Possibly the most striking finding is that the workweek-adjusted salary of the lowest-paid health service region, the Southern Tier West is only $33,528 on average and 62 percent of the statewide average. By way of comparison, this HSA's compensation level is barely half (51 percent) of the highest wage region in the State, the New York City region, whose annual adjusted compensation was $65,623. Stated differently, the average workweek-adjusted salary of RNs in the New York City HSA is 96 percent higher than the equivalent salary in the Southern Tier West region.

[5] In fact the figure used was carried to three decimal places: 39.054 hours.

## HOURLY WAGE VARIATION BY HSA

In Figure 5.1, geographic variation in average hourly compensation is displayed by Health Service Area. In this map, higher wages are associated with darker areas on the map. The darker high-wage areas are clearly located downstate. Conversely, the lowest-wage areas are those in white, in the State's Southern Tier, where the hourly wage is less than $19 per hour on average. The next category of health service areas is that where the wages average $20-$21 per hour, represented on the map as the lightest-shaded counties, and equating to the balance of upstate less the Hudson Valley. From the Hudson Valley south there are increasing wages, with RNs in the five boroughs of New York City receiving the highest average hourly wages.

Figure 5.1 Average Hourly RN Wages by HSA




## INTERAREA SALARY DIFFERENCES AND REGIONAL PROFESSIONAL WAGE DIFFERENCES

While a variety of factors contribute to these striking interregional differences in hourly wage compensation, one of the most significant contributors is the cost-of-living difference between the upstate and downstate geographic areas. In effect, the dramatically higher nursing compensation in downstate areas observed in Table 5.1 may well reflect sharp interarea differences in professional wage costs generally. In order to remain competitive within higher cost professional labor markets, one would expect health sector providers to offer higher salaries—salaries whose purchasing power is still sufficiently attractive to offset the higher local costs of living in such areas. The question, then, is the degree to which these apparent salary differences become weakened when a regional cost deflator is applied. Table 5.2 below provides a very preliminary response to this question.

Table 5.2
Simulated, Professional Wage-Adjusted and Workweek-Adjusted Salaries

| Health Service Area | Professional Wage Index | Workweek-Adjusted Salary | Ranking on Work-Adjstd. Salary | Regional Professional Wage-Adjusted Salary | Prof-Wage Adjusted-Salary as % of So. Tier-West | Wage Premium Gained by Occupational Norming' |
|---|---|---|---|---|---|---|
| Albany | 0.8595 | $47,153 | 7 | $54,861 | 130% | 16.3% |
| Binghamton | 0.7925 | $41,948 | 13 | $52,931 | 125% | 26.2% |
| Brooklyn | 1.0419 | $63,158 | 2 | $60,618 | 144% | -4.0% |
| Columbia Greene | 0.8595 | $43,887 | 8 | $51,061 | 121% | 16.3% |
| Finger Lakes | 0.8554 | $40,850 | 17 | $47,755 | 113% | 16.9% |
| Glens Falls | 0.8580 | $43,687 | 9 | $50,917 | 121% | 16.5% |
| Gloversville | 0.7451 | $41,595 | 14 | $55,825 | 132% | 34.2% |
| Hudson Valley | 1.0146 | $54,505 | 4 | $53,721 | 127% | -1.4% |
| Ithaca | 0.8092 | $39,204 | 19 | $48,449 | 115% | 23.6% |
| Jamestown | 0.7940 | $37,459 | 21 | $47,177 | 112% | 25.9% |
| Long Island | 1.0419 | $60,727 | 3 | $58,285 | 138% | -4.0% |
| New York City | 1.0419 | $65,623 | 1 | $62,984 | 149% | -4.0% |
| Newburgh | 1.0146 | $49,879 | 6 | $49,162 | 116% | -1.4% |
| North Country West | 0.6872 | $40,663 | 18 | $59,172 | 140% | 45.5% |
| Plattsburgh | 0.6872 | $43,082 | 10 | $62,693 | 148% | 45.5% |
| Rockland | 1.0145 | $53,299 | 5 | $52,536 | 124% | -1.4% |
| South/Central NY | 0.7848 | $41,589 | 15 | $52,994 | 125% | 27.4% |
| Southern Tier East | 0.7925 | $38,808 | 20 | $48,969 | 116% | 26.2% |
| Southern Tier West | 0.7940 | $33,528 | 22 | $42,227 | 100% | 25.9% |
| Syracuse | 0.8371 | $42,423 | 12 | $50,679 | 120% | 19.5% |
| Utica | 0.7451 | $41,450 | 16 | $55,631 | 132% | 34.2% |
| Western NY | 0.8250 | $42,498 | 11 | $51,511 | 122% | 21.2% |

In this table we estimate the effect of regional professional wage-cost differences upon the workweek-adjusted salaries of RNs in our survey by applying the Regents Professional Cost Index (RCI) to this data.[6] By applying a cost-of-living index adjustment to the nurses' salary data, it is possible to gain a more accurate picture of the relative purchasing power of these salaries in different areas of the State. These values are listed in the second column of Table 5.2. When these index values are applied to the workweek-adjusted salaries in column 3, the resulting "cost-of-living"-adjusted salaries are shown in column 5.

[6] The RCI is composed of the average wages paid in 77 professional occupations outside of nursing Statewide at a labor market level of geography. For an extended discussion of the Regents Regional Cost Index, see *Recognizing High Cost Factors in the Financing of Public Education: A Discussion Paper and Update Prepared for the New York State Board of Regents,* September 2000, available at: http://www.oms.nysed.gov/faru/Articles/RegionalCost%20paper%20CC5.html.

Since living costs in the New York City-Long Island areas are appreciably higher than elsewhere in the State, the effect of this adjustment is two-fold. Salaries in the New York City, Long Island, Hudson Valley, Rockland and Newburgh HSAs, once adjusted to more accurately reflect their diminished purchasing power in these high-cost areas of the State, all lose value. This is shown in the final column in which we report the net change in salary due to this geographic adjustment. Salaries in the lower-cost areas of the State in contrast, once adjusted for the cost of living in their areas, increase substantially in effective purchasing power. These findings imply that upstate nursing positions are in fact far more competitive than may be the case, statewide.

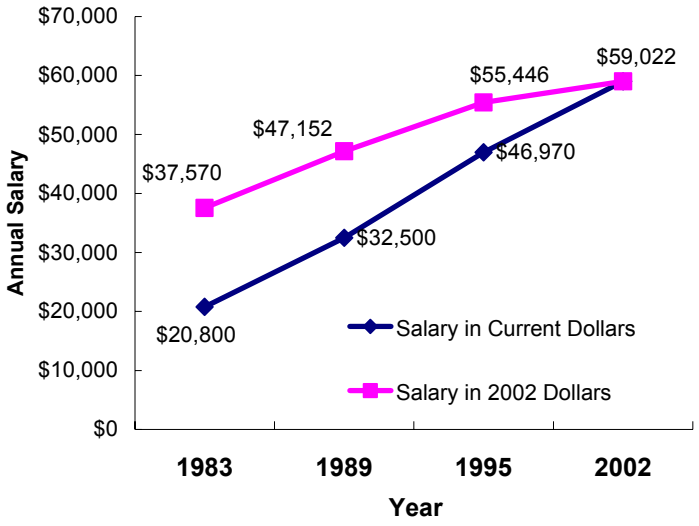
## NURSING SALARIES: HAVE THEY KEPT PACE WITH INFLATION?

Interregional cost differences and compensating salary differentials are important in understanding supply-demand imbalances that may affect only selected labor markets. From the standpoint of a profession's ability to attract and successfully recruit new entrants to the field, compensation over time—not just at the point of initial entry—is a critical factor. The availability of earlier State Education Department-sponsored studies permits us to examine whether nurses' compensation has kept pace with recent inflationary trends. We report those trends in Figure 5.2.

Figure 5.2

Average Full-Time RN Salaries, 1983-2002[a]

(RNs Working Full Time in Nursing in New York State)




[a] Figures for 1983 through 1995 for RNs employed full time in nursing in New York State are based on figures reported in the 1998 SED report, *Registered Nurses in New York State, 1995.* Figures for 1995 are based on midpoints of salary ranges. Figures for 2002 are for RNs working full time in nursing in New York with only one job. The nationwide Consumer Price Index, All Urban Consumers (CPI-U) was used to adjust for inflation.

Figure 5.2 indicates that growth in statewide average RN salaries in real, inflation-adjusted terms has slowed during the most recent time period.[7] As this figure indicates, the 1989 and 1995 nursing salaries were worth $47,151 and $55,446 respectively in constant 2002 dollars. When we compare the actual 2002 average salary of $59,022 to appropriately inflation-adjusted earnings during 1995 and 1989, two contrasting trends are observed. During the earlier 1989-1995 period, real salary growth of 2.7 percent occurred. During the most recent 1995-2002 period, however, annual growth in nursing compensation dropped to only 0.9 percent. Stated differently, the annual inflation-adjusted growth in earnings during the most recent (1995-2002) period was only one-third of the annual growth rate experienced during the preceding 1983-1989 period.

Table 5.3
Annual Growth in Nominal and Real
(CPI-Adjusted) Average RN Salaries
(RNs Working Full Time in Nursing in New York State)

| Period | Nominal Annual % Growth | Real Annual % Growth |
|---|---|---|
| 1983 to 1989 | 7.7% | 3.9% |
| 1989 to 1995 | 6.3% | 2.7% |
| 1995 to 2002 | 3.3% | 0.9% |
| **1983 to 2002** | **5.6%** | **2.4%** |

In Table 5.3 these trends have been presented on an annual percent change basis for the same three periods. In strictly nominal, unadjusted terms, the annual growth shown is positive—about 5.6 percent for the entire twenty-year period. Adjusted for inflationary trends over these periods, however, these numbers reflect slower growth in the real purchasing power of nursing salaries of about 2.4 percent per year. In the most recent period, from 1995 to 2002, the nominal rate of growth has been 3.3 percent per year while the real growth has been 0.9 percent per year. These declines in real, inflation-adjusted wages for nurses are consistent both with past periods when the profession in New York was widely believed to be experiencing a labor shortage[8] and what the nation as a whole is experiencing currently.[9]

[7] Using the nationwide Consumer Price Index, All Urban Consumers (CPI-U).

[8] Carol S. Brewer, Carol S. and Christine T. Kovner, *A Report on the Supply and Demand for Registered Nurses in New York State,* New York State Nurses Association, 2000.

[9] U.S. General Accounting Office, *Emerging Nurse Shortages Due to Multiple Factors,* 2001.

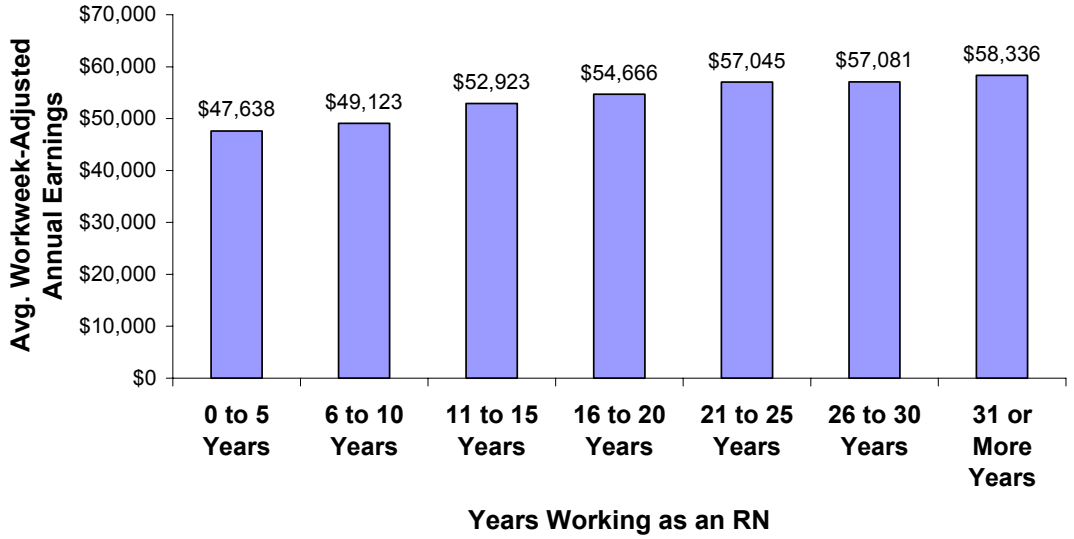
## SALARIES AND EXPERIENCE

When we examine current 2002 salaries by years of work experience, earnings grow incrementally until the 20-year experience bracket is reached. At this point the relationship flattens considerably. As revealed in Figure 5.3, there is a fairly predictable upward slope in annual salary compensation within each five-year interval from the beginning of nurses' careers until the 20-year mark. Up until this point, salaries increase for each five-year increment in professional experience at a rate of 4.5 percent. After the 20-year mark, during the second half of a nurse's career, nurses on the whole experience only a 2.1 percent increase in salaries for every five years of experience. In career development terms, the flattened salary trajectory after the 20-year point is consistent with reports of the availability of fewer promotional opportunities later in one's career. In economic terms, however, this flattening trend indicates a diminished marginal return on nurses' investment in their careers. There is less financial return for remaining in the profession after one has worked more than 20 years. The diminished impact of experience in one's paycheck may contribute to retirements, thereby exacerbating the shortage.

Figure 5.3

Workweek-Adjusted Earnings by Years Working as an RN in Nursing

(RNs Working in Nursing in New York State)



## SALARIES AND AGE

In Table 5.4, nurses' compensation is further described by age category. Generally, we think of age as a proxy for experience. However, because there is a bimodal distribution for age (with many newer entrants to the profession commencing their careers in their thirties) experience and age are not exactly the same.

Table 5.4
Average Reported and Workload-Adjusted Earnings of RNs Working in New York by Age Group

| Age Group | Est. Count | Avg. Reported Earnings (All Nursing Jobs) | Avg. Workweek-Adjusted Earnings | % Change from Prior Age Band | Annual % Growth from Prior Age Band[a] |
|---|---|---|---|---|---|
| 18 to 29 years | 8,654 | $48,729 | $48,852 | | |
| 30 thru 39 | 29,961 | $49,373 | $52,081 | 6.6% | 0.6% |
| 40 thru 49 | 61,855 | $53,523 | $54,147 | 4.0% | 0.4% |
| 50 thru 59 | 48,890 | $55,648 | $55,710 | 2.9% | 0.3% |
| 60 and older | 16,279 | $50,156 | $57,881 | 3.9% | 0.5% |
| **Overall[b]** | **165,640** | **$52,802** | **$54,257** | | **0.4%** |

[a] Based on average workweek-adjusted earnings. Assumes an average number of years in the 60 and older band of eight (i.e., from age 60 to retirement at 67).

[b] Includes all respondents for the column variable.

Consistent with the earlier analysis of salaries by years of work experience, the relationship is positive: increases in age yield increases in salary. The slope of the relationship does not flatten out, however, as it did in the prior analysis. For each ten-year age interval there is generally a 4.3 percent increase in salary over the prior age-band's salary. Annualized, this results in a 0.4 percent average increase for each year of age. We may think of this as the return on investment associated with age. However, the slopes of the age and years worked relationships with salary were not the same: the return for age was greater. At first glance this is counterintuitive, particularly if one assumes that age and professional experience covary in an identical fashion. In an earlier era when nurses entered the profession in their late teens to early twenties, professional longevity was highly correlated with chronological age. In more recent years that correlation has decreased as a more substantial number of nurses commence their nursing careers in their thirties or later—often as a second career choice. This finding is fleshed out more fully in Chapter 2 of this volume in our discussion of demographic characteristics of the New York State nursing workforce.

## WORKPLACE CHARACTERISTICS AND SALARY

Tables 5.5 and 5.6 exhibit salary findings for New York's RNs by employer type and facility size. In the former case, we include all nurses currently working, while in the latter, we focus upon hospital and nursing-home employees only.

Table 5.5
Workload-Adjusted Average Salary by Employer Type

| | Workweek-Adjusted Salary |
|---|---|
| State Agency | $50,930 |
| Local/County Agency | $48,989 |
| Not-for-profit or Voluntary | $57,147 |
| Private Sector | $53,800 |
| Other | $53,640 |
| **Overall**[a] | **$54,257** |

[a] Includes all respondents working in nursing in New York State.

Table 5.6
Workload-Adjusted Salary by Size of Facility, Hospital and Nursing Home Employees Only

| | Workweek-Adjusted Salary |
|---|---|
| Small (99 beds or fewer) | $44,745 |
| Medium (100 to 299 beds) | $53,442 |
| Large (300 or more beds) | $59,944 |
| **Overall**[a] | **$56,151** |

[a] Includes all respondents working in nursing homes and hospitals in New York State.

The reported salary differences observed in both tables may be explained by several factors. The "employer type" variable reported in Table 5.5, for example, may serve as a rough proxy for "payer mix." That is, State and local government agency facilities, as safety net providers often serving lower-income clients, are more dependent on public payment streams such as Medicare and Medicaid than for-profit or not-for-profit facilities. Since most health policy analysts concur that reimbursement for these health care providers does not cover the true market cost of care provided, this can be expected to be reflected in lower RN salaries.

Table 5.6 may reflect smaller facilities that are likely to be located in rural parts of the State and more dependent on Medicare. In addition, large hospitals are located disproportionately downstate and subject to the higher professional wage costs of these downstate areas. Facility size is also a crude proxy for more specialized, highly complex levels of care, suggesting that larger providers would require a workforce with more diverse and highly specialized skills. Finally, certain scale economies may also be at work. Size may allow larger providers to be more efficient in capital, supplies, equipment and other costs of doing business thereby freeing up revenue for nurse salaries.

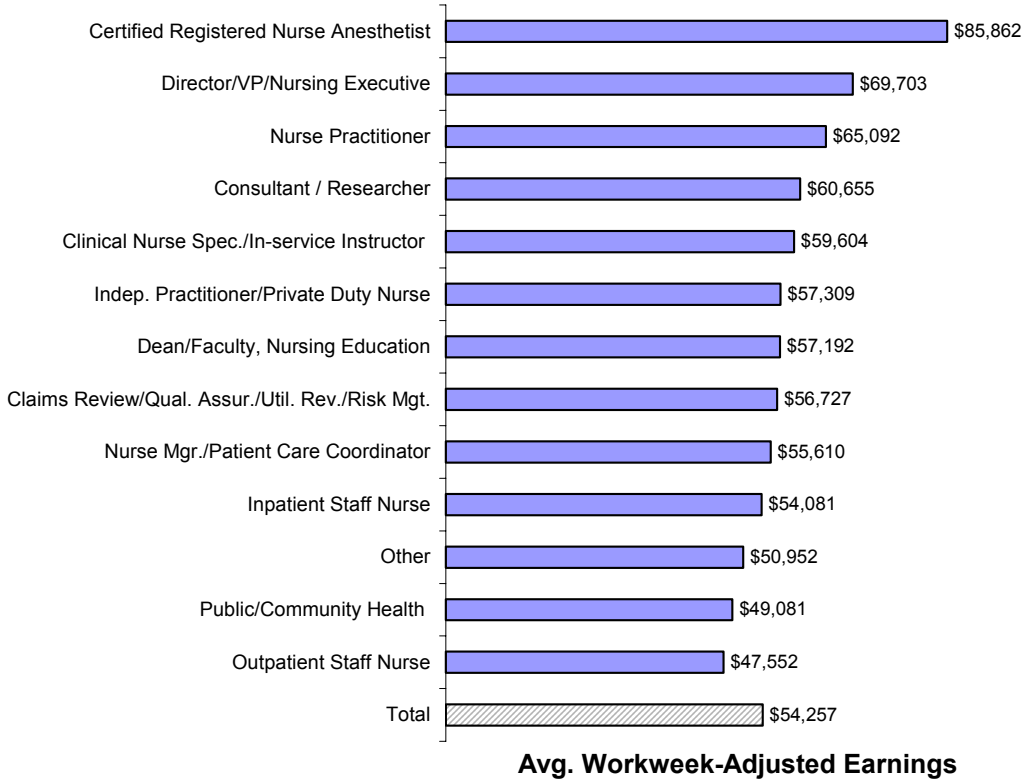
## SALARIES AND JOB TITLE

In Figure 5.4 we describe the average salaries of nursing professionals by job title. The bar at the bottom of this chart indicates that the average workweek-adjusted salary for RNs working in New York State at the time of this survey was $54,257. The three most highly compensated job titles, well above the State average, were: certified registered nurse anesthetists ($85,862); directors or vice-presidents of nursing or chief nursing executives ($69,703), and nurse practitioners ($65,092). These particular titles typically require either high levels of managerial experience or clinical training. As a consequence, incumbents in such titles typically require a higher degree of formal educational training. The three lowest-paid job titles are outpatient staff nurses ($47,522), those in public/community health ($49,081), and those in "other" titles ($50,952).

Figure 5.4

Workweek-Adjusted Annual Earnings by Primary Job Title

(RNs Working in Nursing in New York State)



Hospital inpatient staff nurses, who make up roughly half of the survey's respondents, are compensated at a level slightly under the State average ($54,081). As Table 5.7 reveals, the great majority of the nursing workforce (78.8 percent) spend some portion of their workday in direct patient care, in one capacity or another. As this table also reveals, the salary differential between those who work in a direct care capacity and those who do not is roughly $6,000 annually, i.e., direct-care staff are compensated at significantly lower levels than their non-direct-care counterparts.

Table 5.7
Average Workweek-Adjusted Salaries by Involvement of Job in Direct Patient Care
(RNs Working in New York)

| Does Job Involve Direct Patient Care? | Est. Count | Average Workweek-Adjusted Salary | Percentage Difference |
|---|---|---|---|
| No | 35,526 | $58,994 | 11.5% |
| Yes | 130,114 | $52,910 | N/A |
| **Overall** | **165,640** | **$54,257** | |

## SALARIES AND EMPLOYMENT SETTING

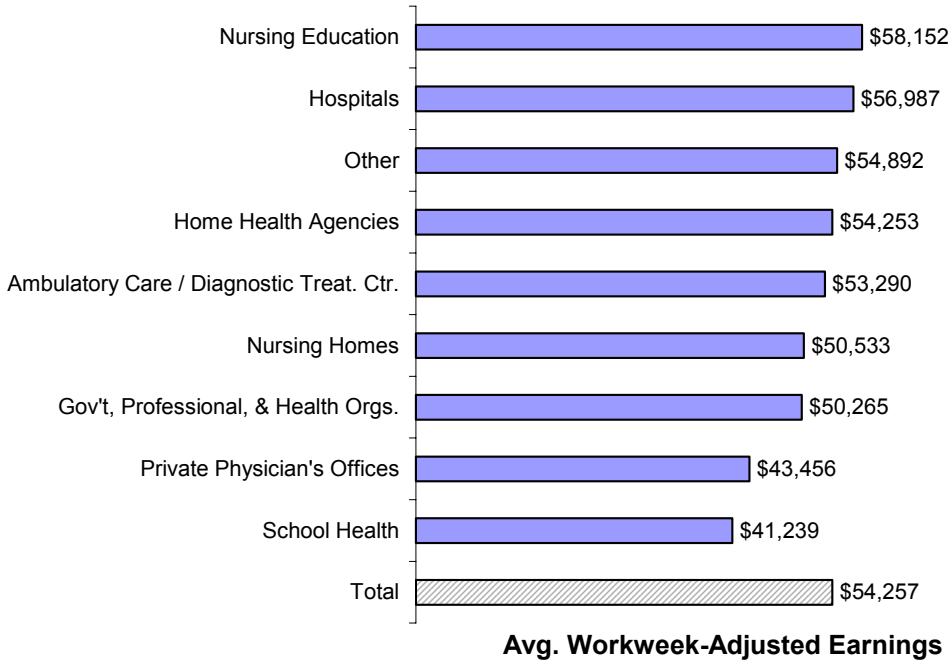
The following analysis provides yet another view of nurses' average workweek-adjusted salaries by primary employment setting.[10] As we noted in our earlier discussion of salary compensation by job title, there was a high degree of variability in compensation depending on the specific position title held. The strong job title-salary relationship was not characteristic of the setting-salary relationship, however. Nevertheless, there are some health care settings where the pay is significantly higher than in others. As Figure 5.5 shows, the three settings offering the highest average salary are nursing education ($58,152), hospitals ($56,987), and "other" settings ($54,892). The high salaries of the "other" work setting category are largely driven by nurses in higher education, whose adjusted salaries average $73,840.

Nurses working in private MD office settings and those working in school-based settings, on the other hand, received the lowest average salaries ($43,456 and $41,239

[10] Note that included in the "other" category for the purposes of this analysis are the following settings: business or industry; HMOs, managed care and insurance plans; institutions of higher education; private practitioners and self-employed RNs; and other health related, or other non-health related settings.

respectively). It is worth noting that nurses working in more poorly compensated settings may be provided a variety of non-monetary incentives that may make lower salary compensation acceptable. Poorer compensation may be offset by a short workweek (34 hours), by a higher level of individual autonomy, and by lower levels of patient morbidity (especially in the school setting). In effect, both patient "mix" and length of workweek may provide attractive trade-offs to a lower salary.

Figure 5.5
Workweek-Adjusted Annual Earnings by Primary Work Setting[a]
(RNs Working in Nursing in New York State)




[a] The "other" category includes the following settings: business or industry, HMOs, managed care and insurance, higher education, private practitioners, and other health and non-health related settings.

Future demographic trends, specifically the aging of the post-World War II "baby-boom" cohort, will place an enormous strain on the existing health care system. Increased demand for health care services should, in turn, stimulate significant demand for more direct-patient-care nurses. However, as the data in Table 5.7 show, there is sometimes greater financial incentive for working outside of direct patient care: on average, the salaries are 11.5 percent higher than those in direct patient care.

## SALARY COMPENSATION BY FULL-TIME/PART-TIME JOB STATUS

In this section we further examine the salaries of nurses according to their part-time/full-time employment status. Until this point, we have described the average experience of all nurses working in New York, regardless of their part-time or full-time work status based upon a workweek-adjusted method. However, by disaggregating salary compensation by broad employment status variables, additional light may be shed on the factors affecting the nursing shortage.

Table 5.8

Earnings of Nurses Working in New York, by Employment Status

| Employment Status | Est. Count | Reported Annual Earnings | Workweek-Adjusted Salary | Weekly Average Hours | Marginal Pay for Extra Job | Imputed Hourly Wage |
|---|---|---|---|---|---|---|
| Full Time, One Job Only | 93,347 | $59,022 | $55,708 | 42.0 | N/A | $27.43 |
| Full Time, Plus One or More PT Nursing Jobs[a] | 20,518 | $66,152 | $48,170 | 55.5 | $7,130 | $23.72 |
| Part Time, No 2nd job | 37,230 | $32,982 | $54,814 | 24.2 | N/A | $26.99 |
| Part Time, More Than One Job | 12,100 | $40,244 | $52,163 | 33.4 | N/A | $25.69 |
| **Overall[b]** | **163,195** | **$52,802** | **$54,257** | **39.2** | | **$26.72** |

[a] Unlike many other tables in this chapter, the figures in this category exclude RNs whose extra part-time jobs are not in nursing.

[b] Overall statistics are based on all respondents working in New York, including the estimated 2,444 who work full time in New York and have one or more part-time jobs that are not in nursing. None of the figures include RNs who reported their salary to be $0.

In Table 5.8, we describe both the workweek-adjusted and actual reported salary compensation by work status. As noted earlier, workweek-adjusted salaries are based upon a renorming of each respondent's total salary compensation to a 39.05-hour work standard, based upon the weekly average hours shown in the table.

Over half of the nursing workforce (57.2 percent) is employed in just one job and works 42 hours a week on average. Another 12.6 percent are employed not only in a full-time nursing job, but also in one or more additional part-time nursing positions. If the full-time, single-position only nurse, whose hourly wage is $27.43, were to consider working one or more additional nursing jobs, the nurse can expect to be working almost one-third longer (55.5 hours weekly vs. 42.0 hours weekly) but for substantially less than one-third more pay, i.e., at a wage rate of $23.72 per hour. In short, while the nurse with both a full-time and part-time position earns 12.5 percent more in annual salary compensation, she does so for an hourly wage that is 13.5 percent less than the hourly wage rate of the nurse working exclusively in a single job.

The diminished hourly return incurred when one opts to add additional hours to one's workweek is corroborated by the relationship between total hours worked and total dollars per hour. The Pearson product-moment correlation between these two variables is -.317, indicating that as the hourly salary compensation decreases, the total number of hours worked increases .[11]

In view of these findings, shortsighted efforts to mitigate the shortage by extending the workweek of staff that already work full time may not be effective. It is more cost effective to work in a single job or to work in a part-time employment situation with no second job. In the latter instance, the average hourly wage is $26.99, just slightly less than the hourly wage rate of the full timer ($27.43). The fact that over one in five nurses statewide (22.5 percent) work in a part-time only capacity shows that part-time only work is not a rarity. Moreover, holding a part-time job in addition to full-time employment may be attractive for non-economic reasons as well, in particular for family or stage-in-life-cycle reasons.

The 12.6 percent of nurses that hold both a full-time job and a part-time one simultaneously are substantially more likely to be widowed, divorced, or separated than their peers (25.2 percent versus 19 percent statewide). Furthermore, they are also substantially more likely than their peers to be adult caregivers (24.4 percent versus 16.1 percent statewide). Both of these conditions imply greater financial necessity—either to offset the loss of household income once provided by a partner, or to shoulder the added financial responsibility of care giving for a dependent adult. For many in this group, the hourly wage they receive in their regular full-time job may be insufficient to adequately meet their financial responsibilities. These added responsibilities may also expose the nurse to higher levels of stress.

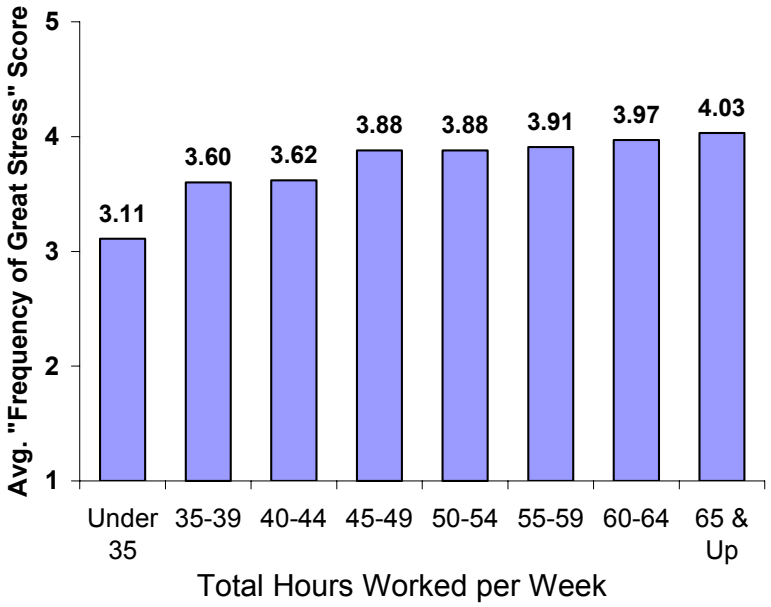
## WORKLOAD AND STRESS

The moderate negative correlation between hourly wage and total hours worked observed earlier (r = -.32), may be due to a variety of factors. Regardless of the specific economic or motivational drivers, there is compelling evidence in this survey that the longer the average workweek, the greater the level of exposure to stress. According to Figure 5.6, as the workweek lengthens, nurses in the survey reported the frequency of exposure to "great stress" becomes an almost everyday occurrence. Among those nurses who work less than 35 hours per week, the average frequency-of-exposure scale value was 3.1 or "once or twice a week." As the workweek lengthens, the frequency of exposure to great stress increases progressively, but flattens out considerably once the 45-hour marker is reached. For nurses working 45 hours per week or more, "high stress" is clearly commonplace. As we will see in Chapter 5 of Volume II, the frequency of high stress measure is also the single, most powerful predictor of an RN's decision to leave the profession within the next 12 months. Thus, while an extended workweek provides added financial benefit, it also comes with

[11] Calculated based upon all nurses working in New York State at least full time (i.e., they may have a second job) earning an average wage of greater than $9.00 per hour.

considerable psychological and physiological cost, which may ultimately lead to lower levels of global job satisfaction and earlier leave-taking.

Figure 5.6
Total Hours Worked per Week and Average "Frequency of Great Stress" Scale Scores[a]
(RNs Working in Nursing in New York State)




[a]"Frequency of Great Stress" Scale Scores range from "0" = "Never" to "3" = "Once or twice a week" to "5" = "Almost every day."

## EDUCATIONAL PREPARATION AND SALARY

In Figure 5.7 we describe the relationship between salaries and the highest educational credential attained by nurses working in New York. Even a cursory examination of this chart reveals that there is a relatively strong wage premium paid for higher education credentials among the nursing workforce. Higher education investment pays off. Nurses with master's degrees, for example, earn about $10,000 more on average than do those holding only the baccalaureate degree.[12]

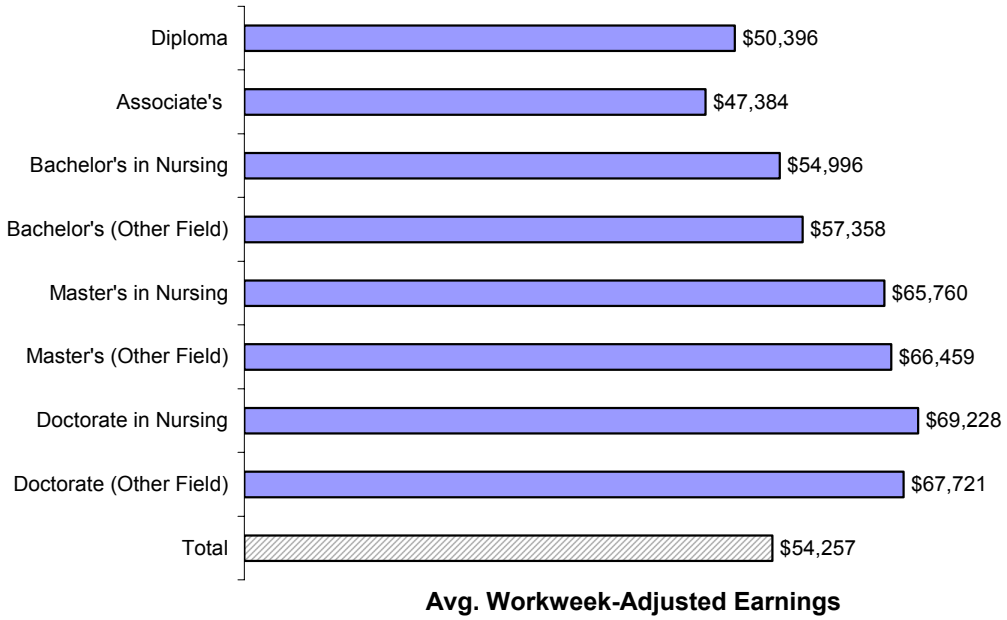
[12] This credential effect is shown to be about $6,750 in a multivariate analysis, which controls for several other factors that contribute to salary compensation presented later in this chapter.

Similarly, nurses who possess an associate's degree, which requires two years of study, earn less than do those with diploma degrees requiring a three-year course of study ($47,384 vs. $50,396). RNs who have received bachelor's-level preparation in nursing in turn earn more than nurses with associate's degrees and diplomas ($54,996). Nurses with master's degrees seem to benefit from the largest return on investment.

Figure 5.7

Workweek-Adjusted Average Annual Earnings by Highest Educational Credential

(RNs Working in Nursing in New York State)




When we examine the education-related earnings experience of nurses over time on an inflation-adjusted basis, however, even highly educated nurses have realized an appreciable reduction in the annual rate of wage growth. In Tables 5.9 and 5.10, we describe the annual salary compensation of the RN workforce first in nominal terms and then on an inflation-adjusted basis.

The most striking finding is that there were real (i.e., CPI-adjusted) annual wage gains for the first period from 1989 to 1995. The average real wage gain was 2.6 percent annually across the eight categories of higher education credentials. On average the greatest gains were among the four lowest-paid credential groups. However, the size of these inflation adjusted annualized wage gains dropped precipitously in the more recent 1995-2002 period when average annualized gains

averaged about 0.9 percent—a three- fold drop. Only those with doctoral-level training (in nursing), or with master's-level training experienced higher rates of annual CPI-adjusted growth, i.e., rates of 1.6 and 1.2 percent, respectively.

Table 5.9

Average Salaries by Highest Educational Credential in Current Dollars, 1989 to 2002

(RNs Working Full Time in Nursing in New York State)[a]

| Highest Credential | Reported Salaries 1989 | Reported Salaries 1995 | Reported Salaries 2002 | Annual % Growth 1989 to 1995 | Annual % Growth 1995 to 2002 |
|---|---|---|---|---|---|
| Diploma | $31,044 | $44,457 | $55,136 | 6.2% | 3.1% |
| Associate's Degree | $30,302 | $41,704 | $51,320 | 5.5% | 3.0% |
| Bachelor's Nursing | $33,117 | $49,122 | $60,158 | 6.8% | 2.9% |
| Bachelor's Other Field | $34,527 | $48,921 | $61,122 | 6.0% | 3.2% |
| Master's Nursing | $40,532 | $56,574 | $72,785 | 5.7% | 3.7% |
| Master's Other Field | $39,663 | $55,760 | $71,214 | 5.8% | 3.6% |
| Doctorate Nursing | $48,266 | $62,231 | $82,101 | 4.3% | 4.0% |
| Doctorate Other Field | $44,529 | $57,586 | $71,571 | 4.4% | 3.2% |

[a] Salaries for 1989 and 1995 are based on figures in the 1998 SED report, *Registered Nurses in New York State, 1995.* Figures for 2002 are for RNs who work full time in one job only (not adjusted for length of workweek).

Table 5.10

Average Salaries by Highest Credential in Constant 2002 Dollars, 1989 to 2002

(RNs Working Full Time in Nursing in New York State)[a]

| Highest Credential | 1989 Reported Salaries in 2002 $ | 1995 Reported Salaries in 2002 $ | 2002 Reported Salaries in 2002 $ | Real Annual % Growth 1989 to 1995 | Real Annual % Growth 1995 to 2002 |
|---|---|---|---|---|---|
| Diploma | $45,430 | $52,588 | $55,136 | 2.5% | 0.7% |
| Associate's Degree | $44,344 | $49,332 | $51,320 | 1.8% | 0.6% |
| Bachelor's Nursing | $48,464 | $58,106 | $60,158 | 3.1% | 0.5% |
| Bachelor's Other Field | $50,527 | $57,869 | $61,122 | 2.3% | 0.8% |
| Master's Nursing | $59,314 | $66,921 | $72,785 | 2.0% | 1.2% |
| Master's Other Field | $58,043 | $65,959 | $71,214 | 2.2% | 1.1% |
| Doctorate Nursing | $70,632 | $73,613 | $82,101 | 0.7% | 1.6% |
| Doctorate Other Field | $65,164 | $68,118 | $71,571 | 0.7% | 0.7% |
| **Statewide Total** | **$47,561** | **$55,561** | **$59,022** | **2.6%** | **0.9%** |

[a] Salaries for 1989 and 1995 are based on figures in the 1998 SED report, *Registered Nurses in New York State, 1995.* Figures for 2002 are for RNs who work full time in one job only (not adjusted for length of workweek). The CPI-U for the Northeast Urban Area was used to convert current dollars to constant 2002 dollars.

Managed care may explain some of the substantial drop-off in these annual wage gains during the later period. Managed care penetration of the health service industry is a relatively recent phenomenon but one which has certainly affected macro-level health spending since 1995. Since wage compensation and benefits are traditionally the most significant cost components in a labor-intensive industry, managed care efforts to control costs would predictably be reflected in slower rates of salary growth in this sector during recent years. In addition, the national and New York economies grew less during the period from 1989 to 1995. In poor economic times, all other factors being equal, health care is often viewed as a more desirable field.

## EMPLOYMENT SETTING AND SALARY TRENDS

The general trend of real wage growth from 1989 to 1995 followed by declining wages is revealed further in Tables 5.11 and 5.12, which describe annual salary growth in a variety of primary employment settings.

Table 5.11
Average Salaries by Selected Primary Employment Settings, 1989 to 1995 and 1995 to 2002
(RNs Working Full Time in New York State)

| Primary Work Setting | Actual Reported Salary 1989 | Actual Reported Salary 1995 | Actual Reported Salary 2002 | Annual Growth 1989 to 1995 | Annual Growth 1995 to 2002 |
|---|---|---|---|---|---|
| Ambulatory Care | N/A | $49,978 | $56,428 | | 1.7% |
| Diagnostic/Treatment Center | $30,575 | $43,799 | $52,826 | 6.2% | 2.7% |
| HMO/Managed Care/Insurance | N/A | $42,166 | $58,967 | | 4.9% |
| Home Health Agency | N/A | $47,041 | $52,738 | | 1.6% |
| Hospital (Inpatient) | $33,254 | $49,719 | $58,594 | 6.9% | 2.4% |
| Hospital (Outpatient) | $33,897 | $49,821 | $58,558 | 6.6% | 2.3% |
| Nursing Home | $31,291 | $42,954 | $51,487 | 5.4% | 2.6% |
| Nursing Education | $35,417 | $44,958 | $56,417 | 4.1% | 3.3% |
| Other (Health Related) | $31,941 | $37,583 | $48,604 | 2.7% | 3.7% |
| Other (Non-Health Related) | $30,802 | $31,643 | $43,148 | 0.5% | 4.5% |
| Private Practice (Self-Employed) | N/A | $49,075 | $61,313 | | 3.2% |

[a] Salaries for 1989 and 1995 are based on figures in the 1998 SED report, *Registered Nurses in New York State, 1995.* Figures for 2002 are for RNs who work full time in one job only (not adjusted for length of workweek). The CPI-U for the Northeast Urban Area was used to convert current dollars to constant 2002 dollars. Figures vary from those used elsewhere in this study because different aggregations of the work setting categories were used.

Table 5.11 reveals that from 1989 to 1995 RNs' annual wage growth was substantial—above five percent in many sectors. During the more recent 1995-2002 period, the annual growth rates in those settings for which we have comparable data over time was cut in half. In Table 5.12 we present this same data on an inflation-adjusted basis with predictable dampening effects. Although inflation-adjusted salary compensation grew at a statewide rate of 0.9 percent annually, these data show that RNs in certain settings fared far worse than others.

For example, RNs in ambulatory care settings lost ground to inflation by about -0.7 percent each year. RNs in heavily Medicaid-reimbursement-dependent home health care settings fared similarly, losing ground to inflation by -0.8 percent per year. Hospital wages on both an inpatient and outpatient basis fared better but were essentially stagnant over the 1995-2002 period. By way of contrast, those RNs employed in the HMO/managed care/insurance sectors experienced real wage growth of 2.4 percent annually—an experience which sets this sector clearly apart from the experience elsewhere.

Table 5.12

Average Real Salaries by Selected Primary Employment Settings, 1989 to 1995 and 1995 to 2002[a]
(RNs Working Full Time in New York State)

| Primary Work Setting | 1989 Reported Salary in 2002 $ | 1995 Reported Salary in 2002 $ | 2002 Reported Salary in 2002 $ | Annual Growth 1989 to 1995 | Annual Growth 1995 to 2002 |
|---|---|---|---|---|---|
| Ambulatory Care | N/A | $59,119 | $56,428 | | -0.7% |
| Diagnostic/Treatment Center | $44,746 | $51,810 | $52,826 | 2.5% | 0.3% |
| HMO/Managed Care/Insurance | N/A | $49,878 | $58,967 | | 2.4% |
| Home Health Agency | N/A | $55,645 | $52,738 | | -0.8% |
| Hospital (Inpatient) | $48,666 | $58,813 | $58,594 | 3.2% | -0.1% |
| Hospital (Outpatient) | $49,606 | $58,933 | $58,558 | 2.9% | -0.1% |
| Nursing Home | $45,793 | $50,810 | $51,487 | 1.7% | 0.2% |
| Nursing Education | $51,831 | $53,181 | $56,417 | 0.4% | 0.8% |
| Other (Health Related) | $46,745 | $44,457 | $48,604 | -0.8% | 1.3% |
| Other (Non-Health Related) | $45,077 | $37,431 | $43,148 | -3.1% | 2.1% |
| Private Practice (Self-Employed) | N/A | $58,051 | $61,313 | | 0.8% |

[a] Salaries for 1989 and 1995 are based on figures in the 1998 SED report, *Registered Nurses in New York State, 1995.* Figures for 2002 are for RNs who work full time in one job only (not adjusted for length of workweek). The CPI-U for the Northeast Urban Area was used to convert current dollars to constant 2002 dollars. Figures vary from those used elsewhere in this study because different aggregations of the worksetting categories were used.

## NURSING SALARIES BY RACE/ETHNICITY

Since numerous policy studies in the nursing field have repeatedly stressed the importance of attracting minority and underrepresented nurses to the profession, we also examined differences in nursing salaries by racial and ethnic background. Figure 5.8 arrays the workweek-adjusted salaries for RNs working in New York using race/ethnicity categories now employed by the U.S. Census. The data in the chart are sorted from highest to lowest values, with the statewide average last.

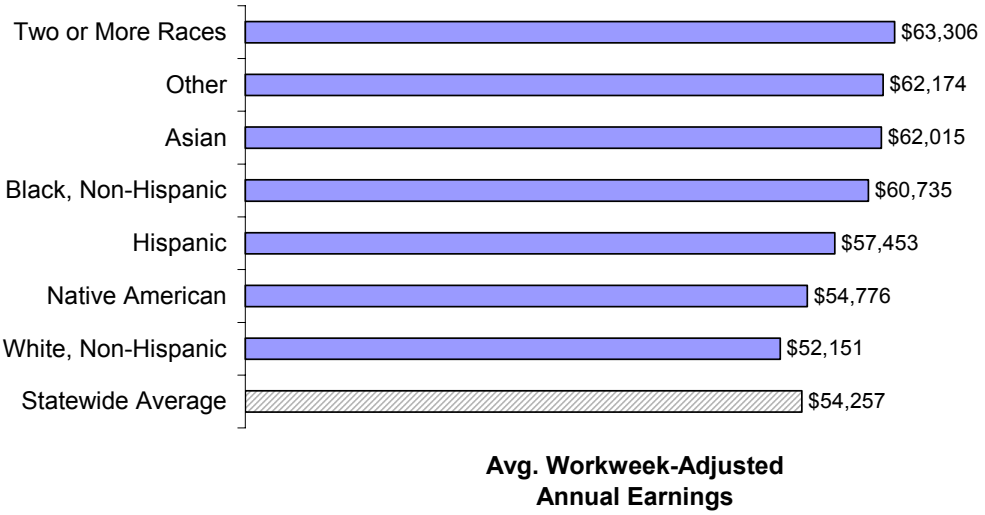
Those nurses identifying themselves as White reported the lowest salaries ($52,151 annually). In contrast, Asian, non-Hispanic Black nurses, and Hispanic nurses earned $62,015, $60,735, and $57,453 respectively—salaries ranging from between ten and 19 percent higher than salaries of their White counterparts. These salary differences may be due in part to an underlying upstate/downstate effect since the vast

majority of the State's non-White population resides downstate, where salaries are higher.

Figure 5.8

Average Workweek-Adjusted Earnings by Race/Ethnic Group

(RNs Working in Nursing in New York State)




Another omitted factor that may account for "spurious" salary differences by race/ethnicity is the level of educational preparation. In the next table, we control for the effects of both region and education simultaneously.

As Table 5.13 shows, when non-White and White nurses are examined with their same regional and educational cohorts, the salary differentials by race that were noted earlier largely disappear. For example, non-White nurses located downstate with either diploma, associate's or bachelor's degrees as their reported highest credential, had average salaries that mirrored very closely the average salary earnings of their White counterparts. In fact, the salaries of nurses in minority populations were actually 1.1 percent higher than the earnings of White nurses located in the same region with the same education. In every one of these four comparison groupings, where White and non-White nurses are otherwise equally paired on regional and educational grounds, the appreciable minority/non minority salary differences seen earlier virtually vanish.

Table 5.13
Average Hours per Week, Workweek-Adjusted Earnings by Region, Minority Status and Educational Attainment
(RNs Working in Nursing in New York State)

| Region, Degree Status, and Minority Status | Est. Count | Avg. Weekly Hours (All Nursing Jobs) | Avg. Workweek-Adjusted Earnings (All Nursing Jobs)[a] | Non-White Earnings as % of White Earnings (within Group) |
|---|---|---|---|---|
| ***Downstate (NYC, Long Island, Westchester, Rockland, & Putnam )*** | | | | |
| **No Advanced Degree** | | | | |
| White | 46,556 | 36.8 | $59,866 | |
| Non-White | 29,625 | 43.8 | $60,510 | 101.1% |
| **Advanced Degree** | | | | |
| White | 13,797 | 38.7 | $71,483 | |
| Non-White | 6,068 | 42.3 | $72,335 | 101.2% |
| ***Upstate*** | | | | |
| **No Advanced Degree** | | | | |
| White | 58,236 | 37.7 | $41,373 | |
| Non-White | 2,091 | 44.0 | $41,096 | 99.3% |
| **Advanced Degree** | | | | |
| White | 8,717 | 40.6 | $54,603 | |
| Non-White | 549 | 42.4 | $54,061 | 99.0% |
| **Overall** | **165,640** | **39.2** | **$54,257** | |

[a] Excludes RNs who report their earnings as $0.

## EXAMINING THE IMPACT OF MULTIPLE FACTORS UPON SALARY COMPENSATION

Up until this point we have focused primarily upon bivariate relationships between various demographic measures and salary compensation. In this last section, we present the preliminary results of correlation and regression analyses designed to evaluate the net effects of these same variables upon salary compensation simultaneously. In Table 5.14 we present first the simple bivariate correlations of those variables of preliminary interest—where observed bivariate correlations with the non-workweek adjusted salary compensation were strongest.

Table 5.14

Descriptive Statistics and Bivariate Correlation Matrix for Twelve Variables with the Strongest Relationships with Earnings[a]

(RNs Working in Nursing in New York State)

| | Foreign | MSA | Setting | Job | White | MA >? | Region | Hours | Sked. | Auton. | Time | Pt.Care | Salary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.12 | 0.92 | 0.56 | 0.08 | 0.75 | 0.17 | 0.61 | 38.74 | 34.02 | 3.11 | 28 | 0.79 | 52.73 |
| Std. Deviation | 0.33 | 0.27 | 0.5 | 0.26 | 0.43 | 0.37 | 0.49 | 13.68 | 9.96 | 0.77 | 21.8 | 0.41 | 22.95 |

| Years | Foreign | MSA | Setting | Job | White | MA >? | Region | Hours | Sked. | Auton. | Time | Pt.Care | Salary |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foreign | | | | | | | | | | | | | |
| MSA | 0.09 | | | | | | | | | | | | |
| Setting | 0.09 | 0.08 | | | | | | | | | | | |
| Job | -0.05 | -0.02 | -0.11 | | | | | | | | | | |
| White | -0.54 | -0.14 | -0.09 | 0.06 | | | | | | | | | |
| MA >? | -0.03 | 0.05 | -0.02 | 0.39 | 0.02 | | | | | | | | |
| Region | 0.26 | 0.27 | 0.11 | -0.03 | -0.38 | 0.08 | | | | | | | |
| Hours | 0.15 | -0.01 | 0.07 | 0.06 | -0.18 | 0.03 | 0.05 | | | | | | |
| Sked. | 0.11 | -0.02 | 0.05 | 0.08 | -0.12 | 0.05 | 0.01 | 0.80 | | | | | |
| Auton. | -0.05 | -0.05 | -0.19 | 0.24 | 0.13 | 0.17 | -0.10 | 0.04 | 0.10 | | | | |
| Time | 0.09 | 0.10 | 0.05 | 0.02 | -0.17 | 0.07 | 0.24 | 0.07 | 0.06 | -0.07 | | | |
| Pt.Care | 0.05 | 0.00 | 0.23 | -0.09 | -0.05 | -0.19 | 0.01 | -0.01 | -0.07 | -0.20 | -0.05 | | |
| Salary | 0.24 | 0.15 | 0.18 | 0.22 | -0.28 | 0.25 | 0.41 | 0.48 | 0.49 | 0.11 | 0.19 | -0.13 | |

[a] *Note that the variable abbreviations as used in the table above reflects the following:*
**'Foreign'** denotes nurses whose basic RN education was outside the US;
**'MSA'** reflects practice in metropolitan statistical areas as defined by the federal Office of Management and Budget;
**'Setting'** and **'Job'** are 'dummy' variables (coded 1 vs. 0) for high outlier salary practice settings and titles, respectively;
**'MA >?'** refers to a dummy for whether nurses have a Master's degree or more as their highest credential;
**'Region'** is coded 1 for Downstate, 0 for Upstate practice counties;
**'Hours'** reflects total work hours, including overtime and second job work hours;
**'Sked.'** is equal to scheduled work hours, only;
**'Auton.'** is an index composed of several variables measuring nurse autonomy on the job;
while **'Time'** reflects the average daily commute time in minutes to work.
All correlations are signicant at the p < .01 level.

### *The Bivariate Findings*

The operational definitions of each variable displayed in Table 5.14 are described in the accompanying footnote. In each case, due to the very large size of this survey sample, the relationships shown are highly statistically significant. The strength of these Pearson product-moment correlations with salary, however, vary considerably as shown in the bottom row of the table.

The two variables most highly correlated with the salary compensation measures are the two workweek measures, namely the total hours worked measure and the total scheduled work hours measure. With correlations to salary of +.48 and +.49 respectively, the scheduled workweek variables account for about 25 percent of the variation in nursing salary compensation. At the bivariate level, the single most powerful predictor of nursing income is the hours spent working in the primary job and/or in additional overtime or part-time capacities.

The upstate-downstate regional variable also accounts for about sixteen percent of the variance in the compensation measure (r = +.41). As noted earlier, the higher professional wage costs and increased cost of living in downstate counties is a critical factor contributing to the relatively high compensation levels downstate.

The MSA (Metropolitan Statistical Area) variable similarly suggests that if nurses practice in an MSA county as opposed to one categorized as rural, the salaries will be greater.[13] Conversely, the modest negative correlation of the variable for RNs identifying themselves as 'White' (r = -.28) means that Non-Hispanic White nurses earn less than nurses in other racial or ethnic categories on a statewide basis—without controlling for any other relevant variables. Nurses with at least a master's degree earn more than those with less education (r=+.28). Finally, the Autonomy Index measure, constructed based upon nurses' responses to questions about the degree of autonomy they experience in their work lives, was positively related to salary compensation. The fact that nurses with a higher sense of autonomy earn more (r = +. 11) may be attributable to other factors highly correlated with autonomy (such as setting type, practice type, etc.).

While these bivariate correlation results are suggestive and consistent with theoretical expectation in most cases, they are limited in that they do not control for other factors or influences simultaneously. The negative "non-White/White" correlation with salary compensation noted above aptly illustrates this point. Since non-Whites are disproportionately located in downstate nursing settings (as are, non U.S.-educated nurses), we would expect their salaries to be greater due in large part to the higher regional cost of living there, as noted earlier.[14] Additional confirmation on this point is suggested by the other correlations shown. In short, at the bivariate level, an "apparent" association—while initially suggestive—may prove to be spurious, a point which becomes clear when we begin to control for other factors.

A multivariate regression analysis, on the other hand, permits us to ferret out the net, or independent direct effects of the factors that do indeed "drive" salaries, while simultaneously controlling the other factors of interest.

### *Multivariate Findings*

In Table 5.15, the results of this multivariate analysis are presented. The predictor variables employed in this analysis have been arrayed by the size of their standardized regression coefficients (shown in column 3). The predictor variable labeled "scheduled hours" had a standardized coefficient of almost 0.5 with the RN salary measure, meaning that a one standard deviation change in the hours variable yields almost one-half a standard deviation change in salary compensation. The squared multiple correlation coefficient shown at the bottom of Table 5.15 has an identical interpretation. In this instance, the correlation with salary achieved with multiple predictor variables (rather than just one as in the case of simple correlation) was 0.72, meaning that this particular prediction model explained 52 percent of the variance statewide in reported salaries among nurses working in New York State.

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[13] Metropolitan Statistical Areas (MSAs) are generally composed of a county with a large, center city and the suburban counties surrounding them. The federal government defines MSAs through analysis of commuting patterns and other measures of economic interdependence revealed by the decennial federal Census.

[14] The correlation between the non-White/White variable and the upstate/downstate variable was -.38, while the non-foreign-/foreign-educated correlation with the same regional indicator was +.26.

Table 5.15
Results of Multivariate Regression Analysis of Survey Variables on Reported Earnings
(RNs Working in Nursing in New York State)

| Variables | b | Standardized Coefficients | T | Significance (p value) |
|---|---|---|---|---|
| Intercept | 2.72 | | 2.2 | 0.03 |
| Scheduled Hours | 1.13 | 0.46 | 62.7 | 0.00 |
| Downstate Region | 15.70 | 0.34 | 41.3 | 0.00 |
| Practice Setting[a] | 7.80 | 0.17 | 22.5 | 0.00 |
| Job Title[b] | 13.07 | 0.15 | 19.2 | 0.00 |
| Master or Highest Credential | 6.57 | 0.11 | 13.5 | 0.00 |
| Job in Direct Patient Care | -5.13 | -0.09 | -12.1 | 0.00 |
| Foreign Educated | 5.01 | 0.07 | 8.2 | 0.00 |
| Autonomy Index | -1.51 | -0.06 | -7.4 | 0.00 |
| Commute Time (in Minutes) | 0.06 | 0.05 | 7.2 | 0.00 |
| White Race/Ethnicity | -2.66 | -0.05 | -5.5 | 0.00 |
| MSA (Urban/Suburban) Practice | 3.46 | 0.04 | 5.5 | 0.00 |

$R^2$ = .52

[a] This variable is coded as 1= nursing education and hospital settings; 0= all others.
[b] This variable is coded as 1= chief nurse executive, nurse practitioners, and anesthetists; 0= all others.

The results indicate that increases in scheduled workweek hours and practice downstate result in increases in salary.[15] More specifically, each hour added to the workweek adds an additional $1,130 in annual compensation while practicing downstate adds about $15,700 annually in salary compensation.[16] Such dramatic differences in the apparent magnitude of the salary impact would appear to suggest that regional location rather than workweek length is the stronger predictor. However, since each of the predictor variables listed are based on different metrics (i.e., hours in one case, and

[15] In fact, the most parsimonious model tested, based only on these two variables, accounted for 43 percent of the variance in salary compensation.

[16] For the purposes of this analysis, downstate is defined as the five boroughs of New York City, plus the counties of: Nassau, Suffolk, Westchester, Putnam, Rockland, Ulster and Dutchess.

years in the other), the relative strength of their impact upon salary is best discerned by examining the standardized regression coefficients reported above.

In addition, nurses working in high-level clinical or administrative positions (labeled as the variable “Job Title” which is coded as chief nursing executives, nurse-anesthetists and nurse practitioner titles versus all else) can expect to earn about $13,000 more in annual compensation than other titles. Similarly, RNs in positions requiring higher graduate-level education (labeled as Master or Highest Credential versus all else), can expect to earn on average about $6,570 more annually than those who do not. For those employed in nursing education or in hospital-based settings (i.e., the variable "Practice Setting"), the salary effect is estimated to be approximately $7,800 more annually than for RNs not in such settings.

Other findings flowing from the multiple regression analyses are also worth noting. Many of these have been discussed previously in this chapter and confirmed here: after controlling for all other variables specified in this model, direct patient care jobs result in lower salaries (of about $5,100) on average relative to those that involve no direct patient care in the primary work setting (i.e., which are presumably administrative, research-based or educational in nature). Practice in densely populated metropolitan areas, where competition for highly trained professionals may be highest, also results in higher salaries (about $3,460 annually). In addition, nurses trained outside of the United States and of non-White race/ethnicity status are associated with higher salaries. In these cases the wage premium is $5,000 and $2,660, respectively. However, unlike the previous correlation analysis, we cannot easily conclude that these findings are spurious and "mask" a geographic regional cost of living dynamic, since these potentially confounding factors are already explicitly specified and controlled in our model.

As noted, while this simple model accounts for over 50 percent of the variation in salary compensation, there are other omitted factors that—while not captured in this study—may improve our salary predictions. Several that come quickly to mind are employee work quality and employer finances. Although formal education and years on the job are usually considered acceptable proxies for worker quality, they do not necessarily capture differences in the rigor or quality of the degree-conferring program, nor the depth of their specialty training. In a similar vein, a nurse’s union membership participation, the strength of the collective bargaining unit, or the nature of those collective bargaining agreements may also affect wages; however our survey questionnaire did not measure these variables.

# Chapter 6: The Supply of Registered Nurses

## INTRODUCTION

In this chapter we present findings concerning projected nursing supply and demand, both in New York State and nationally. Though an in-depth supply and demand analysis of the nursing workforce in New York State is beyond the scope of this research project, the survey itself does permit us to estimate, both statewide and at a market or health service regional level, the supply of registered nurses on a full-time equivalent (FTE) basis. Estimates of staffing shortages, however, require not only supply side information, but also actual patient utilization or demand side data—a much more complex research task. Estimation of the number of nurses required to work in all of the various settings in the health sector (e.g., hospitals, nursing homes, physicians' offices, outpatient clinics, home care, etc.) requires provider and insurer utilization data.

The federal Health Resources and Services Administration (HRSA) has recently modeled the supply and demand for registered nurses for each state and for the nation as a whole from 2000 to 2020.[1] While such forecasting models must be interpreted with some caution, they provide important benchmarks for strategic planning purposes.[2] Figure 6.1 displays HRSA's RN supply, demand, and shortage estimates for New York State from 2000 to 2020.

As Figure 6.1 shows, HRSA estimates that in the year 2000, New York had a supply of 136,665 FTE RNs, while the demand for RNs was 153,388 FTEs. This difference of 16,725 FTE RNs reflects a 10.9 percent staffing shortage. While HRSA forecasts a slight drop in this shortage by 2005 (to 8.0 percent), the administration also forecasts a steady increase in these staffing shortages in subsequent years. By the year 2020, patient health service needs are expected to place a demand on the system of 188,740 FTE RNs while only 144,129 will be available, an alarming 23.6 percent shortage.

The imbalance between supply and demand for the nation is not as great as that estimated for New York for the Year 2000; nationwide, the shortage was estimated at only 5.5 percent—roughly half the magnitude of the New York State problem. However, by 2020, HRSA estimates that the nationwide shortage will be 28.8 percent. Stated differently, roughly 2.8 million FTE RNs will be demanded by the health system, but only 2.0 million will be supplied, should current trends hold.

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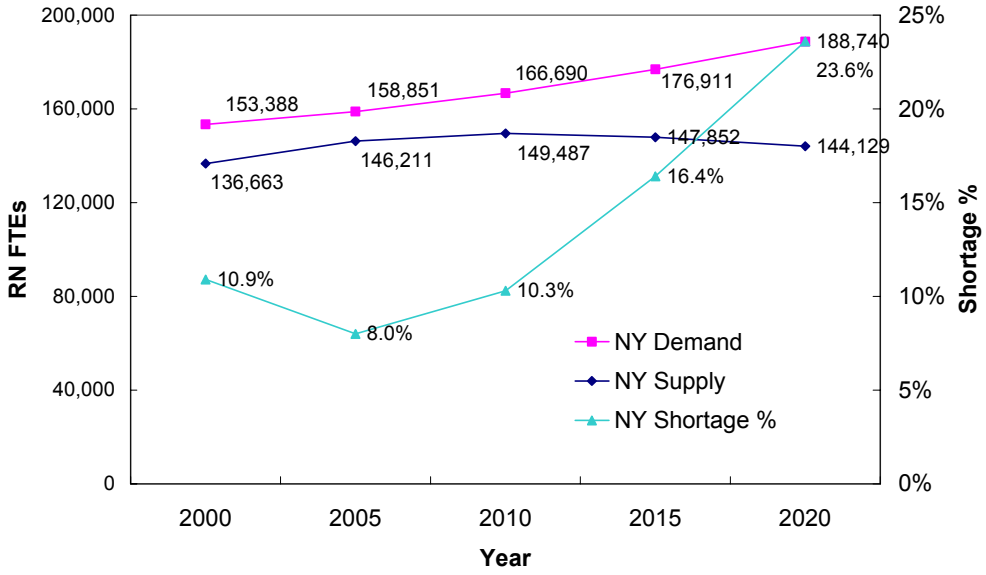
[1] U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), *Projected Supply, Demand, and Shortages of Registered Nurses, 2000-2020,* July, 2002.

[2] See Appendix H for a discussion of some of these caveats.

Figure 6.1
HRSA Projected New York FTE Registered Nurse Supply, Demand and Percent Shortage, 2000-2020




Regardless of the differences in estimates associated with alternative forecasting models, virtually all analysts concur that the shortage is real and that it will inevitably be exacerbated by the aging of the current workforce as well as by attempts to address workplace conditions that could improve the culture of retention.

## ESTIMATING SUPPLY AS OF SEPTEMBER 2002: THREE METHODS

The primary focus of this chapter is to estimate current RN supply as well as the timing and magnitude of expected departures from the current workforce. Conceptually, the calculation of the number of RNs and RN FTEs available to address future demand for health services is a function of three components: a) the current supply of RNs still in the labor market at the start of a forecasting period (in this case, 2002); b) the estimated losses or departures from this group likely to occur in future years (in this case a five-year planning period to 2007); and c) the addition of new entrants, either recent graduates to the field or experienced RNs from outside New York, during each year within the planning period.

Three methods were used in this report to determine RN supply. "Method 1" uses an approach conventionally employed by the federal government as well as in past SED analyses of the nursing workforce. In this method, all respondents identifying themselves as full-time (FT) workers in their primary jobs are weighted at 1.0, while those claiming part-time (PT) employment status are weighted at 0.5. This method assigns no extra FTEs to individuals who have more than one job or who work overtime

on a regular basis. If a particular service area had ten nurses working part time, they are treated as five FTEs under this approach.

Method 2 employs the scheduled weekly work hours actually reported in the survey. These scheduled hours in RNs' primary jobs only were converted to FTEs based upon a norm of 40 hours weekly. Under this approach, a part-time nurse with 30 hours scheduled weekly—rather than receiving a 0.5 weight as before—would be accorded a 0.75 FTE weight (that is, 30/40 hours = 0.75 FTEs).

Method 2 provides a more precise indication of the regularly scheduled workload actually involved and is relatively simple to calculate. However, like Method 1, it probably underestimates the full amount of both scheduled and unscheduled hours incurred by many nurses. This is because it is based on scheduled hours in RNs' primary jobs only; as such it excludes both overtime and hours worked in non-primary, nursing jobs. Table 6.1 compares both methods and, as the bottom line shows, there is little difference in the two methods. Indeed, the aggregate difference between the two statewide FTE totals is slightly less than one percent: the scheduled hours approach yields an FTE figure of 142,077 RNs, while the simple weighting approach results in a figure of 140,974.

Table 6.1
Three Different FTE Estimates of RNs Working in New York State by Employment Status

| | | | Method 1 | | | Method 2 | | | Method 3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Employment Status** | **Est. Count[a]** | **Column %** | **Assumed Weekly Hours** | **FTEs (FTEs per RN is 1.0 if Primary Job is FT and 0.5 if PT)** | **Column %** | **Mean Weekly Hours in Primary Nursing Job Only** | **FTEs (FTEs per RN is 1.0 if Primary Job is FT and 0.5 if PT)** | **Column %** | **Mean Weekly Hours in All Nursing Jobs** | **FTEs (FTEs per RN = mean total RN work hrs/40)** | **Column %** |
| Full Time, One Job Only | 93,347 | 56.4% | 40.0 | 93,347 | 66.2% | 39.15 | 91,363 | 64.4% | 42.0 | 98,014 | 60.7% |
| FT plus One or More PT Nursing Jobs | 20,518 | 12.4% | 40.0 | 20,518 | 14.6% | 39.05 | 20,031 | 14.1% | 55.7 | 28,572 | 17.7% |
| FT plus One or More PT Non-nursing Jobs | 2,444 | 1.5% | 40.0 | 2,444 | 1.7% | 39.05 | 2,386 | 1.7% | 41.7 | 2,548 | 1.6% |
| PT, One Job | 37,230 | 22.5% | 20.0 | 18,615 | 13.2% | 22.69 | 21,119 | 14.9% | 23.9 | 22,245 | 13.8% |
| PT, More than One Job | 12,100 | 7.3% | 20.0 | 6,050 | 4.3% | 22.77 | 6,888 | 4.9% | 33.0 | 9,983 | 6.2% |
| Total | 165,639 | 100% | | 140,974 | 100% | | 141,787 | 100% | | 161,361 | 100% |
| **Overall[a]** | **165,640** | | | **140,974** | | **34.31** | **142,077[b]** | | **39.05** | **161,706[b]** | |

[a] Estimate of RNs does not total 165,640 due to rounding.

[b] Slight differences between the "total" counts and the overall figures are due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

Nevertheless, given the large percentage of RNs who hold second (or third) jobs, the existence of both mandatory and non-mandatory overtime, and the great variety of employment statuses observed, an equally strong empirical case can be made for an analysis of FTEs based upon the total hours worked. Accordingly, a third method, termed "Method 3" (and referred subsequently as the "all hours method" or the "total

hours method"), takes into account all hours worked in nursing jobs. In this method, we sum up the total hours worked by nurses (including regularly scheduled hours, overtime, and second or third jobs etc.) and divide the total by a standard workweek of 40 hours. This approach yields a substantially higher estimate of 161,706 RN FTEs—a figure 14 to 15 percent higher than those generated using the other methods.

## ESTIMATES BASED UPON THE HRSA 2000 STUDY

Using the HRSA figures for 2000 and 2005 (shown in Figure 6.1) and interpolation, results in an estimate of 141,914 New York RN FTEs for Fall 2002. This figure corresponds remarkably well to the Fall 2002 FTE results we generated using either the scheduled hours method, or the simple FT/PT weighted methods discussed earlier.

However, as we have seen, the use of a total hours method yields a current FTE supply figure statewide of 161,706 in contrast to the lower range estimates of about 140,000 based on either the scheduled hours or simple FT/PT weighting method employed by HRSA. It is our own view that these lower bound estimates are more appropriate—since they do not assume that additional FTE "supply slack" can be created through the use of either overtime strategies and extended work schedules.

## ESTIMATES OF THE CURRENT NURSING SHORTAGE IN NEW YORK STATE

Estimates of the severity of the current nursing shortage vary depending on the assumptions used to generate the number of nurses currently in the workforce, the conversion of RNs to FTEs, and estimates of the demand for RNs. Table 6.2 displays three different estimates of the supply/demand imbalance in 2002. All three estimates rely on HRSA's demand projections.

Using HRSA's figures for both supply and demand for RN FTEs results in a shortage of 9.3 percent, while using SED's lower supply estimate of 140,974 (based on Method 1, the FT 1.0, PT 0.5 weighting scheme) yields a similar figure of 9.9 percent. Using SED's higher supply estimate of 161,706, based on RNs' total hours ("Method 3"), however, results in an estimated **surplus** of 3.4 percent in 2002. As noted in Chapter 2, the intensity of labor market participation of some RNs suggests a fair amount of elasticity in the labor supply. One in eight active RNs for example, holds at least one part-time nursing job in addition to a full-time nursing job. Thus the "total hours" FTE calculation method accounts for how the workforce has "stretched" to meet demand.

Table 6.2

Estimates of the Nursing Shortage as of Fall 2002

| RN FTE Estimate for Fall 2002 | Supply Estimate (RN FTEs) | HRSA Demand Estimate (RN FTEs) | % Shortage or Surplus | |
|---|---|---|---|---|
| The Federal HRSA Supply Estimate[a] | 141,914 | 156,394 | 9.3% | (shortage) |
| Higher SED Supply Estimate[b] | 161,706 | 156,394 | -3.4% | (surplus) |
| Lower SED Supply Estimate[c] | 140,974 | 156,394 | 9.9% | (shortage) |
| **Average of the Two SED Supply Estimates** | **151,340** | **156,394** | **3.2%** | **(shortage)** |

[a] HRSA supply and demand estimates are interpolations based on figures reported in *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020.*

[b] Using "total hours" (Method 3) for the existing workforce.

[c] Full-time primary job equals 1.0 FTE and a part-time primary job is 0.5 FTE for the existing workforce (Method 1).

## CURRENT FTE ESTIMATES BY HEALTH SERVICE AREA

Table 6.3 presents the same FTE estimates of RNs currently working in New York both as raw counts and per 1,000 population in each Health Service Area (HSA). The convention is employed throughout this chapter is to exhibit FTE counts using both the FT/PT weighted method conventionally employed in most federal research and the total hours estimation method.

Table 6.3

Current Estimated FTEs by Health Service Areas (HSAs): Two Methods[a]

| Health Service Area (HSA) | Est. Count | Column % | Average Hours per Week | FTEs Total Hours Method 3[a] | Column % | FTEs/1,000 All Hours Method[a] | FTEs FT = 1.0 FTE/ PT = .5 FTE Method 1 | Column % | FTEs/1,000 FT = 1.0 FTE; PT = .5 FTE Method[a] |
|---|---|---|---|---|---|---|---|---|---|
| Long Island | 36,509 | 22.0% | 37.4 | 34,136 | 21.1% | 12.40 | 30,248 | 21.5% | 10.98 |
| Western NY | 22,324 | 13.5% | 37.2 | 20,762 | 12.8% | 9.80 | 18,038 | 12.8% | 8.52 |
| Brooklyn | 15,790 | 9.5% | 41.0 | 16,184 | 10.0% | 3.15 | 13,879 | 9.8% | 2.70 |
| Hudson Valley | 14,372 | 8.7% | 38.2 | 13,725 | 8.5% | 9.29 | 11,943 | 8.5% | 8.09 |
| New York City | 32,099 | 19.4% | 42.2 | 33,865 | 20.9% | 11.80 | 29,339 | 20.8% | 10.22 |
| Syracuse | 7,184 | 4.3% | 39.1 | 7,022 | 4.3% | 10.60 | 6,149 | 4.4% | 9.28 |
| Glens Falls | 4,091 | 2.5% | 36.6 | 3,743 | 2.3% | 7.85 | 3,377 | 2.4% | 7.08 |
| Albany | 6,469 | 3.9% | 38.1 | 6,162 | 3.8% | 13.78 | 5,353 | 3.8% | 11.97 |
| Newburgh | 3,531 | 2.1% | 39.1 | 3,452 | 2.1% | 8.31 | 2,972 | 2.1% | 7.15 |
| Rockland | 2,469 | 1.5% | 37.6 | 2,321 | 1.4% | 8.09 | 2,056 | 1.5% | 7.17 |
| Utica | 3,451 | 2.1% | 40.4 | 3,486 | 2.2% | 9.44 | 2,996 | 2.1% | 8.11 |
| Binghamton | 2,846 | 1.7% | 36.4 | 2,590 | 1.6% | 10.27 | 2,236 | 1.6% | 8.86 |
| Finger Lakes | 1,793 | 1.1% | 38.4 | 1,722 | 1.1% | 6.83 | 1,554 | 1.1% | 6.17 |
| Southern Tier East | 2,304 | 1.4% | 41.0 | 2,362 | 1.5% | 11.30 | 1,998 | 1.4% | 9.56 |
| North Country West | 1,974 | 1.2% | 40.0 | 1,974 | 1.2% | 7.88 | 1,722 | 1.2% | 6.87 |
| Plattsburgh | 1,681 | 1.0% | 39.1 | 1,643 | 1.0% | 9.67 | 1,402 | 1.0% | 8.26 |
| South/Central NY | 1,467 | 0.9% | 39.7 | 1,456 | 0.9% | 7.56 | 1,259 | 0.9% | 6.53 |
| Columbia Greene | 802 | 0.5% | 38.7 | 776 | 0.5% | 6.97 | 662 | 0.5% | 5.94 |
| Southern Tier West | 960 | 0.6% | 40.1 | 962 | 0.6% | 7.19 | 860 | 0.6% | 6.42 |
| Jamestown | 1,164 | 0.7% | 38.7 | 1,126 | 0.7% | 8.06 | 1,010 | 0.7% | 7.23 |
| Gloversville | 1,264 | 0.8% | 38.2 | 1,207 | 0.7% | 11.52 | 1,011 | 0.7% | 9.65 |
| Ithaca | 1,096 | 0.7% | 38.3 | 1,050 | 0.6% | 7.23 | 908 | 0.6% | 6.25 |
| **Total[b]** | **165,640** | **100%** | **39.1** | **161,725** | **100%** | **8.52** | **140,970** | **100%** | **7.43** |

[a] FTEs per 1,000 population are 2002 FTEs divided by the HSA's total population according to data from the 2000 Census.

[b] RN estimates do not total 165,640 due to rounding. Column totals for FTEs do not match the overall figures reported in Table 6.1 due to to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

The last column of the table presents the FTE estimates at the HSA level using Method 1, which weights all full-time workers at 1.0 FTE and part-time workers at 0.5 FTE, regardless of actual work hours. In the aggregate, 7.43 FTE registered nurses per 1,000 residents currently practice in the State. Nationwide, the comparison figure is 6.71 RNs per 1,000. Moreover, there is substantial variation in staffing rates across HSAs. If we treat the Brooklyn HSA as an outlier, the RN supply rates per 1,000 range from a high of 11.97 to 13.78 per 1,000 in the Albany HSA to only 6.17 to 6.83 per 1,000 in the Finger Lakes HSA.[3]

[3] The Brooklyn value is a statistical artifact. The Health Service Area typology established by the federal government was originally based on cluster analysis of patterns of admission to hospitals. However, it may not be as optimal an indicator of labor markets. The number of clusters or regions chosen is not fixed, but was chosen by the Centers for Disease Control (CDC). So although the federal government's MSA (metropolitan statistical area) scheme suggests that because of commuting patterns from Long Island and the suburbs north of New York City into the City, the New York metropolitan area constitutes a single labor market, the CDC for the purposes of hospital admission markets—or HSAs—identified five

## CURRENT RN SUPPLY BY PRIMARY WORK SETTING

Table 6.4 shows that more than half (54.4 percent) of the RNs in the current nursing workforce work in hospitals. This figure was 58.4 percent when SED surveyed the workforce in 1995 and 65.9 percent in 1989. Depending upon the estimation method used, current RN FTE availability in hospital settings ranges from 77,473 to 89,687 FTEs.

Table 6.4
Estimated Current FTEs by Primary Work Setting: Two Methods

| Primary Work Setting | Est. Count | Column % | Average Hours per Week | FTEs All Hours Method 3 | Column % | FTEs FT = 1.0 FTE/ PT = .5 FTE Method 1 | Column % |
|---|---|---|---|---|---|---|---|
| Ambulatory Care/Diagnostic Treatment Centers | 8,723 | 5.3% | 38.7 | 8,440 | 5.2% | 7,376 | 5.2% |
| Government/Professional & Health Organizations | 3,526 | 2.1% | 40.2 | 3,544 | 2.2% | 3,262 | 2.3% |
| Home Health Agencies | 12,626 | 7.6% | 38.3 | 12,089 | 7.5% | 10,656 | 7.6% |
| Hospitals | 90,137 | 54.4% | 39.8 | 89,687 | 55.6% | 77,473 | 55.0% |
| Private Physician's Offices | 8,078 | 4.9% | 33.8 | 6,826 | 4.2% | 6,027 | 4.3% |
| Nursing Homes | 14,986 | 9.0% | 40.8 | 15,285 | 9.5% | 13,083 | 9.3% |
| Nursing Education | 3,053 | 1.8% | 38.7 | 2,954 | 1.8% | 2,493 | 1.8% |
| School Health | 9,383 | 5.7% | 34.9 | 8,187 | 5.1% | 7,703 | 5.5% |
| Other[a] | 15,128 | 9.1% | 38.0 | 14,372 | 8.9% | 12,852 | 9.1% |
| **Overall[b]** | **165,640** | **100%** | **39.05** | **161,706** | **100%** | **140,974** | **100%** |

[a] The "other" category includes the following categories: business or industry; HMOs, managed care, and insurance; higher education; private practioners; and other health and non-health related settings.

[b] Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

Inpatient staff nurses, who predominate in hospital settings, make up a majority of the distribution of FTEs by job title, as described in Table 6.5. Nurses in this title were estimated to represent between 57,763 and 67,566 FTEs statewide, depending on

discrete, smaller economic units. Therefore, if we were to combine the five HSAs roughly coterminous with the New York primary metropolitan statistical area (i.e., the HSAs of Rockland, Hudson Valley, Long Island, New York City and Brooklyn) this low outlier of 2.70 would disappear. This new aggregation would contain approximately seven RN FTEs per 1,000 persons.

the method used. Outpatient staff nurses, again a hospital sector-based title, constitute the second largest job title, with 14 to 15 percent of the statewide labor force distribution, depending on the FTE calculation method. Outpatient RNs account for between 19,620 and 22,382 FTEs statewide based upon the 2002 survey.

Table 6.5
Estimated Current FTEs by Job Title: Two Methods

| Primary Job Title | Est. Count | Column % | Average Hours per Week | FTEs All Hours Method 3 | Column % | FTEs FT = 1.0 FTE/ PT = .5 FTE Method 1 | Column % |
|---|---|---|---|---|---|---|---|
| Inpatient Staff Nurse | 68,077 | 41.1% | 39.7 | 67,566 | 41.8% | 57,763 | 41.0% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 36.3 | 22,382 | 13.8% | 19,620 | 13.9% |
| Cert. Reg. Nurse Anesthetist | 643 | 0.4% | 46.3 | 744 | 0.5% | 596 | 0.4% |
| Claims Review, Quality Assurance, Utilization Review, Risk Mgt. | 6,040 | 3.6% | 38.0 | 5,738 | 3.5% | 5,400 | 3.8% |
| Consultant/Researcher | 2,313 | 1.4% | 34.8 | 2,013 | 1.2% | 1,837 | 1.3% |
| Dean/Faculty, Nursing Education | 3,007 | 1.8% | 38.2 | 2,872 | 1.8% | 2,368 | 1.7% |
| Dir. VP/ Nursing Executive | 4,954 | 3.0% | 44.8 | 5,549 | 3.4% | 4,756 | 3.4% |
| Clinical Nurse Spec., In-Service Dir. | 5,527 | 3.3% | 38.5 | 5,320 | 3.3% | 4,814 | 3.4% |
| Nurse Practitioner | 7,084 | 4.3% | 39.4 | 6,978 | 4.3% | 5,930 | 4.2% |
| Nurse Mgr. / Patient Care Coordinator | 16,870 | 10.2% | 43.5 | 18,346 | 11.3% | 15,984 | 11.3% |
| Indep. Practitioner / Private Duty Nurse | 2,812 | 1.7% | 33.7 | 2,370 | 1.5% | 1,957 | 1.4% |
| Public/Comm. Health Nurse | 7,800 | 4.7% | 36.8 | 7,176 | 4.4% | 6,501 | 4.6% |
| Other | 15,850 | 9.6% | 36.9 | 14,622 | 9.0% | 13,512 | 9.6% |
| **Overall**[a] | **165,640** | **100%** | **39.05** | **161,706** | **100%** | **140,974** | **100%** |

[a] Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

## THE AGING OF NEW YORK STATE'S CURRENT WORKFORCE

Having provided a baseline of current FTE estimates for 2002, we now investigate the leave-taking expectations of this workforce over the next five years. Estimates of leave-taking intent, together with other estimates of "net" entrants into the profession over the same five-year period, will provide a means of estimating the workforce supply in five years (2007-08).

Since the age and experience level of the existing workforce heavily conditions leave-taking expectations, we highlight first age and experience distributions from a total current supply perspective. According to Table 6.6, an estimated 45.2 percent of the current RN workforce has already achieved 21 years or more of career experience in the profession. In FTE terms, depending on the method employed, between 63,837 and 72,086 fall into these experience groupings. Remarkably, 15.5 percent of the respondents to the survey had career experiences in nursing exceeding 30 years—findings that may be far less likely to be repeated in future decades because recent entrants into the field tend to be older when they enter than their colleagues who entered nursing in earlier decades. (See Chapter 2.)

Table 6.6
Estimated Current FTEs by Years of Experience: Two Methods

| Years Experience | Est. Count | Column % | Average Hours per Week (All Nursing Jobs) | FTEs All Hours Method 3 | Column % | FTEs FT = 1.0 FTE; PT = .5 FTE Method 1 | Column % |
|---|---|---|---|---|---|---|---|
| 1 to 10 Years | 42,267 | 25.5% | 40.8 | 43,112 | 26.7% | 36,815 | 26.1% |
| 11 to 20 Years | 48,415 | 29.2% | 38.4 | 46,479 | 28.7% | 40,306 | 28.6% |
| 21 to 30 Years | 49,273 | 29.7% | 39.2 | 48,288 | 29.9% | 42,326 | 30.0% |
| 31 to 40 Years | 21,857 | 13.2% | 38.7 | 21,147 | 13.1% | 18,873 | 13.4% |
| Over 40 Years | 3,828 | 2.3% | 27.7 | 2,651 | 1.6% | 2,638 | 1.9% |
| **Overall[a]** | **165,640** | **100%** | **39.05** | **161,706** | **100%** | **140,974** | **100%** |

[a] RN estimates do not total 165,640 due to rounding. Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

The experience levels represented in New York State's nursing workforce has of course had many salutary effects—most notably the high level of clinical skill and competence represented by a seasoned workforce. However, it is the simultaneous "aging out" of this very large, highly seasoned workforce and the inability of newer entrant pools to offset those future losses that pose a real concern.

As Table 6.7 indicates, the estimated RNs under the age of 30 account for about 5.2 percent of the entire RN workforce. In FTE terms, depending on the method of estimation used, these under-30 RNs account for 7,871 or 8,654 FTEs. The 60-year-

and-up age group, in contrast, accounts for 12,811 to 13,878 FTEs in the current workforce. This group is more likely to leave the workforce in the next five years. The overall shape of the age distribution clearly suggests that the supply of younger RNs in the workforce at the current time will not be sufficient to offset these losses. Given this aging workforce, the effects of leave-taking and retirement are significant.

Table 6.7

Estimated Current FTEs by Age: Two Methods

| Age Category | Est. Count | Column % | Average Hours per Week All Nursing Jobs) | FTEs All Hours Method 3 | Column % | FTEs FT = 1.0 FTE/ PT = .5 FTE Method 1 | Column % |
|---|---|---|---|---|---|---|---|
| Under 30 | 8,654 | 5.2% | 40.0 | 8,654 | 5.4% | 7,871 | 5.6% |
| 30-39 | 29,961 | 18.1% | 38.5 | 28,837 | 17.8% | 24,733 | 17.5% |
| 40-49 | 61,855 | 37.3% | 39.9 | 61,701 | 38.2% | 52,825 | 37.5% |
| 50-59 | 48,890 | 29.5% | 39.8 | 48,645 | 30.1% | 42,779 | 30.3% |
| 60 and Over | 16,279 | 9.8% | 34.1 | 13,878 | 8.6% | 12,811 | 9.1% |
| **Overall**[a] | **165,640** | **100%** | **39.05** | **161,706** | **100%** | **140,974** | **100%** |

[a] RN estimates do not total 165,640 due to rounding. Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

## FTE Estimates of Expected Leave-Takers over the Next Five Years

Table 6.8 presents FTE estimates of workforce attrition in the next five years based on respondents' plans to leave the nursing profession. As the table indicates, roughly 23 percent of the current nursing workforce, or some 38,000 RNs, will leave nursing due to retirement or other forms of intentional attrition. On an FTE basis, between 31,000 and 35,000 FTE RNs will leave, while between 110,000 and 127,000 will remain. If the workforce is to meet the sharp growth in demand for health services anticipated as the post-World War II baby boom cohort ages, a substantial number of new entrants will be needed.

Table 6.8
Estimated Current FTEs by Timing to Exit: Two Methods

| Age Category | Est. Count | Column % | Average Hours per Week | FTEs All Hours Method 3 | Column % | FTEs FT = 1.0 FTE/ PT = .5 FTE Method 1 | Column % |
|---|---|---|---|---|---|---|---|
| In the next 12 Months | 7,533 | 4.5% | 36.2 | 6,817 | 4.2% | 5,959 | 4.2% |
| In 1 to 2.9 Years | 12,714 | 7.7% | 36.3 | 11,538 | 7.1% | 10,304 | 7.3% |
| In 3 to 4.9 Years | 17,605 | 10.6% | 38.2 | 16,813 | 10.4% | 14,912 | 10.6% |
| Subtotal | 37,852 | 22.9% | | 35,168 | 21.7% | 31,175 | 22.1% |
| Not for 5 Years or More | 127,788 | 77.1% | 39.7 | 126,830 | 78.3% | 110,089 | 77.9% |
| **Overall**[a] | **165,640** | **100%** | **39.05** | **161,706** | **100%** | **140,974** | **100%** |

[a] Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

### *The Geographic Distribution of the Leave-Takers*

Table 6.9 displays the frequency and percentage distribution by Health Service Area (HSA) of those currently working RNs who plan to leave the profession within five years. The data reveal relatively little interregional variation in leave-taking intentions. The overall FTE staffing loss percentage is approximately 22 percent. By HSA, the loss percentage using the "total hours method" ranges from a low of 18.1 percent in the Utica HSA to 29.6 percent in the Glens Falls HSA—an 11.5 percentage point differential. As noted, with only modest exceptions, individual HSA-specific leave-taking rates demonstrate a relatively tight fit around the average of 22 percent planning to leave. This lack of variation means that all areas of the State will be hit equally hard by retirements. Given the concentration of New York's residents in downstate urban areas, however, this same table indicates that Brooklyn, New York City, and Long Island HSAs will account for more than half of the projected losses (10.2 percent, 19.1 percent, and 22.1 percent, respectively).

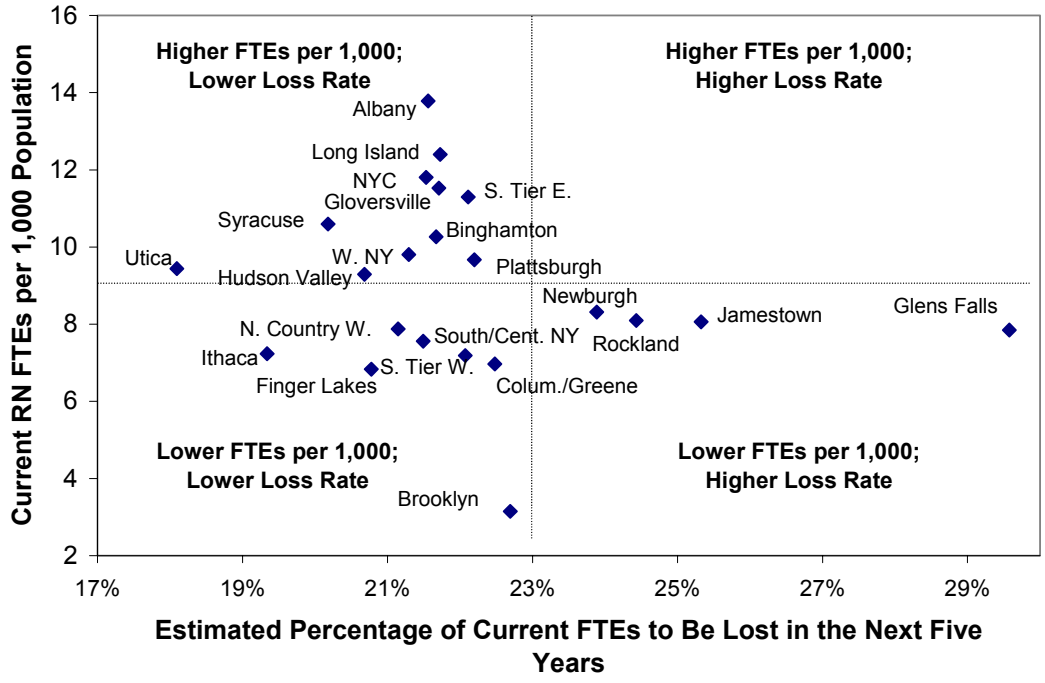
Table 6.9
Estimated Current FTEs by Health Service Area (HSA) for New York State RNs
Planning to Leave within Five Years: Two Methods

| Health Service Area (HSA) | Est. Count | Column % | Average Hours per Week | FTEs All Hours Method 3 | Leaver FTEs as % of Current FTEs | FTEs FT = 1.0 FTE/ PT = .5 FTE Method 1 | Leaver FTEs as % of Current FTEs |
|---|---|---|---|---|---|---|---|
| Long Island | 8,380 | 22.1% | 35.4 | 7,416 | 21.7% | 6,687 | 22.1% |
| Western NY | 4,845 | 12.8% | 36.5 | 4,421 | 21.3% | 3,832 | 21.2% |
| Brooklyn | 3,877 | 10.2% | 37.9 | 3,673 | 22.7% | 3,322 | 23.9% |
| Hudson Valley | 3,137 | 8.3% | 36.2 | 2,839 | 20.7% | 2,491 | 20.9% |
| New York City | 7,237 | 19.1% | 40.3 | 7,292 | 21.5% | 6,452 | 22.0% |
| Syracuse | 1,484 | 3.9% | 38.2 | 1,417 | 20.2% | 1,266 | 20.6% |
| Glens Falls | 1,184 | 3.1% | 37.4 | 1,107 | 29.6% | 914 | 27.1% |
| Albany | 1,472 | 3.9% | 36.1 | 1,329 | 21.6% | 1,159 | 21.7% |
| Newburgh | 875 | 2.3% | 37.7 | 824 | 23.9% | 711 | 23.9% |
| Rockland | 598 | 1.6% | 37.9 | 567 | 24.4% | 501 | 24.4% |
| Utica | 729 | 1.9% | 34.6 | 631 | 18.1% | 597 | 19.9% |
| Binghamton | 687 | 1.8% | 32.7 | 561 | 21.7% | 504 | 22.5% |
| Finger Lakes | 428 | 1.1% | 33.4 | 358 | 20.8% | 344 | 22.2% |
| Southern Tier East | 507 | 1.3% | 41.2 | 522 | 22.1% | 435 | 21.8% |
| North Country West | 446 | 1.2% | 37.4 | 417 | 21.1% | 378 | 22.0% |
| Plattsburgh | 401 | 1.1% | 36.4 | 365 | 22.2% | 306 | 21.8% |
| South/Central NY | 350 | 0.9% | 35.8 | 313 | 21.5% | 283 | 22.5% |
| Columbia Greene | 186 | 0.5% | 37.5 | 174 | 22.5% | 145 | 21.9% |
| Southern Tier West | 225 | 0.6% | 37.7 | 212 | 22.1% | 193 | 22.5% |
| Jamestown | 313 | 0.8% | 36.5 | 285 | 25.3% | 265 | 26.3% |
| Gloversville | 267 | 0.7% | 39.3 | 262 | 21.7% | 210 | 20.8% |
| Ithaca | 224 | 0.6% | 36.2 | 203 | 19.3% | 174 | 19.2% |
| **Overall** | **37,852** | **100%** | **37.1** | **35,189** | **21.8%** | **31,171** | **22.1%** |

As Figure 6.2 reveals, the HSAs depicted in the lower-right-hand quadrant (characterized as HSAs with lower staffing availability per 1,000 and relatively higher future staffing loss rates) are those that may pose a future concern from a risk appraisal perspective. The Glens Falls and Jamestown area HSAs are the most noteworthy members. The HSAs at the opposite end of the risk appraisal spectrum, i.e., those with higher FTE staff availability per 1,000 population as well as lower anticipated future staffing loss rates, include Albany, Gloversville, and Syracuse.

Figure 6.2

Current FTEs per 1,000 Population and Percentage Leaving within Five Years by HSA (All Hours Method)




### *The Distribution of the Leave-Takers by Primary Work Setting*

Plans to leave the profession by work setting are of considerable interest from a supply-side perspective, since we expect that certain settings or sectors of the health economy will see more demand or pressure based on future demographic and other factors. Table 6.10 displays the estimated leave-takers as a percentage of the current RN workforce. The results point to only modest setting differences in the relative impact of leave-taking.

Table 6.10
Estimated Current FTEs by Primary Work Setting for New York State RNs Planning to Leave Nursing within Five Years: Two Methods

| Primary Work Setting | Est. Count | Column % | Average Hours per Week (All Nursing Jobs) | FTEs All Hours Method 3 | Leaver FTEs as % of Current FTEs | FTEs FT = 1.0 FTE; PT = .5 FTE Method 1 | Leaver FTEs as % of Current FTEs |
|---|---|---|---|---|---|---|---|
| Ambulatory Care/Diagnostic Treatment Centers | 1,923 | 5.1% | 37.3 | 1,794 | 21.3% | 1,629 | 22.1% |
| Government/Professional & Health Organizations | 848 | 2.2% | 39.6 | 839 | 23.7% | 780 | 23.9% |
| Home Health Agencies | 3,108 | 8.2% | 36.9 | 2,867 | 23.7% | 2,499 | 23.5% |
| Hospitals | 18,883 | 49.9% | 38.6 | 18,222 | 20.3% | 15,899 | 20.5% |
| Private Physician's Offices | 1,864 | 4.9% | 29.4 | 1,370 | 20.1% | 1,241 | 20.6% |
| Nursing Homes | 4,070 | 10.8% | 38.9 | 3,958 | 25.9% | 3,415 | 26.1% |
| Nursing Education | 733 | 1.9% | 32.1 | 588 | 19.9% | 538 | 21.6% |
| School Health | 2,549 | 6.7% | 32.6 | 2,078 | 25.4% | 2,070 | 26.9% |
| Other[a] | 3,874 | 10.2% | 34.8 | 3,370 | 23.4% | 3,095 | 24.1% |
| **Overall[b]** | **37,852** | **100%** | **37.1** | **35,108** | **21.7%** | **31,171** | **22.1%** |

[a] The "other" category includes the following categories: business or industry; HMOs, managed care, and insurance; higher education; private practioners; and other health and non-health related settings.
[b] Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

While the percentage of RNs currently employed in the nursing education sector planning to leave in less than five years is slightly lower than the overall average of 21.7 percent (using Method 3, the "all hours method"), this category of nurses is much older on average than the State's active RN workforce as a whole (50.6 years versus 46.7 years). And since it takes many years of education and experience to earn credentials to serve in this setting, this estimate is cause for concern. Another concern relates to nurses working in long-term care settings such as nursing homes. One heartening finding is that the hospital sector expects to lose a disproportionately smaller percentage of FTE RNs: 20.3 to 20.5 percent are expected to leave the profession within five years.

### *Distribution of Leave-Takers in the Next Five Years by Primary Job Title*

Table 6.11 reveals that educators in high-level leadership or administrative posts—deans and faculty in nursing education—are disproportionately at risk of leaving the profession over the next five years. Approximately a quarter of them (24.3 percent in FTE terms using the "all hours" calculation) will leave. Nurse managers are also disproportionately represented among the leavers (23.9 percent in "all hours" FTE

terms). These two findings are causes for concern. Incumbents of these positions typically possess both specialized knowledge requiring graduate degrees as well as extensive clinical experience; thus either the replacement cost or the transfer cost (of these skills from another job title) would be higher than for many other titles.

Table 6.11
Estimated Current FTEs by Primary Job Title for New York State RNs Planning to Leave Nursing within Five Years: Two Methods

| Primary Job Title | Est. Count | Column % | Average Hours per Week (All Nursing Jobs) | FTEs All Hours Method 3 | Leaver FTEs as % of Current FTEs | FTEs FT = 1.0 FTE; PT = .5 FTE Method 1 | Leaver FTEs as % of Current FTEs |
|---|---|---|---|---|---|---|---|
| Inpatient Staff Nurse | 14,613 | 38.6% | 38.8 | 14,174 | 21.0% | 12,107 | 21.0% |
| Outpatient Staff Nurse | 6,059 | 16.0% | 33.6 | 5,089 | 22.7% | 4,665 | 23.8% |
| Cert. Reg. Nurse Anesthetist | 67 | 0.2% | 51.9 | 87 | 11.7% | 64 | 10.7% |
| Claims Review/QA/UR/UM etc. | 1,418 | 3.7% | 36.5 | 1,294 | 22.6% | 1,202 | 22.3% |
| Consultant/Researcher | 633 | 1.7% | 29.4 | 465 | 23.1% | 465 | 25.3% |
| Dean/Faculty, Nursing Education | 823 | 2.2% | 33.9 | 698 | 24.3% | 602 | 25.4% |
| Dir. VP/ Nursing Executive | 1,110 | 2.9% | 40.8 | 1,133 | 20.4% | 1,011 | 21.3% |
| Clinical Nurse Spec., In-Service Dir. | 1,290 | 3.4% | 36.5 | 1,178 | 22.1% | 1,095 | 22.7% |
| Nurse Practitioner | 909 | 2.4% | 35.7 | 811 | 11.6% | 717 | 12.1% |
| Nurse Mgr. / Patient Care Coordinator | 4,171 | 11.0% | 42.0 | 4,379 | 23.9% | 3,881 | 24.3% |
| Indep. Practitioner / Private Duty Nurse | 772 | 2.0% | 29.8 | 575 | 24.3% | 495 | 25.3% |
| Public/Comm. Health Nurse | 1,921 | 5.1% | 33.6 | 1,613 | 22.5% | 1,579 | 24.3% |
| Other | 4,066 | 10.7% | 35.4 | 3,598 | 24.6% | 3,273 | 24.2% |
| **Overall**[a] | **37,852** | **100%** | **37.1** | **35,108** | **21.7%** | **31,171** | **22.1%** |

[a] Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

Interestingly, the two titles that appear to be a class apart from the rest of the nursing field in terms of their relatively low rate of future losses as a percentage of the current workforce also require extensive clinical and academic experience. These two titles—nurse practitioner and certified registered nurse anesthetist—are characterized by unusually low loss rates: 11.6 and 11.7 percent respectively based upon the "all hours" FTE calculation method. Since these two titles both require extensive

graduate preparation, are well compensated, and still involve a great deal of direct patient care, their low rates of departure may suggest a higher level of job satisfaction.

### *Distribution of Leave-Takers in the Next Five Years by Age*

The point made earlier in this chapter about the expectation of extensive losses of highly experienced and clinically competent nurses is borne out by the next two tables.

As Table 6.12 shows, more than 60 percent of nurses expecting to leave the profession within five years have between 20 and 40 years' experience in the profession. This is an extremely large and experienced talent pool. From a retention standpoint, however, the most noteworthy finding is the relatively high proportion of "leavers" who fall in the least experienced category (16.6 percent). These findings suggest serious retention difficulties in the early stages of RNs' professional careers. Moreover, these findings suggest that the level and quality of support experienced by some of these professionals at relatively early stages of their careers may not be adequate.

Table 6.12
Estimated Current FTEs by Years of Experience for New York State RNs Planning to Leave Nursing within Five Years: Two Methods

| Years of Experience | Est. Count | Column % | Average Hours per Week (All Nursing Jobs) | FTEs All Hours Method 3 | Leaver FTEs as % of Current FTEs | FTEs FT = 1.0 FTE; PT = .5 FTE Method 1 | Leaver FTEs as % of Current FTEs |
|---|---|---|---|---|---|---|---|
| 1 to 10 Years | 6,297 | 16.6% | 40.5 | 6,376 | 14.8% | 5,406 | 14.7% |
| 11 to 20 Years | 8,669 | 22.9% | 37.6 | 8,149 | 17.5% | 7,009 | 17.4% |
| 21 to 30 Years | 10,825 | 28.6% | 36.9 | 9,986 | 20.7% | 8,919 | 21.1% |
| 31 to 40 Years | 9,361 | 24.7% | 37.2 | 8,706 | 41.2% | 7,971 | 42.2% |
| Over 40 Years | 2,700 | 7.1% | 28.1 | 1,897 | 71.6% | 1,875 | 71.1% |
| **Overall**[a] | **37,852** | **100%** | **37.1** | **35,108** | **21.7%** | **31,171** | **22.1%** |

[a] Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

As the right-hand-most column of Table 6.13 indicates, with one notable exception the leave-taking phenomenon increases with age in a gradual progression until the 60-year-and-older age bracket is reached. This age group, currently comprising about one-third of RNs who plan to leave in five years, can expect to see almost two-thirds of its members leave the profession before 2007-08. The one noteworthy exception to this otherwise predictable trend is the fact that roughly 16 percent of those younger than 30 years of age plan to exit the profession within five

years. While this is alarming from a retention standpoint, there is a potential labor pool of roughly 27,000 RNs younger than 60 who could supply the profession for the next five years, if they could somehow be induced to stay longer.

Table 6.13
Estimated Current FTEs by Age for New York State RNs Planning to Leave Nursing within Five Years: Two Methods

| Age Category | Est. Count | Column % | Average Hours per Week (All Nursing Jobs) | FTEs All Hours Method 3 | Leaver FTEs as % of Current FTEs | FTEs FT = 1.0 FTE; PT = .5 FTE Method 1 | Leaver FTEs as % of Current FTEs |
|---|---|---|---|---|---|---|---|
| Under 30 | 1,396 | 3.7% | 40.6 | 1,417 | 16.4% | 1,268 | 16.1% |
| 30-39 | 4,063 | 10.7% | 39.2 | 3,982 | 13.8% | 3,336 | 13.5% |
| 40-49 | 8,094 | 21.4% | 39.4 | 7,972 | 12.9% | 6,734 | 12.7% |
| 50-59 | 13,379 | 35.3% | 37.7 | 12,609 | 25.9% | 11,198 | 26.2% |
| 60 and Over | 10,921 | 28.9% | 33.9 | 9,255 | 66.7% | 8,660 | 67.6% |
| **Overall**[a] | **37,852** | **100%** | **37.1** | **35,108** | **21.7%** | **31,171** | **22.1%** |

[a] Overall figures include all respondents for the column variable. Column figures may not add up to column totals due to differences in the numbers of "valid" (non-missing) cases for a particular variable and rounding.

## ESTIMATES OF THE REGISTERED NURSE SUPPLY FIVE YEARS FROM NOW

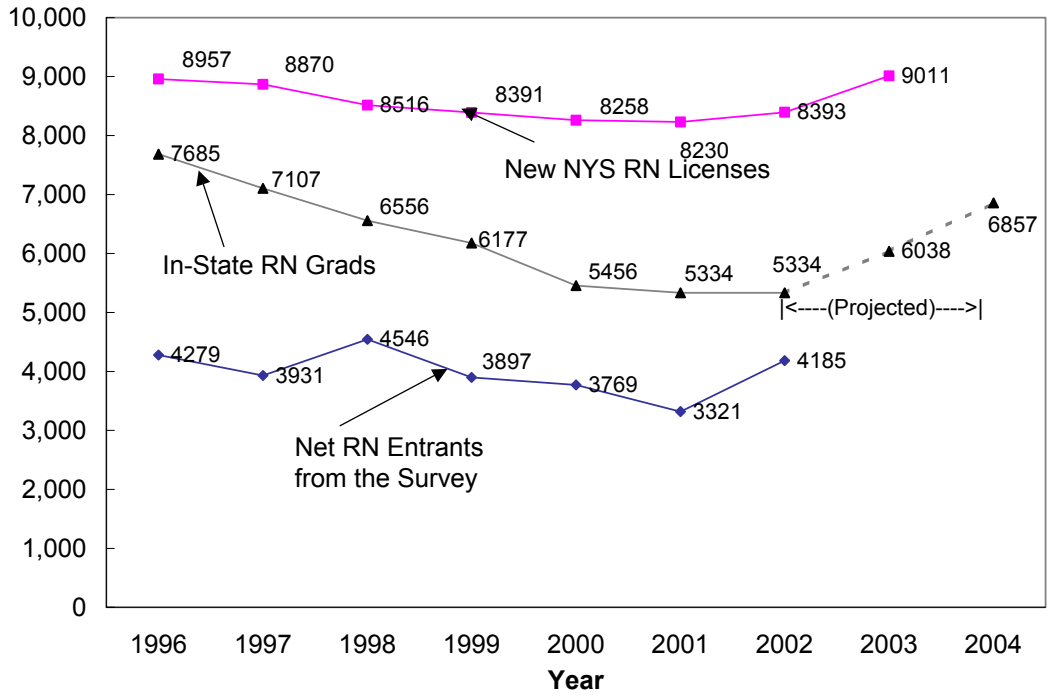
In this section we use RNs' stated exit intentions to estimate the size of the New York State nursing workforce in 2007. The survey asked respondents whether: a) they had already left nursing; b) they planned to leave nursing in the next 12 months; c) in 1 to 2.9 years; d) in 3 to 4.9 years; or e) not for five years or more. (See Table 6.8).

Based upon these data (and assuming that respondents' expressed intentions actually translate into behavioral decisions to stay or leave when they said they would), we estimate that of the estimated 165,640 RNs working in New York State in 2002, roughly 128,000 RNs (or 77 percent of the existing workforce), representing somewhere between 110,000 and 127,000 RN FTEs, will still be on the job in 2007.

### *Estimating New Entrants*

To this 2007 base year estimate of those RNs currently in the workforce whom we expect to stay until 2007, we have added a best estimate of the "net" entrants to be added to the workforce annually between 2002 and 2007. Three distinct types of data were used to examine the rate of entrants into the profession. These methods involve different assumptions, time periods, and analytical trade-offs. The methods are described and their results highlighted in Figure 6.3.

Figure 6.3
Recent Data Used to Estimate New RN Entrants[a]




[a] Data for new RN licensures is based on SED licensure files. The years for that series are New York State fiscal years. Figures for graduates of New York State nursing programs are from the Center for Health Workforce Studies, *New York State Registered Nursing Graduations, 1996-2004* (Albany: University at Albany, 2003), available at http://chws.albany.edu. The net RN entrants are the estimated frequencies of RNs working in New York State who entered the New York State workforce each year based on the "years of experience" variable. The figure for 2002 includes an upward adjustment of 33.3 percent to reflect the fact that the population from which the survey respondents were drawn included only approximately nine months worth of the licenses issued in 2002.

Figure 6.3 represents recent trends in RN licensure. This data series is the top line in Figure 6.3. The middle series reflects the rate of change in graduations from New York State institutions of higher education that prepare students for careers as registered nurses through specialized diploma, associate's degree or bachelor's degree programs.[4] The figure includes projected estimates of 2003 and 2004 graduations. Finally, the figure displays the net RN entrants to the profession as measured by the survey. This series reflects the loss or attrition of nurses through time. The number of RNs in 2000 as measured by the survey excludes those nurses who entered the profession in the same year but have already dropped out by 2002.

[4] State University of New York at Albany, Center for Health Workforce Studies of the School of Public Health, *New York State Registered Nursing Graduations, 1996-2004* (Albany, NY, 2003).

The licensure and "net entrant" data allowed us to estimate the new entrants to the profession in 2007. We applied assumptions about annual growth rates in new RN licenses and net entrants to a base year entrants figure to forecast the workforce that will be added over the next five years. We provide a high or optimistic scenario and a low or more modest growth assumption forecast in Table 6.14.

Table 6.14
High and Low Estimates of Projected New Entrants to the RN Rank, 2003-2007

| Scenario | Average Annual % Change in Net Entrants, 1997-2002 | % Change in New RN Licenses 2001-2002 | Net RN Entrants in 2002 (Base)[a] | Projected Net Entrants by Year 2003 | 2004 | 2005 | 2006 | 2007 | Total over Five Years | Five-Year Total in FTEs[b] |
|---|---|---|---|---|---|---|---|---|---|---|
| High | | 2.0% | 4185 | 4,269 | 4,354 | 4,441 | 4,530 | 4,621 | 22,214 | 23,614 |
| Low | -1.4% | | 4185 | 4,126 | 4,069 | 4,012 | 3,956 | 3,900 | 20,062 | 21,326 |

[a] As the data extract of the licensure file used to draw the survey sample was drawn in September of 2002, the entrants reflected nine months; therefore we inflated 3137 by 12/9 in order to have a full year's complement.

[b] An upward adjustment of 6.3 percent was made to convert RNs to FTEs based on the fact that new entrants tend to work longer hours than more experienced RNs.

The high growth rate scenario of 2.0 percent reflects the increase in licenses from 8,230 in 2001 to 8,393 in 2002. We chose this scenario because there is some evidence based on the upward trends of the last years of the data series in Figure 6.3. Alternately, we chose for the low or less optimistic trend assumption, the experience of the last six years of entrants to the profession as measured by the survey. In this case, the average rate of change from year to year is –1.4 percent. Applying these high and low growth estimates to the base entrant value of 4,185, generates five-year estimates of new net entrants of 22,214 and 20,062, respectively.

## SUMMING THE EXISTING WORKFORCE AND FORECASTED ENTRANTS TO REFLECT THE SUPPLY IN FIVE YEARS

In this last portion of Chapter 6, we pull together the two major parts of the supply equation discussed up to this point, namely, estimates of nurses currently in the workforce who will still be working in New York five years from now and estimates of net entrants to the profession over the same five-year planning horizon. These figures are detailed Table 6.15. As a reference point, the table also includes recent RN supply estimates of the federal Health Resources and Services Administration.[5] Their

[5] The 147,521 figure depicted is an interpolation of HRSA projections of RN supply in New York State based upon the 2000 national study sample. Those data are shown in Figure 6.1 of this chapter and are reported in Health Resources and Services Administration, *Projected Supply, Demand and Shortage of Registered Nurses, 2000-2020.*

estimates are done every four years and provide significant convergent validity. The HRSA estimates of New York State FTE supply in Fall 2002 (estimated to be roughly 141,000 RNs) mirrors quite closely the SED 2002 estimates generated using a 1.0 FT, 0.5 PT weighting (Method 1).

Table 6.15

Estimates of RN FTEs in 2007 Under Various Methods and Their Composition in Terms of Existing Nurses and New Entrants

| | | Composed of: | | |
|---|---|---|---|---|
| **Estimate for 2007** | Total | Existing Workforce | New Entrants | % Shortage |
| The Federal HRSA Supply Estimate[a] | **147,521** | N/A | N/A | 8.9% |
| Higher SED Supply Estimate[b] | **150,212** | 126,598 | 23,614 | 7.3% |
| Lower SED Supply Estimate[c] | **131,129** | 109,803 | 21,326 | 19.0% |
| Average of the Two SED Supply Estimates | **140,671** | 118,201 | 22,470 | 13.2% |
| The Federal HRSA Demand Estimate | **161,987** | | | |

[a] HRSA supply and demand estimates are interpolations based on figures reported in *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020*.

[b] Using Method 3 ("total hours") for the existing workforce.

[c] Using Method 1 (full-time primary job equals 1.0 FTE and a part-time primary job is 0.5 FTE) for the existing workforce.

The HRSA projection for 2007 falls between the SED "higher" and "lower" estimates. The HRSA methodology employs the same 1.0 FT, 0.5 PT weighting method used in the SED "lower estimate" scenario. If we accept the higher SED estimate for planning purposes (using a "total hours" FTE estimation method), the projected 2007 FTE total of about 150,212 is seven percent less than the SED "total hours" estimate of the current nursing supply. Since HRSA estimates that 161,987 RNs will be demanded by the health care system by the year 2007, their estimate of the demand-supply gap (i.e., 14,466 FTEs) is about nine percent. The least optimistic SED estimate of that gap is 30,858 FTE nurses—a 19 percent shortage. The most optimistic assumptions estimate a 7.3 percent shortage in 2007. It is unlikely that stretching the labor supply by inducing RNs to work more jobs and longer hours will suffice to close gaps of this magnitude. More people than currently projected will have to enter nursing in the next decade to ensure that New York State's health care system remains able to provide high quality patient care.

# Chapter 7: Nurses' Perceptions of the Shortage

## INTRODUCTION

Any discussion of the nursing shortage is enriched by an examination of nurses' own perceptions of the shortage and of the availability of jobs. Nurses' behavior also offers valuable clues about supply/demand imbalances. The time it takes nurses to find a nursing job tells us about the demand for nurses. Similarly, examining the relationships between county and/or region of residence, practice, and education, as well as average travel times will allow us to describe the labor markets for nursing. This understanding will help policymakers develop effective strategies for recruitment and retention.

## RNS' VIEWS OF THE SHORTAGE

### *Is there a Shortage of Qualified RNs?*

The survey asked RNs whether they believe there is a shortage of qualified nurses. Specifically, the survey asked "Is there a shortage of qualified nurses in this geographical area who have your level of experience, training, and skills?" Figure 7.1 shows that more than half of respondents (53 percent) said "definitely yes," while over a quarter (28 percent) said "probably yes." **In total, the survey indicates that 81 percent of the RNs currently working in New York State believe that there is a nursing shortage.** Only five percent of RN survey respondents had no opinion.

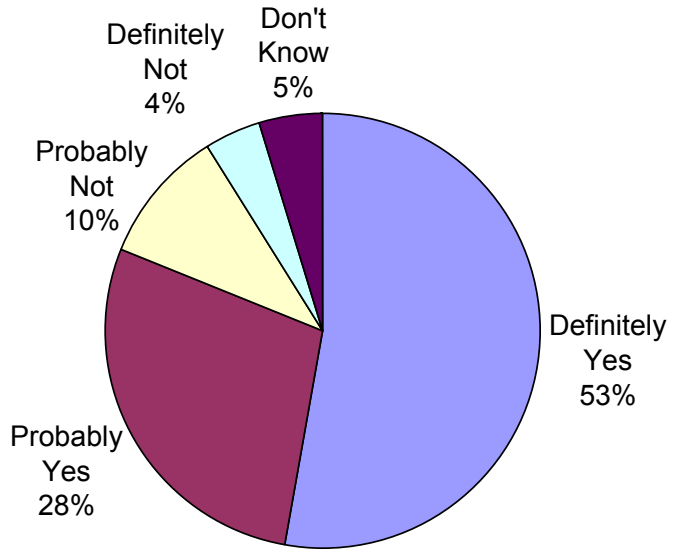
Since local economic conditions may affect actual supply-demand imbalances (as well as RN respondent perceptions of those imbalances), we also analyzed the responses by region of practice, using the Health Service Areas (HSAs) introduced in Chapter 5. (See Appendix F for definitions of these regional categories.) The results appear in Table 7.1. If we combine the "definitely yes" and "probably yes" categories, the figures range from 78.3 percent in the New York City HSA (which includes three of the city's five boroughs) to over 90 percent in the Plattsburgh and South/Central New York HSAs.

Figure 7.1

RNs' Views on Whether There is a Shortage of Nurses

(RNs Working in Nursing in New York State)

Based on your experience, would you say that there is **a shortage of qualified nurses -** in this geographic area - for people with your experience, training and skills?




Examining just the percentage that said "definitely yes" to the shortage question shows that many RNs are confident in their perceptions. The figures range from 43.1 percent for RNs in the Rockland HSA to 65.9 percent for those practicing in the South/Central New York HSA. In 16 of the 22 HSAs more than half of the respondents said there was definitely a shortage of RNs in their geographic area, and in five of these the figure reached over 60 percent.

This high degree of consensus regarding the existence of a shortage should not completely overshadow important interregional variation in nurses' perceptions. If nurses' views are reliable indicators, then Plattsburgh and the South/Central New York regions could merit special attention. At the very least, additional analysis or further research to identify regions where nursing shortages appear to be particularly acute is warranted.

Table 7.1
Nurses' Perceptions of the Shortage of Qualified Nurses
in Their Geographic Area, by HSA
(RNs Working in Nursing in New York State)

| | Percentage of Responses | | | | | |
|---|---|---|---|---|---|---|
| Health Service Area | Definitely Yes | Probably Yes | Probably Not | Definitely Not | Don't Know | Row Total[a] |
| South/Central NY | 65.9% | 25.4% | 4.5% | 1.4% | 2.8% | 100% |
| Gloversville | 63.6% | 24.1% | 7.6% | 1.9% | 2.9% | 100% |
| Binghamton | 63.2% | 24.3% | 6.4% | 3.6% | 2.5% | 100% |
| Southern Tier East | 61.7% | 25.0% | 9.1% | 1.7% | 2.4% | 100% |
| Finger Lakes | 60.2% | 25.7% | 7.6% | 0.8% | 5.7% | 100% |
| Plattsburgh | 59.3% | 33.5% | 4.4% | 1.4% | 1.4% | 100% |
| Columbia Greene | 57.3% | 27.6% | 8.1% | 3.0% | 4.1% | 100% |
| Hudson Valley | 57.0% | 24.0% | 8.9% | 3.7% | 6.4% | 100% |
| Albany | 55.4% | 26.4% | 9.8% | 4.1% | 4.1% | 100% |
| Utica | 55.2% | 34.5% | 7.3% | 0.0% | 3.1% | 100% |
| Jamestown | 54.9% | 30.6% | 8.8% | 0.4% | 5.3% | 100% |
| Long Island | 53.3% | 28.1% | 10.2% | 4.1% | 4.3% | 100% |
| Syracuse | 53.3% | 28.6% | 9.8% | 3.6% | 4.7% | 100% |
| Glens Falls | 52.9% | 30.7% | 11.5% | 1.9% | 3.1% | 100% |
| New York City | 52.1% | 26.2% | 10.8% | 4.7% | 6.3% | 100% |
| Southern Tier West | 50.5% | 33.8% | 9.8% | 5.0% | 1.0% | 100% |
| Western NY | 49.9% | 28.7% | 12.8% | 4.6% | 4.0% | 100% |
| Newburgh | 49.0% | 34.6% | 10.4% | 2.3% | 3.6% | 100% |
| Ithaca | 48.1% | 30.4% | 13.4% | 5.4% | 2.7% | 100% |
| Brooklyn | 48.1% | 30.5% | 10.5% | 4.8% | 6.1% | 100% |
| North Country West | 46.4% | 34.4% | 10.1% | 4.3% | 4.7% | 100% |
| Rockland | 43.1% | 39.9% | 10.0% | 2.8% | 4.2% | 100% |
| Overall | 52.8% | 28.1% | 10.3% | 3.9% | 4.8% | 100% |

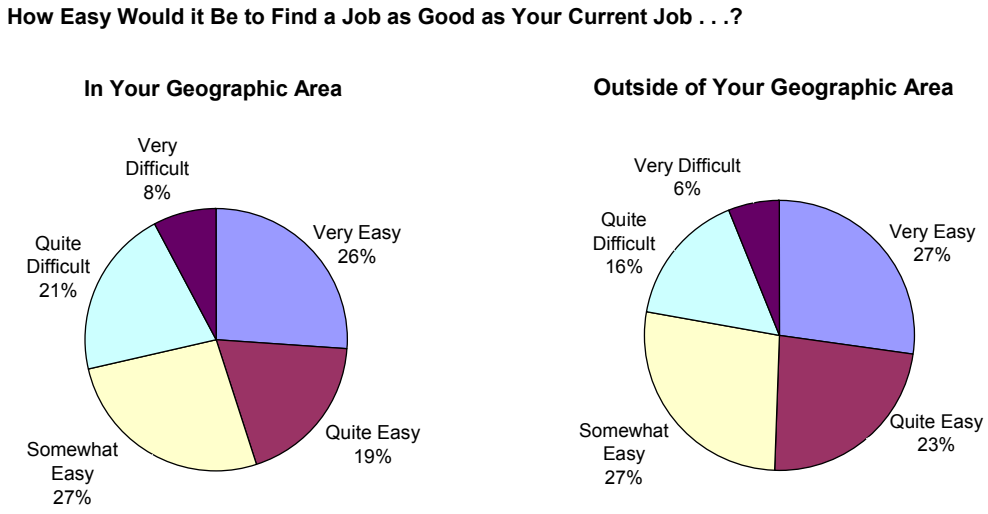
[a] Not all rows sum to 100.0 percent due to rounding.

## NURSES' PERCEPTIONS OF THE EASE OF FINDING A JOB

Another measure one can examine in order to assess nurses' opinions as to the extent and/or existence of a shortage is their views on how easy it would be to find a job as good as their current one. The survey asked RNs to say how easy it would be to find a job as good as their current job, both inside and outside of their geographic area.

Figure 7.2

RN Views on Job Availability Inside and Outside Their Geographic Areas[a]




[a] Figures do not add up to 100 percent due to rounding.

Figure 7.2 allows a direct comparison of RN perceptions of job-finding ease, both within, as well as outside their immediate geographic areas. The pie chart on the left-hand side shows that within their geographic areas nurses generally feel that it would be easy to find a job as good as their current one: 45 percent feel that it would be either very easy or quite easy to do so. Only 29 percent feel that it would be either quite difficult or very difficult.

Respondents were slightly more optimistic about the job market outside their geographic area. Half indicated that it would be very easy or quite easy to find another job as good as their current job outside their geographic area. Less than a quarter (22 percent) said that it would be quite difficult or very difficult.

### *Perceived Ease of Finding a Job by Region of Practice*

Examining nurses' perceptions of job finding ease by geographic category provides a rough proxy for regional variations in the job market. Use of the four broad geographic categories introduced in Chapter 2 (i.e., New York City, downstate suburbs, upstate metropolitan areas, and rural areas) permits us to test the conventional wisdom that the national nursing shortage is most acute in rural and highly dense urban areas. (See Appendix E for a list of counties in each of these four geographic categories.)

Table 7.2 confirms that RNs in downstate areas—both New York City and its surrounding suburbs—are much more positive than others about the likelihood of finding a job as good as their current one within their area. Half of the downstate RNs

believe that it would be very easy or quite easy to do so, whereas the comparison figure is 39 percent for RNs in upstate metropolitan areas and only 35 percent for rural nurses. Upstate and rural RNs believe that they are in a less favorable labor market than their downstate counterparts.

Table 7.2
Views on Ease of Finding a Job as Good as Their Current Job
Inside and Outside of Their Geographic Area by Region of Practice
(RNs Working in Nursing in New York State)

**Ease of Finding a Job as Good as Current Job…**

| Region of Practice | Est. Count | Column % | Row Percentages: Very Easy or Quite Easy | Somewhat Easy | Quite Difficult or Very Difficult | Row Total[a] |
|---|---|---|---|---|---|---|
| ***NYC*** | 57,639 | 34.8% | | | | |
| Inside Geographic Area | | | 50.0% | 27.7% | 22.3% | 100% |
| Outside Geographic Area | | | 45.2% | 29.2% | 25.6% | 100% |
| ***Downstate Suburbs*** | 38,407 | 23.2% | | | | |
| Inside Geographic Area | | | 49.9% | 25.7% | 24.3% | 100% |
| Outside Geographic Area | | | 51.6% | 26.7% | 21.7% | 100% |
| ***Upstate Metropolitan Areas*** | 56,928 | 34.4% | | | | |
| Inside Geographic Area | | | 39.0% | 26.0% | 35.0% | 100% |
| Outside Geographic Area | | | 53.7% | 26.3% | 19.9% | 100% |
| ***Rural*** | 12,665 | 7.6% | | | | |
| Inside Geographic Area | | | 35.1% | 24.8% | 40.1% | 100% |
| Outside Geographic Area | | | 57.7% | 22.8% | 19.6% | 100% |
| ***Overall***[b] | **165,640** | **100.0%** | | | | |
| Inside Geographic Area | | | **45.0%** | **26.5%** | **28.5%** | **100%** |
| Outside Geographic Area | | | **50.6%** | **27.1%** | **22.3%** | **100%** |

[a] Some row totals do not add up to exactly 100.0 percent because of rounding.
[b] Based on all respondents for the column variable.

The table also reveals significant variation between upstate and downstate nurses in their perception of job-finding ease inside and outside their geographic areas. For nurses practicing downstate, either in New York City or its suburbs, their ease of finding a similarly situated job does not differ appreciably whether looking outside their immediate area or within their immediate geographic area. RNs working in New York City believe that their local labor market is more favorable than the statewide market:

only 45 percent believe that it would be very easy or quite easy to find a job outside their area, whereas the figure is 50 percent in the case of jobs inside their geographic area. Upstate nurses, on the other hand, in generally the same proportions across urban or rural counties of practice, think they would have much better luck going outside their geographic area to find a job as good as their current one.

Table 7.3
Views on Ease of Finding a Job as Good as Current Job
Inside and Outside of Their Geographic Area by Primary Work Setting
(RNs Working in Nursing in New York State)

| Primary Work Setting | Est. Count | Column % | Row Percentages: Very Easy or Quite Easy | Somewhat Easy | Quite Difficult or Very Difficult | Row Total[a] |
|---|---|---|---|---|---|---|
| ***Nursing Home*** | 14,986 | 9.0% | | | | |
| Inside Geographic Area | | | 54.1% | 29.2% | 16.7% | 100% |
| Outside Geographic Area | | | 58.2% | 26.1% | 15.7% | 100% |
| ***Hospital*** | 90,137 | 54.4% | | | | |
| Inside Geographic Area | | | 51.4% | 26.1% | 22.4% | 100% |
| Outside Geographic Area | | | 56.6% | 25.7% | 17.7% | 100% |
| ***Home Health Agency*** | 12,626 | 7.6% | | | | |
| Inside Geographic Area | | | 45.5% | 26.6% | 27.9% | 100% |
| Outside Geographic Area | | | 45.8% | 27.6% | 26.6% | 100% |
| ***Ambulatory Care, Diagnostic Treat. Ctr.*** | 8,723 | 5.3% | | | | |
| Inside Geographic Area | | | 34.4% | 28.6% | 37.0% | 100% |
| Outside Geographic Area | | | 41.8% | 30.7% | 27.6% | 100% |
| ***Private Physician's Office*** | 8,078 | 4.9% | | | | |
| Inside Geographic Area | | | 31.7% | 28.7% | 39.5% | 100% |
| Outside Geographic Area | | | 40.5% | 33.4% | 26.1% | 100% |
| ***School Health*** | 9,383 | 5.7% | | | | |
| Inside Geographic Area | | | 30.4% | 25.7% | 44.0% | 100% |
| Outside Geographic Area | | | 35.2% | 28.8% | 36.0% | 100% |
| ***Other*** | 15,128 | 9.1% | | | | |
| Inside Geographic Area | | | 28.0% | 25.6% | 46.4% | 100% |
| Outside Geographic Area | | | 38.0% | 28.9% | 33.1% | 100% |
| ***Nursing Education*** | 3,053 | 1.8% | | | | |
| Inside Geographic Area | | | 25.9% | 28.8% | 45.3% | 100% |
| Outside Geographic Area | | | 36.8% | 32.3% | 30.9% | 100% |
| ***Gov't, Professional, Health Org.*** | 3,526 | 2.1% | | | | |
| Inside Geographic Area | | | 25.5% | 20.2% | 54.3% | 100% |
| Outside Geographic Area | | | 31.4% | 30.9% | 37.7% | 100% |
| ***Overall***[b] | **165,640** | **100%** | | | | |
| Inside Geographic Area | | | **45.0%** | **26.5%** | **28.5%** | **100%** |
| Outside Geographic Area | | | **50.6%** | **27.1%** | **22.3%** | **100%** |

[a] The estimated counts and some row totals do not add up to exactly 100 percent because of rounding.
[b] Based on all respondents for the column variable.

### *Ease of Finding a Job by Primary Work Setting*

The findings presented in Table 7.3 suggest that nurses believe it would be very easy or quite easy to find another job as good as their present one, either inside or outside their geographic area. Furthermore, if we extend the response category to include as well those who said "somewhat easy," roughly eight out of ten nurses feel that finding a job in the nursing home and hospital sectors would not be difficult. This supports other findings that suggest that hospitals and nursing homes are the settings with the most severe shortages of nurses. They are also, perhaps not by coincidence, the settings with the lowest-rated levels of job satisfaction, and highest rates of planned leave-taking.

Only about a quarter of nurses working in nursing education institutions (25.9 percent), or government, professional, or health maintenance organizations (25.5 percent) think that it would be easy to find a job as good as the one they currently hold. With the exception of RNs working for home health agencies, nurses across all work settings are more likely to say that it is very easy or quite easy to find another job outside of, rather than within, their geographic areas.

### *Ease of Finding A Job by Primary Job Title*

There is, similarly, significant variation across job titles with regard to views on job-finding ease. As Table 7.4 shows, certified registered nurse anesthetists are the most optimistic about finding a job as good as their current one both inside and outside their geographic areas. A high percentage of inpatient staff nurses also believe it would be very easy or quite easy to find another job. Well over half (57.8 percent) believe it would be easy to do so within their geographic area and the figure rises to 62.4 percent for jobs outside their geographic area.

In contrast, nurse practitioners and clinical nurse specialists, are the least optimistic about job-hunting success. Only 19.3 percent and 27.0 percent respectively believe it would be very easy or quite easy to find a job as good as their current job in their immediate geographic area.

Table 7.4
Ease of Finding Another Job in Same and Different Geographic Area by Primary Job Title
(RNs Working in Nursing in New York State)

Ease of Finding a Job as Good as Current Job in Same and Different Geographic Area

| | | | Row Percentages | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Very Easy or Quite Easy | | Somewhat Easy | | Quite Difficult or Very Difficult | | Row Total[a] | |
| Primary Job Title | Est. Count | Column % | In Area | Out of Area | In Area | Out of Area | In Area | Out of Area | In Area | Out of Area |
| Certified Registered Nurse Anesthetist | 643 | 0.4% | 61.6% | 84.3% | 17.4% | 9.0% | 20.9% | 6.8% | 100% | 100% |
| Inpatient Staff Nurse | 68,077 | 41.1% | 57.8% | 62.4% | 25.9% | 24.5% | 16.3% | 13.1% | 100% | 100% |
| Nurse Manager/Patient Care Coordinator | 16,870 | 10.2% | 45.9% | 51.2% | 28.2% | 28.2% | 25.9% | 20.6% | 100% | 100% |
| Nursing Executive | 4,954 | 3.0% | 39.4% | 45.5% | 24.4% | 28.0% | 36.2% | 26.5% | 100% | 100% |
| Outpatient Staff Nurse | 24,663 | 14.9% | 39.3% | 44.9% | 27.7% | 29.6% | 32.9% | 25.5% | 100% | 100% |
| Public/Community Health Nurse | 7,800 | 4.7% | 35.3% | 40.5% | 27.5% | 26.3% | 37.1% | 33.2% | 100% | 100% |
| Independent Practitioner/ Private Duty Nurse | 2,812 | 1.7% | 34.5% | 35.2% | 27.2% | 27.2% | 38.3% | 37.6% | 100% | 100% |
| Claims Rev., Qual. Assurance, Utilization Review, Risk Mgt. | 6,040 | 3.6% | 34.1% | 37.2% | 26.9% | 31.6% | 39.0% | 31.1% | 100% | 100% |
| Other | 15,850 | 9.6% | 32.8% | 40.0% | 25.0% | 27.5% | 42.2% | 32.4% | 100% | 100% |
| Dean or Faculty in Nursing Education | 3,007 | 1.8% | 30.0% | 43.8% | 26.5% | 30.9% | 43.6% | 25.3% | 100% | 100% |
| Clinical Nurse Spec., In-Service Dir./Instructor | 5,527 | 3.3% | 27.0% | 32.0% | 32.6% | 36.1% | 40.4% | 32.0% | 100% | 100% |
| Consultant or Researcher | 2,313 | 1.4% | 23.9% | 32.7% | 20.4% | 23.5% | 55.8% | 43.8% | 100% | 100% |
| Nurse Practitioner | 7,084 | 4.3% | 19.3% | 32.1% | 26.2% | 31.7% | 54.4% | 36.2% | 100% | 100% |
| **Overall[b]** | **165,640** | **100.0%** | **45.0%** | **50.6%** | **26.5%** | **27.1%** | **28.5%** | **22.3%** | **100%** | **100%** |

[a] Some row totals do not add up to exactly 100 percent because of rounding.

[b] Based on all respondents for the column variable.

## TIME TO FIND A FIRST JOB

Table 7.5 reveals the average number of months nurses spent looking for their first job by the decade during which sample respondents completed their basic nursing preparation. Since this type of measure depends heavily upon long-term memory and is subject to greater measurement error, it should be interpreted with some caution. The vast majority of nurses have never had trouble finding their first job. On average, RNs working in New York took 1.5 months to find their first job. RNs who entered the profession more recently, however, have taken slightly longer to find their first job than those who entered in earlier decades. The average for RNs who finished their basic preparation before 1970 is less than a month.

Table 7.5
Averge Time to Find First Nursing Job (in Months)
by Decade of Completion of Basic Nursing Preparation
(RNs Working in Nursing in New York State)

| Decade of Completion of Basic Nursing Preparation | Est. Count | Average Time to Find First Job (Months) | Standard Deviation |
|---|---|---|---|
| Before 1960 | 4,058 | 0.4 | 0.7 |
| 1960-69 | 23,149 | 0.8 | 1.8 |
| 1970-79 | 46,542 | 1.5 | 2.8 |
| 1980-89 | 47,281 | 1.5 | 2.2 |
| 1990-99 | 38,455 | 2.2 | 3.4 |
| 2000 or Later | 6,155 | 1.5 | 1.9 |
| **Overall** | **165,640** | **1.5** | **2.7** |

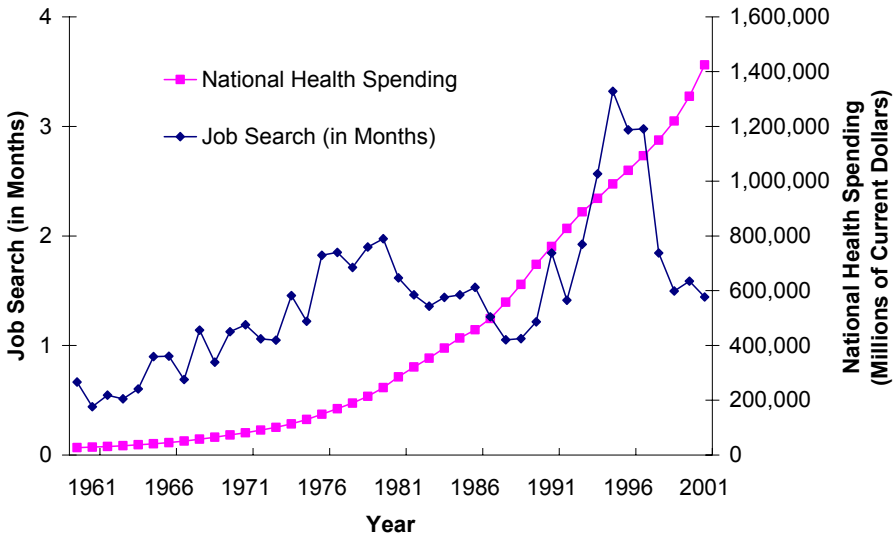
For nurses who finished in the 1990s, the average job search reached 2.2 months, while for the most recent graduates the average has dropped to 1.5 months. Part of the overall increase is likely due to the disappearance of nursing diploma programs—programs that were tightly linked to the institutions providing the training.

### *Length of First Job Search and National Spending*

It is also interesting to compare the change in the length of nurses' first job search with trends in national health care spending over the same period. The increase in demand for health services in the mid to late 1960s, with the advent of Medicaid and Medicare, could explain the short job search periods of New York nurses who entered nursing during the 1960s. (We use the year of completion of the basic nursing preparation as a proxy for the year of entry to the profession.) However, this unexpected growth, in which annual increases in national health spending averaged in the double digits from the late 1960s to the middle 1980s, quickly became a concern of federal policymakers. As a result, cost containment measures were widely introduced, and managed care initiatives based upon capitation models rather than fee-for-service models increased. As efforts to reduce operational costs became far more aggressive, the labor market for health care workers tightened.

Figure 7.3 depicts national health care spending trends from 1961 to 2002 and the trend line over the same period that illustrates the average length of the first successful job search for RNs graduating during this period. On the whole, job search times appear to be roughly correlated with national health spending.

Figure 7.3
Relationship Between National Health Care Spending and Length of First Nursing Job Search by Year[a]




[a] The source for the data on national health spending is from the U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services. For the job search variable, the year is the year of completion of the basic nursing credential.

The data we have reviewed to this point show that, in the main, RNs have very little trouble finding a first job regardless of when they entered the profession. Moreover, the subjective evidence reviewed here suggests that in certain sectors (most notably the nursing home and inpatient hospital-based sector), RNs are—according to their own self reporting on this matter—easily able to find alternatives that are as attractive as the job they currently hold.

## TRAVEL TIME TO WORK

Table 7.6 highlights the average travel time to work for RNs practicing in New York State. A notable finding is that the average commute time for New York nurses closely mirrors that of all New York workers, as measured by the 2000 Census. On average, the State's RNs spend just under one half hour (28 minutes) in their commute to work. The average commute in the New York City HSA, comprised only of the boroughs of the Bronx and Manhattan, is the longest at three-quarters of an hour (44.3 minutes). Heavier reliance upon public transportation and the high cost and limited availability of accessible parking, contribute to long commute times there. RNs in the Utica region have the shortest travel time to work (18.1 minutes).

Table 7.6
Average Travel Time to Work of Nurses Working in New York by Health Service Area

| Health Service Area | Average Travel Time (Minutes) | Health Service Area | Average Travel Time (Minutes) |
|---|---|---|---|
| Albany | 25.5 | New York City | 44.3 |
| Binghamton | 21.3 | Newburgh | 20.7 |
| Brooklyn | 29.8 | North Country West | 20.4 |
| Columbia Greene | 21.2 | Plattsburgh | 19.9 |
| Finger Lakes | 20.5 | Rockland | 20.9 |
| Glens Falls | 20.6 | South/Central NY | 21.1 |
| Gloversville | 19.8 | Southern Tier East | 21.5 |
| Hudson Valley | 27.0 | Southern Tier West | 19.3 |
| Ithaca | 20.9 | Syracuse | 22.5 |
| Jamestown | 20.0 | Utica | 18.1 |
| Long Island | 25.1 | Western NY | 21.8 |
| All New York Nurses | 28.0 | | |
| All New York Workers[a] | 31.7 | | |

[a] Source: U.S. Department of Commerce, Bureau of the Census, 2000 Census.

## APPENDIX A: THE NURSING SURVEY—INSTRUCTIONS AND REPRODUCTION OF THE SURVEY INSTRUMENT

☑ **Which Sections to Complete:** Use the following guide to determine which sections of the survey to complete.

> The **field of nursing** refers to work in any capacity where nursing skills or nursing knowledge are required. This definition is broad and includes all those who work in direct patient care as well as those who work in non-clinical jobs. Such duties as administrative work, research, teaching, utilization and quality management are considered to be part of the nursing field if nursing skills and knowledge are required to perform the job.

**COMPLETE ALL SECTIONS IF:**

You are currently working in the field of nursing

**OR**

⇒ You are NOT working in nursing now but did work within the field of nursing within the LAST THREE YEARS

***COMPLETE ONLY QUESTIONS 1 AND 2 – AND SKIP TO QUESTION 82 IF:***

⇒ *You have NOT worked in the field of nursing within the last three years, i.e., you have RETIRED from nursing or left the nursing field for three years or more*

***OR***

⇒ *You have NEVER worked in nursing*

**Primary Employment:** Most of the questions in the survey are focused on your *primary employment setting* in nursing- i.e., where you spend the most work time. Unless otherwise indicated, please respond based on your primary employment experience.

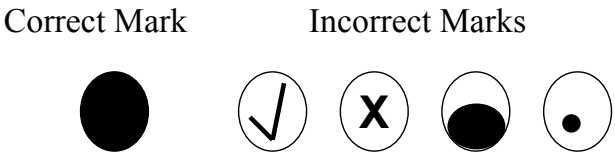
**Survey Responses:**

Use a No. 2 pencil only.

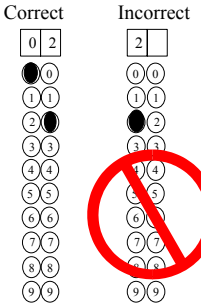
Make dark marks that completely fill the circle.

Erase cleanly any answer you change.

Do not make any stray marks on this form.




**Numeric Responses**: For questions where you are required to provide numbers, be sure that responses are ***right justified***. Make sure to add a leading zero where applicable. In the example to the right, two spaces are available, thus someone with a response of '2' must add a zero in the left column.



## Employment

| | | | |
|---|---|---|---|
| | | | years |
| 1. How many years have you worked as an RN in the field of nursing?<br><br>**(Write the number in the boxes provided and shade in the corresponding bubbles.)** | ⓪<br>①<br>②<br>③<br>④<br>⑤ | ⓪<br>①<br>②<br>③<br>④<br>⑤<br>⑥<br>⑦<br>⑧<br>⑨ | |

2. Are you working in the field of nursing at this time?

O Yes ⟶ Do you work O Full time or O Part time (GO TO QUESTION 3)

O No – currently working outside the nursing field

O No – currently not working or RETIRED

2a. (ONLY IF "NO" TO QUESTION 2): Have you *ever* worked in nursing?

O Yes – Within the past three years (GO TO QUESTION 3–AND RESPOND TO ALL REMAINING QUESTIONS BASED ON YOUR LAST NURSING JOB)

O Yes – But more than three years ago

O No – Never

SKIP TO QUESTION 82

3. Do you have more than one job?

O No

O Yes ⟶ 3a. How many of these extra job(s) are in nursing?

O none O 1 O 2 O 3 O 4 or more

**If you marked 1 or more extra <u>nursing</u> positions, please answer question 3b:**

| | | | |
|---|---|---|---|
| 3b. Approximately how many hours are you scheduled to work during a normal workweek (as defined by your organization) at these **<u>extra nursing</u>** positions you may have?<br><br>**(Write the number in the boxes provided and shade in the corresponding bubbles.)** | ⓪<br>①<br>②<br>③<br>④<br>⑤<br>⑥<br>⑦<br>⑧<br>⑨ | ⓪<br>①<br>②<br>③<br>④<br>⑤<br>⑥<br>⑦<br>⑧<br>⑨ | hrs |

4. How would you describe your current <u>primary</u> employment setting i.e., the setting where you spend <u>most</u> of your working time? (SELECT ONLY ONE AND GO TO QUESTION 5 UNLESS DIRECTED TO QUESTIONS 4a OR 4b).

- O Ambulatory care (freestanding clinic)
- O Business or industry
- O Community/Public health agency
- O Diagnostic/Treatment center
- O HMO/Managed care
- O Home health agency/Home care
- O Hospital (in-patient) – GO TO QUESTION 4a
- O Hospital (out-patient) – GO TO QUESTION 4a
- O Insurance
- O Insurance claims/Benefit review
- O Institutions of higher education
- O Nursing education
- O Nursing home – GO TO QUESTION 4b
- O Planning or licensing agency
- O Physician's office
- O Private practice (self-employed)
- O School health nursing service
- O Other health-related setting
- O Non-health-related setting

[**ONLY IF YOU IDENTIFIED A "HOSPITAL" AS YOUR PRIMARY EMPLOYMENT SETTING:**]

4a. In which of the following units are you assigned? (MARK ALL THAT APPLY AND CONTINUE TO 4b.)

- O Clinic/Outpatient
- O Emergency
- O Geriatrics
- O Intensive care
- O Medical/Surgical
- O Obstetrics/Gynecology
- O OR/Recovery room
- O Pediatrics

- O Psychiatry
- O Rehabilitation
- O Radiology/labs/diagnostics
- O Other

**[ONLY IF YOU WORK IN A HOSPITAL OR NURSING HOME AS YOUR PRIMARY EMPLOYMENT SETTING:]**

4b. Would you say that it is a small facility (50 or fewer beds), medium facility (51 to 125 beds) or a large facility (more than 125 beds)?

O Small (50 beds or fewer) O Medium (51 to 125 beds) O Large (125 beds +)

5. Which job title would you say best reflects your current position?

- O Staff nurse
- O Certified registered nurse anesthetist
- O Claims reviewer
- O Clinical nurse specialist
- O Consultant
- O Dean/Director/Chairperson of a nursing education program
- O Director of nursing/Vice president for nursing/Chief nursing executive or Assistant/ Associate nursing director
- O Faculty in a nursing education program
- O Independent practitioner
- O Quality assurance/Utilization review/Risk management nurse
- O In-service director, educator, or instructor
- O Nurse manager/Patient care coordinator
- O Nurse practitioner
- O Private duty nurse
- O Public/Community health nurse
- O Researcher
- O Other

6. For how long have you worked in this particular job? (ROUND TO THE NEAREST YEAR.)

**(Write the number in the boxes provided and shade in the corresponding bubbles.)**

| | | years |
|---|---|---|
| ⓪ | ⓪ | |
| ① | ① | |
| ② | ② | |
| ③ | ③ | |
| ④ | ④ | |
| ⑤ | ⑤ | |
| | ⑥ | |
| | ⑦ | |
| | ⑧ | |
| | ⑨ | |

7. Approximately how many hours are you usually scheduled to work in a normal workweek (as defined by the organization) at your principal nursing job? If you do not work on a routine schedule, how many hours on average do you usually work during a week at your principal nursing position?

**(Write the number in the boxes provided and shade in the corresponding bubbles.)**

| | | hrs |
|---|---|---|
| ⓪ | ⓪ | |
| ① | ① | |
| ② | ② | |
| ③ | ③ | |
| ④ | ④ | |
| ⑤ | ⑤ | |
| ⑥ | ⑥ | |
| ⑦ | ⑦ | |
| ⑧ | ⑧ | |
| ⑨ | ⑨ | |

8. Do you work on an overtime basis in this job?

- O No (SKIP TO QUESTION 11)
- O Yes →

9. **(If 'YES' to Question 8)**

On average, how many hours of your workweek are overtime in this job?

**(Write the number in the boxes provided and shade in the corresponding bubbles.)**

| | | hrs |
|---|---|---|
| ⓪ | ⓪ | |
| ① | ① | |
| ② | ② | |
| ③ | ③ | |
| ④ | ④ | |
| ⑤ | ⑤ | |
| ⑥ | ⑥ | |
| ⑦ | ⑦ | |
| ⑧ | ⑧ | |
| ⑨ | ⑨ | |

10. Is this overtime work:

- O Always mandatory?
- O Sometimes mandatory?
- O Never mandatory?

11. Do you work in direct patient care in your primary employment setting?

O No (SKIP TO QUESTION 12)

O YES ⟶ 11a. What percentage of your average workday in your primary employment setting is spent on the following activities? **(Write the percentage in the boxes provided and shade in the corresponding bubbles. Your answers should add to 100%)**

| Percent of day on direct patient care | | | | Percent of day on paperwork | | | | Percent of day on other tasks | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | % | | | | % | | | | % |
| ⓪ | ⓪ | ⓪ | | ⓪ | ⓪ | ⓪ | | ⓪ | ⓪ | ⓪ | |
| ① | ① | ① | | ① | ① | ① | | ① | ① | ① | |
| | ② | ② | | | ② | ② | | | ② | ② | |
| | ③ | ③ | | | ③ | ③ | | | ③ | ③ | |
| | ④ | ④ | | | ④ | ④ | | | ④ | ④ | |
| | ⑤ | ⑤ | | | ⑤ | ⑤ | | | ⑤ | ⑤ | |
| | ⑥ | ⑥ | | | ⑥ | ⑥ | | | ⑥ | ⑥ | |
| | ⑦ | ⑦ | | | ⑦ | ⑦ | | | ⑦ | ⑦ | |
| | ⑧ | ⑧ | | | ⑧ | ⑧ | | | ⑧ | ⑧ | |
| | ⑨ | ⑨ | | | ⑨ | ⑨ | | | ⑨ | ⑨ | |

12. Is your principal nursing position:

O A "solo" or independent practice position? (SKIP TO QUESTION 13)

O In a group, agency or large organizational setting?

| 12a. Including yourself, how many people work in your immediate work unit during your regular workday? (Count all staff – clinical and non-clinical).<br><br>**(Write the number in the boxes provided and shade in the corresponding bubbles.)** | | | | people |
|---|---|---|---|---|
| | ⓪ | ⓪ | ⓪ | |
| | ① | ① | ① | |
| | ② | ② | ② | |
| | ③ | ③ | ③ | |
| | ④ | ④ | ④ | |
| | ⑤ | ⑤ | ⑤ | |
| | ⑥ | ⑥ | ⑥ | |
| | ⑦ | ⑦ | ⑦ | |
| | ⑧ | ⑧ | ⑧ | |
| | ⑨ | ⑨ | ⑨ | |

| 12b. Including yourself, how many **licensed professionals** work in your immediate work unit during your regular workday?<br><br>**(Write the number in the boxes provided and shade in the corresponding bubbles.)** | | | | people |
|---|---|---|---|---|
| | ⓪ | ⓪ | ⓪ | |
| | ① | ① | ① | |
| | ② | ② | ② | |
| | ③ | ③ | ③ | |
| | ④ | ④ | ④ | |
| | ⑤ | ⑤ | ⑤ | |
| | ⑥ | ⑥ | ⑥ | |
| | ⑦ | ⑦ | ⑦ | |
| | ⑧ | ⑧ | ⑧ | |
| | ⑨ | ⑨ | ⑨ | |

## Job Market

In this section, we ask a series of questions about the job market in your area. The job market in your area refers to the geographic locations you can work in ***without*** changing your residence. Any jobs outside of your area, are jobs that would cause you to change your residence.

### *Jobs in Your Area*

13. How easy do you think it would be for you or a nurse ***in your area*** to find a job with another employer in this same area that is as good, better than or much better than the one you have now?

| How easy would it be: | Very easy | Quite easy | Somewhat easy | Quite difficult | Very difficult |
|---|---|---|---|---|---|
| a. To find a job as good as my current job: | ○ | ○ | ○ | ○ | ○ |
| b. To find a job better than my current job: | ○ | ○ | ○ | ○ | ○ |
| c. To find a job much better than my current job: | ○ | ○ | ○ | ○ | ○ |

### *Jobs Outside of Your Area*

14. As you think about the job market for nurses ***outside of your area***, how easy do you think it would be to find a job with another employer that is as good as the one you have now?

| How easy would it be: | Very easy | Quite easy | Somewhat easy | Quite difficult | Very difficult |
|---|---|---|---|---|---|
| a. To find a job as good as my current job: | ○ | ○ | ○ | ○ | ○ |
| b. To find a job better than my current job: | ○ | ○ | ○ | ○ | ○ |
| c. To find a job much better than my current job: | ○ | ○ | ○ | ○ | ○ |

### *Supply of Jobs and Nurses*

15. Based on your experience, would you say that there is a **shortage of jobs** in this geographic area for people with your experience, training and skills?

| Definitely yes | Probably yes | Probably not | Definitely not | Don't know |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

16. Is there a **shortage of qualified nurses** – in this geographic area – who have your level of experience, training and skills?

| Definitely yes | Probably yes | Probably not | Definitely not | Don't know |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

### *Job Seeking*

Please indicate your level of agreement or disagreement with each of the following four statements about job seeking with regard to <u>all</u> jobs- <u>not</u> just those in nursing.

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| 17. I rarely seek out information about job opportunities with other employers. | O | O | O | O | O |
| 18. There is little chance that I will seek out job opportunities with other employers. | O | O | O | O | O |
| 19. I almost always follow up on job leads with other employers that I hear about. | O | O | O | O | O |
| 20. Within the next year, I intend to search for a job with other employers. | O | O | O | O | O |

21. Almost all people have some stress in their lives, but some have a great deal of stress. In your current job, how often do you feel under ***great stress?***

- O Almost every day
- O Several days a week
- O Once or twice a week
- O Less often than once a week
- O Never
- O Not sure

## People at Work

Now we would like to ask your opinion about various aspects of your work setting. Please indicate the extent to which each statement accurately describes your current workload.

## *Workload*

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| 22. I have enough time to get everything done in my job. | ○ | ○ | ○ | ○ | ○ |
| 23. I have to work very hard in my job. | ○ | ○ | ○ | ○ | ○ |
| 24. My workload is not heavy on my job. | ○ | ○ | ○ | ○ | ○ |
| 25. I have to work very fast in my job. | ○ | ○ | ○ | ○ | ○ |
| 26. I have difficulty getting supplies I need on my job. | ○ | ○ | ○ | ○ | ○ |
| 27. I have adequate equipment to do my job. | ○ | ○ | ○ | ○ | ○ |
| 28. I do not have enough room to do my job. | ○ | ○ | ○ | ○ | ○ |

## *Decision Making*

| | None | Very little | Some | Quite a lot | A great deal |
|---|---|---|---|---|---|
| 29. How much say do you have over what happens on your job? | ○ | ○ | ○ | ○ | ○ |
| 30. As you think about your own work, how much "freedom" do you have as to how you do your job? | ○ | ○ | ○ | ○ | ○ |
| 31. How much does your job allow you to take part in decisions that affect you? | ○ | ○ | ○ | ○ | ○ |

| | None | Very little | Some | Quite a lot | A great deal |
|---|---|---|---|---|---|
| 32. How much does your current job require that you meet or check with other people before you do something? | ○ | ○ | ○ | ○ | ○ |
| 33. How much are you invited to serve on administration committees? | ○ | ○ | ○ | ○ | ○ |
| 34. **(ONLY if you are in a direct patient care job)** How much does your job allow you to make patient care decisions? | ○ | ○ | ○ | ○ | ○ |

The following sections are designed principally for nurses in group, agency, or larger organizational settings. If you work INDEPENDENTLY IN SOLO PRACTICE OR ARE SELF-EMPLOYED SKIP TO QUESTION 70.

### *Work Climate*

Please indicate the extent to which each statement accurately describes your current work climate.

| | Strongly disagree | Disagree | Mildly disagree | Neutral | Mildly agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|
| 35. Staff in my immediate work group help each other to find better ways of doing a job. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 36. The atmosphere in my immediate work group is friendly and outgoing. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 37. There is a great deal of teamwork and cooperation among various levels of staff in my immediate work group. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 38. The staff where I work are reluctant to pitch in and help one another when things get in a rush. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 39. It is hard for staff to feel comfortable in my immediate work group. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| **Answer Questions 40 to 44 ONLY IF YOU DEAL WITH PHYSICIANS IN YOUR JOB.** | Strongly disagree | Disagree | Mildly disagree | Neutral | Mildly agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|
| 40. Physicians in general cooperate with the nursing staff. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 41. There is a lot of teamwork between nurses and doctors in my immediate work group. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 42. Physicians generally understand and appreciate what the nursing staff does. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 43. I wish the physicians here would show more respect for the skill and knowledge of the nursing staff. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 44. The physicians look down too much on the nursing staff. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## Salary/Compensation

Based upon your experience in your current work setting, to what extent would you agree that the following work rewards are present?

| | Strongly disagree | Disagree | Mildly disagree | Neutral | Mildly agree | Agree | Strongly agree |
|---|---|---|---|---|---|---|---|
| 45. My present salary is satisfactory. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 46. It is my impression that a lot of nurses where I work are dissatisfied with their pay. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 47. Considering what is expected of nursing personnel where I work, the pay we get is reasonable. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 48. The present rate of pay increase for nursing personnel is not satisfactory where I work. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 49. An upgrading of pay for nursing personnel is needed where I work. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## Promotional Opportunities

Listed below are statements about promotional opportunities. Indicate your level of agreement/disagreement with each statement:

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| 50. Promotions are regular. | ○ | ○ | ○ | ○ | ○ |
| 51. I am in a dead-end job. | ○ | ○ | ○ | ○ | ○ |
| 52. There is opportunity for advancement. | ○ | ○ | ○ | ○ | ○ |
| 53. There is a good chance to get ahead. | ○ | ○ | ○ | ○ | ○ |
| 54. There is almost no opportunity to rise to the top. | ○ | ○ | ○ | ○ | ○ |

## Feelings about Your Work Setting

Listed below are statements about your current work setting. Indicate how much you agree or disagree with each of these statements:

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| 55. I am willing to put in a great deal of effort beyond what is normally expected to help my unit be successful. | ○ | ○ | ○ | ○ | ○ |
| 56. I speak favorably about this workplace to my friends as a wonderful place to work. | ○ | ○ | ○ | ○ | ○ |
| 57. I would accept almost any type of job assignment to continue working here. | ○ | ○ | ○ | ○ | ○ |
| 58. I find that my values and my organization's values are very similar. | ○ | ○ | ○ | ○ | ○ |

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| 59. I am proud to tell others that I am a part of this organization. | ○ | ○ | ○ | ○ | ○ |
| 60. This organization really inspires me to do my very best in the way of job performance. | ○ | ○ | ○ | ○ | ○ |
| 61. I am extremely glad that I chose this particular place to work over other places I was considering at the time I joined. | ○ | ○ | ○ | ○ | ○ |
| 62. I really care about the future of this organization. | ○ | ○ | ○ | ○ | ○ |
| 63. For me, this is the best of all possible work settings. | ○ | ○ | ○ | ○ | ○ |

## Communication

As you think about your own job in your primary workplace over the past 12 months (or the most recent 12 months of your last job if you're not working now), how well informed are you kept about each of the following aspects of your job?

| | Very poorly informed | Poorly informed | Somewhat informed | Well informed | Very well informed |
|---|---|---|---|---|---|
| 64. What is to be done. | ○ | ○ | ○ | ○ | ○ |
| 65. Standard operating procedures. | ○ | ○ | ○ | ○ | ○ |
| 66. What is most important about the job. | ○ | ○ | ○ | ○ | ○ |
| 67. How well the job is done. | ○ | ○ | ○ | ○ | ○ |
| 68. What you need to know to do the job. | ○ | ○ | ○ | ○ | ○ |
| 69. The nature of the equipment used. | ○ | ○ | ○ | ○ | ○ |

## Job Satisfaction

How much do you agree or disagree with each of the statements below about your job satisfaction? (Choose one for each of the statements.)

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| 70. I am fairly well satisfied with my job. | O | O | O | O | O |
| 71. Most days, I am enthusiastic about my job. | O | O | O | O | O |
| 72. I like working here better than most other people I know who work here. | O | O | O | O | O |
| 73. I do not find enjoyment in my job. | O | O | O | O | O |
| 74. I am often bored with my job. | O | O | O | O | O |
| 75. I would consider taking another kind of job. | O | O | O | O | O |
| 76. All in all, I am very satisfied with my current (most recent) nursing job. | O | O | O | O | O |
| 77. As I look back over my entire career to date, from the time I first entered the field of nursing, I have been very satisfied with my career. | O | O | O | O | O |

78. How enthusiastic would you be in recommending nursing as a career to others? (Select only ONE statement.)

- O I would strongly recommend to my best friends that they go into nursing.
- O I would tell my friends this is an OK career.
- O I would not give my friends an opinion either way.
- O I would recommend to my friends that they go into a different career.
- O I would tell my friends not to make nursing their career under any circumstances.

79. At this time, do you have any plans to leave ***this work setting?*** (Select only ONE.)

- O In the next 12 months
- O In 1 to 2.9 years
- O In 3 to 4.9 years
- O Not for 5 years or more
- O I have already left

80. At this time, do you have any plans to leave the ***nursing profession?*** (Select only ONE.)

- O I have already left
- O In the next 12 months
- O In 1 to 2.9 years
- O In 3 to 4.9 years
- O Not for 5 years or more

SKIP TO
QUESTION 82

81. [**Only if you have already left the nursing profession or plan to do so within the next 12 months]**:
Please indicate your top three reasons for leaving, in rank order of importance:

| 1st Reason | 2nd Reason | 3rd Reason | |
|---|---|---|---|
| O | O | O | Retirement |
| O | O | O | Job stress |
| O | O | O | Career change |
| O | O | O | Relocation |
| O | O | O | Salary |
| O | O | O | Shift/Hours |
| O | O | O | Lack of career advancement |
| O | O | O | Lack of professional recognition |
| O | O | O | Return to school |
| O | O | O | Family obligations |
| O | O | O | Other |

## Comparing Preferences

82. Listed below are five factors that are often involved in how people feel about "work satisfaction." Each factor has a potential impact upon satisfaction and we want to determine the relative importance of these factors to you. Please read first the brief definitions of these factors below:

**Compensation:** Income that you receive as an employee, for work, including salary and fringe benefits

**Autonomy:** The extent to which you feel you can act independently in your nursing practice

**Technology:** Aids to improve patient care or reduce administrative tasks

**Third Party Payment**: Direct payments to nurses for nursing services provided

**Recognition:** Formal and informal ways of valuing employees for the quality work they perform

For each pair of terms that follows, decide which factor is more important for <u>your</u> job satisfaction or morale.

| | | | |
|---|---|---|---|
| a. | O Autonomy | OR | O Compensation |
| b. | O Compensation | OR | O Technology |
| c. | O 3rd Party Payment | OR | O Compensation |
| d. | O Recognition | OR | O Compensation |
| e. | O 3rd Party Payment | OR | O Recognition |
| f. | O Technology | OR | O Autonomy |
| g. | O Autonomy | OR | O 3rd Party Payment |
| h. | O Autonomy | OR | O Recognition |
| i. | O Recognition | OR | O Technology |
| j. | O Technology | OR | O 3rd Party Payment |

## Reforms and Incentives

Listed below are some reforms that might be adopted to attract high quality candidates to the nursing profession. For each reform/incentive listed, please indicate what impact this reform would have <u>in attracting good people</u> to the nursing profession.

| | Would definitely help | Might help | No effect | Would probably not help | Would definitely not help | Don't know/ No opinion |
|---|---|---|---|---|---|---|
| 83. Scholarships for education in return for a commitment to work in an under-served area. (A year of service for a year of scholarship, etc.) | O | O | O | O | O | O |
| 84. Loan forgiveness for past education in return for a commitment to work in an under-served area. (A year of service for each year of the loan that is forgiven.) | O | O | O | O | O | O |

Listed below are some reforms that might be adopted to retain high quality people in the nursing profession. For each reform/incentive listed, please indicate what impact this reform would have <u>in retaining good people</u> in the profession.

| | Would definitely cause someone to leave sooner | Might cause someone to leave sooner | No effect | Might cause someone to stay longer | Would cause someone to stay longer | Don't know/No opinion |
|---|---|---|---|---|---|---|
| 85. Application of ergonomic standards to the work setting | ○ | ○ | ○ | ○ | ○ | ○ |
| 86. Reimbursement for child care | ○ | ○ | ○ | ○ | ○ | ○ |
| 87. Portable pensions/retirement benefits | ○ | ○ | ○ | ○ | ○ | ○ |
| 88. A system of peer or senior mentoring | ○ | ○ | ○ | ○ | ○ | ○ |
| 89. More stringent licensing requirements | ○ | ○ | ○ | ○ | ○ | ○ |
| 90. Public transit vouchers/assistance available | ○ | ○ | ○ | ○ | ○ | ○ |
| 91. Affordable day care available on site | ○ | ○ | ○ | ○ | ○ | ○ |
| 92. Preferential state tax treatment for nurses | ○ | ○ | ○ | ○ | ○ | ○ |
| 93. Greater protections against blood-borne or bodily fluid infectious exposure | ○ | ○ | ○ | ○ | ○ | ○ |
| 94. A higher level of security against workplace violence | ○ | ○ | ○ | ○ | ○ | ○ |
| 95. Tuition assistance for continuing education provided by your employer | ○ | ○ | ○ | ○ | ○ | ○ |

**ANSWER ITEMS 96 TO 101 ONLY IF YOU WORK(ED) IN HOSPITAL OR NURSING HOME SETTINGS; IF YOU DON'T WORK IN SUCH SETTINGS, SKIP TO QUESTION 102.**

| | | | | | | |
|---|---|---|---|---|---|---|
| 96. A reduction in the maximum number of patients under the care of a single nurse | ○ | ○ | ○ | ○ | ○ | ○ |
| 97. Maximum hourly shift lengths | ○ | ○ | ○ | ○ | ○ | ○ |
| 98. Restrictions on mandatory overtime work | ○ | ○ | ○ | ○ | ○ | ○ |
| 99. Stable schedules without rotating shifts | ○ | ○ | ○ | ○ | ○ | ○ |
| 100. Control over work schedule | ○ | ○ | ○ | ○ | ○ | ○ |
| 101. "No-float" staffing policies | ○ | ○ | ○ | ○ | ○ | ○ |

## Education

Now we would like to ask questions about your education and any educational plans you may have:

102. What was your ***basic*** preparation to become a registered nurse?

- ○ Diploma
- ○ Associate's degree
- ○ Bachelor's degree
- ○ Generic master's degree

**103. In what year did you finish your basic nursing preparation? (Write the year in the boxes provided and shade in the corresponding bubbles.)**

| | | | |
|---|---|---|---|
| ① | ⑨ | ⓪ | ⓪ |
| ② | ⓪ | ① | ① |
| | | ② | ② |
| | | ③ | ③ |
| | | ④ | ④ |
| | | ⑤ | ⑤ |
| | | ⑥ | ⑥ |
| | | ⑦ | ⑦ |
| | | ⑧ | ⑧ |
| | | ⑨ | ⑨ |

104. How long (in months) did you search for your first job? **(Write the number of months in the boxes provided and shade in the corresponding bubbles.)**

| | | months |
|---|---|---|
| ⓪ | ⓪ | |
| ① | ① | |
| ② | ② | |
| ③ | ③ | |
| ④ | ④ | |
| ⑤ | ⑤ | |
| ⑥ | ⑥ | |
| ⑦ | ⑦ | |
| ⑧ | ⑧ | |
| ⑨ | ⑨ | |

105. Where did your basic nursing education take place?

- O U.S.– New York State
- O U.S.– outside New York State
- O Other country

106. Since graduation from your basic nursing education program, have you earned any additional degrees?

O No O Yes

107. What is the highest credential you now hold in any field?

- O Diploma
- O Associate's degree
- O Bachelor's – nursing
- O Bachelor's – other field
- O Master's – nursing
- O Master's – other field
- O Doctorate – nursing
- O Doctorate – other field

SKIP TO QUESTION 109

**108.** [**Only if you have at least a master's degree in nursing:**] Please select the one choice that best describes your specialty area. (Select only ONE).

- O Administration
- O Medical/Surgical or adult health
- O Community & public health
- O Family health
- O Geriatrics
- O Maternal & child
- O Neonatal
- O Nurse anesthetist
- O Nursing education
- O Obstetrics/Gynecology
- O Oncology
- O Pediatrics
- O Mental health
- O Rehabilitation
- O School Health
- O Women's health
- O Other

109. Do you plan to pursue any other degrees in nursing in the future?

- O No (GO TO Question 110)
- O Yes → 109a. What degree?

  - O Associate
  - O Baccalaureate
  - O Master's
  - O Doctorate

109b. When do you plan to do that?

- O In the next 5 months
- O In 6 to 11 months
- O In 1 to 2 years
- O In 3 to 5 years
- O More than 5 years

110. **[ONLY IF "No" to Question 109]**

Why do you have no further education plans at this time?

(Please indicate up to three reasons for leaving, in rank order.)

| 1st Reason | 2nd Reason | 3rd Reason | |
|---|---|---|---|
| O | O | O | I have already attained an advanced degree |
| O | O | O | Benefit does not justify tuition or time cost |
| O | O | O | Tuition is too high |
| O | O | O | It is not valued by workplace leadership |
| O | O | O | It is not available in my geographic area |
| O | O | O | I can do very well in my field without it |
| O | O | O | My family life would suffer |
| O | O | O | My work life would suffer |
| O | O | O | No desire for professional advancement |
| O | O | O | I am too old |
| O | O | O | No time to pursue education |
| O | O | O | No courses available with my work schedule |
| O | O | O | No programs available for my specialty area |
| O | O | O | I've never considered it |
| O | O | O | Management does not expect it |
| O | O | O | I haven't the intellectual interest |
| O | O | O | Retirement |
| O | O | O | I have left the nursing profession |
| O | O | O | Other |

111. Which course of study would you recommend to someone just starting his or her basic nursing education?

- O Associate's degree
- O BSN
- O Master's (generic)
- O Entry-level doctorate

## Demographic Characteristics

| 112. What is your age in years?<br><br>**(Write the number in the boxes provided and shade in the corresponding bubbles.)** | | | years |
|---|---|---|---|
| | ⓪ | ⓪ | |
| | ① | ① | |
| | ② | ② | |
| | ③ | ③ | |
| | ④ | ④ | |
| | ⑤ | ⑤ | |
| | ⑥ | ⑥ | |
| | ⑦ | ⑦ | |
| | ⑧ | ⑧ | |
| | ⑨ | ⑨ | |

113. What is your gender?

- O Male
- O Female

114. What is your current marital status?

- O Now married
- O Widowed, divorced, separated
- O Never married

115. Are there children who live at home with you?

- O No children at home
- O All less than six years old
- O All six years old or older
- O Some less than six and some six or older

116. Are there dependent adults for whom you are a primary caregiver?

- O Yes
- O No

117. Which best describes your race/ethnicity? **(Mark Only One)**

- O White, Non-Hispanic
- O Black, Non-Hispanic
- O Hispanic
- O Asian
- O Native American
- O Other
- O Two or more races

118. Were you born in the United States?

- O Yes
- O No

119. Are you currently a resident of New York State?

- O Yes
- O No

**Complete Questions 120-123 ONLY if you are <u>CURRENTLY WORKING</u> in NURSING. Otherwise skip to 124.**

120. What is your gross (i.e., before taxes are withheld) annual salary (**rounded to the nearest thousand**), from both your primary employment and any additional **<u>nursing</u>** employment you may have?

**(Write the salary in the boxes provided and shade in the corresponding bubbles.)**

| | | | |
|---|---|---|---|
| | | | thousand |
| ⓪ | ⓪ | ⓪ | |
| ① | ① | ① | |
| ② | ② | ② | |
| ③ | ③ | ③ | |
| ④ | ④ | ④ | |
| ⑤ | ⑤ | ⑤ | |
| ⑥ | ⑥ | ⑥ | |
| ⑦ | ⑦ | ⑦ | |
| ⑧ | ⑧ | ⑧ | |
| ⑨ | ⑨ | ⑨ | |

121. How many miles do you live from your primary place of employment?

**(Write the number in the boxes provided and shade in the corresponding bubbles.)**

| | | | miles |
|---|---|---|---|
| ⓪ | ⓪ | ⓪ | |
| ① | ① | ① | |
| | ② | ② | |
| | ③ | ③ | |
| | ④ | ④ | |
| | ⑤ | ⑤ | |
| | ⑥ | ⑥ | |
| | ⑦ | ⑦ | |
| | ⑧ | ⑧ | |
| | ⑨ | ⑨ | |

122. How many minutes does it take you to travel from home to your primary place of employment? **(Write the number in the boxes provided and shade in the corresponding bubbles.)**

| | | | minutes |
|---|---|---|---|
| ⓪ | ⓪ | ⓪ | |
| ① | ① | ① | |
| | ② | ② | |
| | ③ | ③ | |
| | ④ | ④ | |
| | ⑤ | ⑤ | |
| | ⑥ | ⑥ | |
| | ⑦ | ⑦ | |
| | ⑧ | ⑧ | |
| | ⑨ | ⑨ | |

123. In the first column, indicate the county of your primary practice setting; in the second column, the county where you completed your basic nursing education; and in the third, where you live. **(Select only ONE county for each)**

| Practice | Education | Home | County |
|---|---|---|---|
| ○ | ○ | ○ | Albany |
| ○ | ○ | ○ | Allegany |
| ○ | ○ | ○ | Bronx |
| ○ | ○ | ○ | Broome |
| ○ | ○ | ○ | Cattaraugus |
| ○ | ○ | ○ | Cayuga |
| ○ | ○ | ○ | Chautauqua |
| ○ | ○ | ○ | Chemung |
| ○ | ○ | ○ | Chenango |
| ○ | ○ | ○ | Clinton |
| ○ | ○ | ○ | Columbia |
| ○ | ○ | ○ | Cortland |
| ○ | ○ | ○ | Delaware |
| ○ | ○ | ○ | Dutchess |
| ○ | ○ | ○ | Erie |
| ○ | ○ | ○ | Essex |
| ○ | ○ | ○ | Franklin |
| ○ | ○ | ○ | Fulton |
| ○ | ○ | ○ | Genesee |
| ○ | ○ | ○ | Greene |
| ○ | ○ | ○ | Hamilton |
| ○ | ○ | ○ | Herkimer |
| ○ | ○ | ○ | Jefferson |
| ○ | ○ | ○ | Kings (Brooklyn) |
| ○ | ○ | ○ | Lewis |
| ○ | ○ | ○ | Livingston |
| ○ | ○ | ○ | Madison |
| ○ | ○ | ○ | Monroe |

| Practice | Education | Home | County |
|---|---|---|---|
| ○ | ○ | ○ | Nassau |
| ○ | ○ | ○ | New York (Manhattan) |
| ○ | ○ | ○ | Niagara |
| ○ | ○ | ○ | Oneida |
| ○ | ○ | ○ | Onondaga |
| ○ | ○ | ○ | Ontario |
| ○ | ○ | ○ | Orange |
| ○ | ○ | ○ | Orleans |
| ○ | ○ | ○ | Oswego |
| ○ | ○ | ○ | Otsego |
| ○ | ○ | ○ | Putnam |
| ○ | ○ | ○ | Queens |
| ○ | ○ | ○ | Rensselaer |
| ○ | ○ | ○ | Richmond (Staten Island) |
| ○ | ○ | ○ | Rockland |
| ○ | ○ | ○ | Saratoga |
| ○ | ○ | ○ | Schenectady |
| ○ | ○ | ○ | Schoharie |
| ○ | ○ | ○ | Schuyler |
| ○ | ○ | ○ | Seneca |
| ○ | ○ | ○ | St. Lawrence |
| ○ | ○ | ○ | Steuben |
| ○ | ○ | ○ | Suffolk |
| ○ | ○ | ○ | Sullivan |
| ○ | ○ | ○ | Tioga |
| ○ | ○ | ○ | Tompkins |
| ○ | ○ | ○ | Ulster |
| ○ | ○ | ○ | Warren |
| ○ | ○ | ○ | Washington |
| ○ | ○ | ○ | Wayne |

| Practice | Education | Home | County |
|---|---|---|---|
| ○ | ○ | ○ | Wyoming |
| ○ | ○ | ○ | Yates |
| ○ | ○ | ○ | Other state in U.S. |
| ○ | ○ | ○ | Outside U.S. |

**You have now finished the survey. Thank you so much for your valuable time and assistance. Won't you please take a moment or two now, to review your answers to make sure that you haven't missed anything? The completed survey should be returned in the postage paid envelope by the date noted in the cover letter.**

## APPENDIX B: THE "PRICE-MUELLER" MODEL OF VOLUNTARY TURNOVER

In the face of growing projected nursing shortages, the loss and disruption of organizational performance due to nursing turnover has been described by the Joint Commission on Accreditation of Health Care Organizations in a recent report as an impending crisis,

> "that has the potential to impact the very health and security of our society if definitive steps are not taken to address its underlying causes."[1]

A careful reading of this report reveals clearly that among the most critical policy recommendations is the need to create a "culture of retention." High nursing turnover leads not only to higher costs and a diminished "bottom-line" but more importantly to higher mortality risks among patients. This is hardly headline news. Indeed, numerous studies over the years have identified voluntary nursing turnover as possibly **the** major problem for nursing and patient health care today.[2]

However, as Cavanaugh has emphasized, many of the nursing turnover studies are complicated by different methodologies and lack of agreement on definitions, measurement, or reporting strategies.[3] The work of James L. Price and Charles W. Mueller has served as a model for many other researchers in the field. Their model of nursing turnover has guided both the selection and definition of key constructs used throughout this survey.[4] A simplified depiction of their conceptual model is presented in Figure B.1.

Among the key independent variables, the authors distinguish between environmental or contextual variables, exogenous (organizational climate) variables, intervening (organizational commitment and global job satisfaction) variables, and key endogenous or outcome variables (such as timing to exit, and quit intentions). Volume II of this study presents the survey results in the light of this conceptual model.

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[1] See Joint Commission on Accreditation of Health Care Organizations, *Health Care at the Crossroads, Strategies for Addressing the Evolving Health Care Crisis,* 2002, p. 5. Accessed on October 28, 2002 from: http://www.jcaho.org.

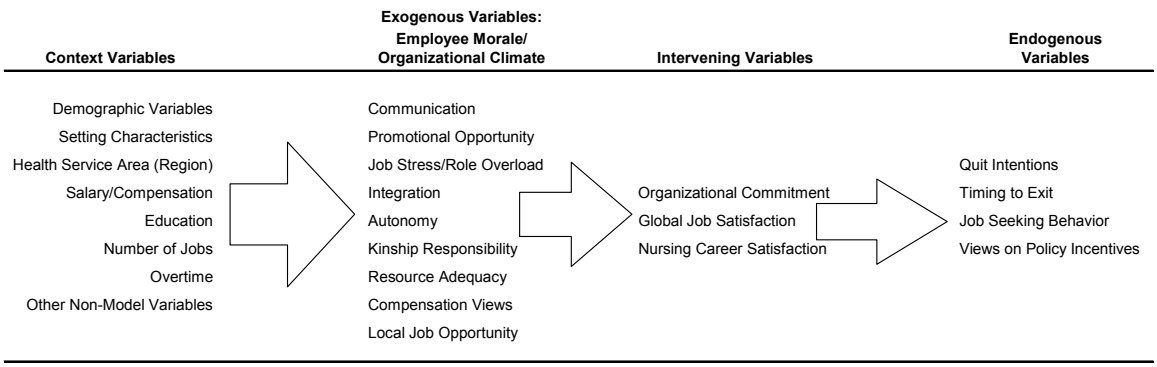
[2] For an excellent review of the nursing turnover literature see Steven J. Cavanaugh, "Nursing Turnover: Literature Review and Methodological Critique," *Journal of Advanced Nursing,* 1989,14, pp. 587-596.

[3] Cavanaugh, p. 587.

[4] See especially James L. Price, "Reflections on the determinants of voluntary turnover," *International Journal of Manpower,* 22 (7) (2001), pp. 600-624. See also, Price and Mueller, *Absenteeism and Turnover of Hospital Employees (Greenwich, CT: JAI Press, 1986)*, Appendix A.

**Figure B.1**

**Modified Conceptual Model**




## *Exogenous (Antecedent) Variables:*

- *Instrumental Communication:* which refers primarily to the transmission of job-related information important to job performance.

- *Promotional Opportunity:* which refers to the degree of potential (vertical) occupational mobility **within** the work setting. The presumption here is that the presence of greater internal promotional opportunities will increase overall job satisfaction, and lead indirectly (through satisfaction) to lowered turnover.

- *Workload Stress:* which refers to the extent to which job duties are difficult to fulfill. While conceptually there are several types of workload stress traditionally identified in the literature, there are two in particular that are the focus of our analysis—role overload (or excessive effort required to do the job well), and resource inadequacy, which connotes inadequate resources or support to do the job.

- *Integration/Cooperation:* which refers to the extent to which staff feel they can rely upon social support from other members of the unit for job-related problems; a separate measure of physician-nurse interaction (for hospital-based settings) was also drawn from the *Index of Work Satisfaction* developed by Paula Stamps.[5]

- *Autonomy:* which refers to the extent to which an employee exercises decision-making authority over major aspects of her or his job.

[5] See Paula L. Stamps, *Nurses and Work Satisfaction: An Index for Measurement,* 2nd ed. (Chicago: Health Administration Press, 1997), esp. Appendix B.

- *Kinship Responsibility:* which refers to the existence of role obligations toward relatives living in the community. The assumption here is that the existence of nearby kin produces a greater sense of obligation (especially to parents), obligations more easily fulfilled by remaining with the current employer.

- *Compensation:* which refers to the salary received by nursing staff for their services. This measure was captured in both its objective dimension and its subjective dimension. The subjective dimension was captured using measures developed by Stamps in her *Index of Work Satisfaction*.[6]

- *Job Opportunity:* which refers to the availability of alternative (local and non-local) jobs in the labor market, is the type of measure(s) emphasized by economists.

### *Intervening Endogenous Variables (the Price Model):*

In the Price model of nursing turnover, the previously identified exogenous variables were conceptualized as key predictors or determinants of both job satisfaction and organizational commitment.

- *Organizational Commitment:* refers to staff loyalty to the work organization. Loyal, committed employees are likely to accept the organization's goals and values, and willing to exert considerable effort to ensure the organization's success. Considerable research indicates that organizational commitment is clearly different from job satisfaction; liking the organization is **not** the same as liking one's job.

- *Job Satisfaction:* has consistently occupied a key position in virtually all organizational studies of job turnover. The satisfaction concept is usually operationalized either globally or dimensionally; that is, some studies prefer to "break out" specific aspects of the job (such as supervision, pay, peer interactions, etc.) rather than treat satisfaction globally. Following Price, we adopt a global job satisfaction measure?[7]

- *Career Satisfaction:* a global measure of an employee's satisfaction with her or his entire nursing career to date.

### *Outcome Variables:*

While this nursing survey, unlike the Price-Mueller model of nursing turnover, was not specifically concerned with absenteeism or turnover, a number of key outcome

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[6] Stamps, *Nurses and Work Satisfaction, pp. 26-29.*

[7] For a discussion on this point see Price, *Absenteeism and Turnover*, p. 16.

variables suggested by Price and Mueller's work were captured in this survey. They include:

- *Job Search Behavior:* which refers to the extent to which the employee has actually looked for other job opportunities, or expressed the intent to do so.
- *Intent to Stay:* which was measured in two ways—with respect to the specific job currently held and with respect to the nursing profession itself.
- *Timing to Career Exit:* which measured the employee's intended timing for leaving the profession.
- *Nursing Career Recommendation to Others:* which is a measure of RNs' willingness to recommend the nursing profession to others.
- *Education Plans:* which captures information concerning intentions to pursue additional educational degrees.

***Other, Non-Model Variables:***

In addition, a variety of important demographic and educational control variables were incorporated in the survey. While measures such as education, highest degree held, gender, organizational setting, occupational title, etc. are simply defined as correlates of lesser importance in the specification of the Price model of employee turnover, these measures become important in carrying out the other quantitative descriptive population estimates described in the research objectives section. In addition to these types of demographic and setting characteristics, an effort was also made to determine the relative importance of five major factors often cited as key determinants of job satisfaction. Using a paired comparison approach, these "policy preferences" were examined for five major dimensions (Compensation, Autonomy, Technology, Third Party Payment, and Recognition).

Finally, all respondents were asked to consider a set of ten distinct policy incentives theorized to improve the likelihood of retention. In addition, a separate set of hospital-based incentives were presented to nurses who were working in hospital-based settings. Respondents were specifically asked what effect the incentives would have upon their leave-taking or retention.

## APPENDIX C: THE SAMPLING DESIGN AND REWEIGHTING ISSUES

As noted in the main body of the report, the nurses surveyed in this study were randomly selected from the State Education Department licensure files of registered nurses as of August 28, 2002. The sample extract of 31,231 survey recipients used for mail-out purposes, was drawn based upon systematic, disproportionate stratified sampling techniques. The basis for the stratification was each licensee's Health Service Area (shown in Table C.1.). In addition, strata for certain contiguous states and other states were also defined.

Table C.1

Sampling Strata: Using Health Service Areas and "Other States" Category

| | H.S.A. | Counties in H.S.A. | Licensed RNs | Pct. of Grand Total | Sampling Rate | Sampling Fraction | Systematic Mailouts Required | Actual # Received | Pop. Reweight1 | Population Weight2 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Choose one in every… | | =systematic fract * no. licensed | Response, but 7% of returns unknown | Total Pop/ Actual Rec'd | (Total Pop/ Actual#)*(1-Unknown%)or 84.47% |
| 1 | Long Island | Nassau, Suffolk, Queens | 51910 | 22.70% | 10.00 | 10.00% | 5191 | 1862 | 27.88 | 23.55 |
| 2 | Western NY | Erie, Livingston, Monroe, Niagara, Orleans, Wyoming, Genesee | 26140 | 11.43% | 10.00 | 10.00% | 2614 | 1106 | 23.63 | 19.96 |
| 3 | Brooklyn | Kings, Richmond | 19746 | 8.64% | 10.00 | 10.00% | 1975 | 578 | 34.16 | 28.86 |
| 4 | Other States | All states except - NJ, CT, MA, VT, PA | 38189 | 16.70% | 10.00 | 10.00% | 3819 | 1189 | 32.12 | 27.13 |
| 5 | Hudson Valley | Dutchess, Ulster, Putnam, Westchester | 18688 | 8.17% | 10.00 | 10.00% | 1869 | 720 | 25.96 | 21.92 |
| 6 | NYC | Bronx, Manhattan (New York) | 16352 | 7.15% | 7.00 | 14.29% | 2336 | 756 | 21.63 | 18.27 |
| 7 | Syracuse | Cayuga, Onondaga, Oswego | 8341 | 3.65% | 7.00 | 14.29% | 1192 | 702 | 11.88 | 10.04 |
| 8 | Glens Falls | Hamilton, Saratoga, Schenectady, Warren, Washington | 6608 | 2.89% | 7.00 | 14.29% | 944 | 411 | 16.08 | 13.58 |
| 9 | Albany | Albany, Rensselaer | 5990 | 2.62% | 7.00 | 14.29% | 856 | 406 | 14.75 | 12.46 |
| 10 | Newburgh | Orange, Sullivan | 5399 | 2.36% | 7.00 | 14.29% | 771 | 347 | 15.56 | 13.14 |
| 11 | Rockland | Rockland | 5280 | 2.31% | 7.00 | 14.29% | 754 | 249 | 21.20 | 17.91 |
| 12 | Utica | Herkimer, Madison, Oneida | 4620 | 2.02% | 7.00 | 14.29% | 660 | 273 | 16.92 | 14.29 |
| 13 | Binghamton | Broome, Tioga | 3073 | 1.34% | 5.00 | 20.00% | 615 | 247 | 12.44 | 10.51 |
| 14 | Finger Lakes | Ontario, Seneca, Wayne, Yates | 3002 | 1.31% | 4.00 | 25.00% | 751 | 364 | 8.25 | 6.97 |
| 15 | Southern Tier East | Chemung, Schulyer, Steuben | 2591 | 1.13% | 4.00 | 25.00% | 648 | 291 | 8.90 | 7.52 |
| 16 | North Country West | Jefferson, Lewis, St. Lawrence | 2521 | 1.10% | 4.00 | 25.00% | 630 | 283 | 8.91 | 7.52 |
| 17 | Plattsburgh | Clinton, Essex, Franklin | 1948 | 0.85% | 3.00 | 33.33% | 649 | 284 | 6.86 | 5.79 |
| 18 | South/Central NY | Chenango, Delaware, Otsego, Schoharie | 1928 | 0.84% | 3.00 | 33.33% | 643 | 170 | 11.34 | 9.58 |
| 19 | Columbia Greene | Columbia, Greene | 1530 | 0.67% | 2.00 | 50.00% | 765 | 286 | 5.35 | 4.52 |
| 20 | Southern Tier West | Allegany, Cattaraugus | 1250 | 0.55% | 2.00 | 50.00% | 625 | 227 | 5.51 | 4.65 |
| 21 | Jamestown | Chautauqua | 1259 | 0.55% | 2.00 | 50.00% | 630 | 276 | 4.56 | 3.85 |
| 22 | Gloversville | Fulton, Montgomery | 1183 | 0.52% | 1.00 | 100.00% | 1183 | 520 | 2.28 | 1.92 |
| 23 | Ithaca | Cortland, Tompkins | 1113 | 0.49% | 1.00 | 100.00% | 1113 | 479 | 2.32 | 1.96 |
| 24 | Unknown County Response | | 315 | | | | | **2211** | | 16.06 |
| | **Totals** | | **228,661** | **100%** | | | **31231** | 2,211 | 103.42 | **Sum Known** |
| | | | | | | | Known Cases | **12026** | | **Est.Unknown** |
| | | | | | | | Sample Size | **14,237** | | **Tot. Pop. =** |

The column of the table shown above (labeled "Sampling Fraction") illustrates the actual systematic sampling rate applied to each of the defined strata. In particularly thinly populated Health Service Areas (such as the Ithaca and Gloversville HSAs), the sampling rate was as large as 100 percent. This disproportionate sampling strategy was employed to ensure that adequate sample sizes would be obtained for each HSA, regardless of their registered nursing population.

Given the disproportionate stratified sampling design, two different types of sample reweighting were used in the analysis itself, depending upon the research objective involved. In one instance, our research interest was focused upon the estimation of total population parameters by reweighting the entire respondent sample

to achieve a total population estimate of 228,661 registered nurses statewide. The column labeled "Population Weight2" indicates the weight given to each respondent record in our research sample to achieve this objective (assuming, however, no "unknown" HSA identification). For example, each respondent record from the Long Island HSA would have been given a "record weight" of 23.55 in order to estimate or reconstruct the population of registered RNs from that HSA.

In other instances, and more typically, our interest was in reweighting the sample respondents to ensure HSA-level proportional representation (regardless of response rate differences), while assuming precisely the same total number of actual respondents (i.e., where the total n=14,233). Thus, while 479 respondents came from the Ithaca HSA (one of the HSAs that was heavily oversampled), proper reweighting of the entire respondent pool of 14,233 nurses involved statistical treatment of these cases as if only 59 had responded (i.e., by applying a record weight of only 0.12 to the oversampled respondents in this HSA).

A significant reweighting issue which had to be addressed was due to the fact that a certain subset of respondents—individuals not currently working in nursing—were **not** asked to supply county or HSA-identifying information. In our sample, as shown at the bottom of the column labeled "Actual # Received," 2,209 respondents, or 15.5 percent of the total, fell in this missing category. Our treatment of these individuals for reweighting purposes required making one important assumption: that the distribution of "unknowns" (largely retirees or those who have left nursing), would be distributed statistically among known HSAs in proportion to the **known** HSA-representation of nurses across each of the HSAs statewide. In effect, for sample weighting purposes, we assume that "missing cases" are distributed across the various HSAs of the state in proportion to their known distribution. The columns titled "Population Weight2" and "Sample Weight3" depict the adjusted case weighting requirements based on this assumption at both the population and sample levels respectively.

## APPENDIX D: REPRESENTATIVENESS OF THE RESPONDENT SAMPLE

In view of the significant statewide policy incentives explored in this study, an issue of critical concern is the representativeness of the respondent sample. As noted earlier, confidence in our ability to accurately generalize from this cross-sectional snapshot of 14,233 nurses to the entire licensed population of 228,661 registered nurses statewide requires that the respondent sample mirror certain **known** characteristics of the entire statewide nursing population.

Several tests of sample representativeness were conducted based on sample-population comparisons of information that existed in both the licensure extract files and in the survey itself. Ideally, the respondent sample would closely mirror the entire population extract in terms of age, ethnicity, years of experience, educational experience etc. A series of chi-square ($x^2$) statistical tests were conducted to determine how well certain known characteristics of the nurse respondents mirrored the total population. The results of these tests are described below. **With minor exceptions, these tests demonstrate that sample bias has been avoided and that the sample is broadly reflective of our State's entire registered nursing population.**

Four specific sample-population single-sample chi-square goodness-of-fit tests were conducted. As noted, these tests were designed to:

- Determine whether the **sample** study findings on variables such as gender, age, year of licensure, or ethnicity differ significantly from known population characteristics on these same measures; and,

- Where differences were found, assess the magnitude and direction of those differences.

### *Important Caveats*

In conducting such tests of representativeness, researchers typically hope to demonstrate that descriptive information in the sample does **not** differ in appreciable ways from the same characteristics in the larger population file from which the sample was drawn. However, in large-scale surveys of this type, even when a sample distribution matches almost precisely the population distribution on that same variable (meaning that no sampling bias has occurred), conventional statistical tests will detect even the slightest difference as being "statistically significant."

A perfect illustration of this point is seen in Table D.1. The study sample (based upon 14,233 cases), indicates that 94.5 percent of the sample was female, and that 5.5 percent was male. The gender distribution of registered RNs in the State Education Department's population file shows that females account for 94.9 percent of the entire population, and males 5.1 percent. In short, the gender distribution in the nursing sample mirrors almost perfectly the gender distribution of nurses in the Department's population file.

However, while the chi-square goodness-of-fit test results reported at the bottom of the gender-comparison table indicates that the difference between these two gender

distributions is not statistically significant (at the .01 level), the chi-square statistic reported there ($x^2$ = 4.60) is almost large enough to establish "statistical significance." Since statistically significant differences between sample and population findings are likely to be found in such a large data sample even when these differences are substantively negligible, we also provide information about the strength of the association or the magnitude of the observed difference.

The Sakoda's Adjusted Contingency Coefficient (C*) statistic, is a nominal measure of association ranging from 0 to 1.0. It indicates the magnitude of the difference between the two distributions.[8] Low values of this statistic can be interpreted as a clear indication that the sample and population distributions are very similar on a particular characteristic, while high values of this coefficient would indicate the opposite, that is, that the sample distribution is very unlike the population distribution. As shown in Table D.1, the magnitude of the difference between these two distributions (C* = .025) is negligible. Thus we can be quite confident that no sampling bias is involved where gender is concerned. In subsequent discussions of sampling representativeness, we encourage the reader to attend to the magnitude of the reported contingency coefficients.

Table D.1
Comparison of Population and Sample Characteristics by Gender

| Gender | Population Percentage | Sample Percentage | Chi-Square Value[a] |
|---|---|---|---|
| Female | 94.5% | 94.9% | 0.25 |
| Male | 5.5% | 5.1% | 4.35 |
| **Total** | **100%** | **100%** | **4.60** |
| | **Adjusted Contingency Coefficient = .025** | | |

[a] Observed chi-square = 4.60 with one degree of freedom. Tabled chi-square required for significance at .01 level = 6.64. The result is not significant.

A second, more important caveat concerns the problem of "missing data" in the population extract file. Since any attempt to determine whether the sample is representative rests on a comparison of our sample finding with a known population finding, it is important that the population distribution used for comparison **not** be

[8] The Sakoda's Adjusted Contingency Coefficient, is described in more detail in an on-line textbook by G. David Garson at the following Internet address: http://www2.chass.ncsu.edu/garson/pa765/assocnominal.htm.

skewed in any systematic way on the variables of interest. Regrettably, in the particular case of the "ethnicity" variable, the population extract file (our normal comparison standard), was missing this key piece of information for over 26 percent of the 228,661 data base records. Extensive secondary analysis of this issue revealed several findings:

- First, the conventional assumption made in most analyses—that the ethnic distribution of the RNs whose ethnic status was **known** perfectly mirrored the ethnic distribution of those nurses who did not report their ethnicity—was untrue;
- As expected, the **direction** of the percentage-missing impact on the **known** ethnicity percentage was negative. That is, the greater the percentage missing reported, the lower the **known percentage** attributable to any ethnic group;
- What is surprising, however, is that the **strength** of the negative impact of the percentage missing upon the known ethnic percentage in the population file was not constant but varied in intensity across ethnic groups.
- For example, the negative missing-value impact upon the percentage known for a given ethnic group was far more pronounced among Whites than any other ethnic group.
- Of equal importance, this **ethnically differentiated** missing-value impact cannot be attributed to the confounding influence of licensure recency—since that variable was carefully controlled for in the analysis.
- What this means is that that Whites are heavily overrepresented in the "unknown" or "ethnicity-missing" pool, regardless of the licensure year involved.

All of this evidence points to one conclusion. The reported ethnic distribution from the Department's population extract file (as of September 2002) is flawed as a comparison standard on the ethnicity variable because of the missing value problem. Accordingly, for this particular measure we employ data drawn from the national data sample developed in 2000 by the Health Resources and Services Administration (HRSA). In any table in which the population standard used for the comparison against our study sample is the HRSA standard, we make note of that fact.

Finally, we would note that a direct comparison of the percentage distributions shown for any of the selected variables in this appendix vary slightly from companion tables shown in specific chapters of this volume. Typically, basic demographic tables displayed in other chapters are based upon all RNs licensed and working in New York State as of September 2002. In order to compare our sample findings with the entire population extract file, however, **all nurses in the sample survey had to be used for these comparisons**—including, for instance, nurses working out of state, or not working at the current moment. Thus, very small differences may be noted.

### *Sample Representativeness: Findings*

In the discussion of sampling issues in Appendix C we noted that the sample was reweighted to mirror the population distribution of nurses across Health Service Areas. By design, therefore, the study sample and the population file are identical with respect to Health Service Area representation. In Table D.1, we compare the study sample and the SED population file on gender. As we have already shown, the study sample closely mirrors the known gender distribution in the SED population file. In Table D.2, we conduct a chi-square goodness-of-fit test for the ethnicity variable. In this instance, for reasons discussed earlier, we compare the New York State nursing study sample with a population standard based upon a national nursing study conducted by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services in 2000. The population standard referenced in Table D.2 is drawn from the New York State portion of that national data set.

Table D.2

Comparison of "Population" and Sample Characteristics by Ethnicity

| Ethnicity | "Population" Percentage[a] | Sample Percentage | Chi-Square Value[b] |
|---|---|---|---|
| White | 80.7% | 78.1% | 12.06 |
| Black | 9.0% | 9.0% | 0.04 |
| Hispanic | 2.2% | 2.3% | 1.27 |
| Asian | 6.9% | 9.1% | 100.02 |
| Native American | 0.2% | 0.2% | 0.80 |
| Two or More Races | 1.0% | 1.2% | 5.09 |
| **Total** | **100.0%** | **100.0%** | **119.29** |
| | | **Adjusted Contingency Coefficient = .129** | |

[a] The "population" here is the New York data from the 2000 Heath Resources and Services Administration (HRSA) national RN survey.

[b] Observed chi-square = 119.29 with five degrees of freedom. Tabled chi-square required for significance at .01 level = 15.08. The result is significant.

As Table D.2 reveals, the nursing study sample mirrors quite closely the HRSA sample in its ethnic distribution—even though the chi-square test reveals that the two distributions are statistically different. The reported contingency coefficient (C* = .129) however is quite weak, indicating that the magnitude of the difference between these two distributions is generally negligible.

A careful review of the chi-square values shown in the third column of the table provides a clear indication of which ethnic categories are most different in the sample and the comparison "population." It is apparent, for example, that Asian American respondents in the nursing study are slightly overrepresented (6.9 percent in the HRSA data set versus 9.1 percent in our study). In general, however, the ethnic distribution of nursing study respondents corresponds closely to that of the HRSA New York sample.

In Table D.3 we turn our attention to one other comparison—one based upon the age distribution of nurses. In this instance, there is evidence that younger nurses are underrepresented in the study sample and older nurses overrepresented. The population for this comparison is the SED licensure file.

Table D.3

Comparison of Population and Sample Characteristics by Age

| Age Category | Population Percentage | Sample Percentage | Chi-Square Value[a] |
|---|---|---|---|
| 18 - 30 | 8.2% | 5.6% | 111.95 |
| 31 - 40 | 22.1% | 18.4% | 87.11 |
| 41 - 50 | 33.8% | 34.6% | 2.63 |
| 51 - 60 | 23.9% | 27.7% | 84.72 |
| 61 - 70 | 9.7% | 11.4% | 38.84 |
| 71 & Over | 2.3% | 2.4% | 0.02 |
| **Total** | **100.0%** | **100%** | **325.27** |
| | | **Adjusted Contingency Coefficient = .211** | |

[a] Observed chi-square = 325.27 with five degrees of freedom. Tabled chi-square required for significance at .01 level = 15.08. The result is significant.

Once again, a quick review of the chi-square values shown in the third column of this table indicates where the lack of correspondence between the percentages is greatest. Underrepresentation, for example, is proportionally greatest in the 18-30 age category—where only 5.6 percent of the study sample is represented versus 8.2 percent in the known population distribution. Conversely, nurses in the 51-60 age category appear to be somewhat overrepresented in the study sample (27.7 percent versus 23.9 percent in the population). In general, however, the age distribution of the 14,233 respondent sample closely approximates the known age distribution of the larger population of 228,661 registered RNs.

As a final test of sample representativeness, we also examined respondents' age at the time they finished their basic nursing preparation. These results are described in Table D.4. A review of the tabular findings reveals that the age distribution of our sample respondents at the time they received their basic nursing preparation, while technically significantly different from one another, mirror each other closely. There is a slight tendency toward an underrepresentation of RNs in younger age categories and a complementary overrepresentation in the older age categories. However, the adjusted Contingency Coefficient value is quite small (C* = .118). This statistic suggests that any differences observed in these two distributions are almost negligible. Once again, the population for the comparison is the SED licensure file.

Table D.4

Comparison of Population and Sample by Age of Basic Degree Completion

| Age | Population Percentage | Sample Percentage | Chi-Square Value[a] |
|---|---|---|---|
| 15-24 | 38.2% | 37.0% | 1.93 |
| 25-30 | 23.9% | 22.8% | 2.51 |
| 31-35 | 14.8% | 13.7% | 3.76 |
| 36-40 | 11.5% | 13.1% | 11.36 |
| 41-45 | 7.1% | 7.7% | 3.13 |
| 46+ | 4.6% | 5.7% | 12.73 |
| **Total** | **100.0%** | **100.0%** | **35.42** |
| | | **Adjusted Contingency Coefficient = .118** | |

[a] Observed chi-square = 35.42 with five degrees of freedom. Tabled chi-square required for significance at .01 level = 15.08. The result is significant.

### *Sample Representativeness: Conclusions*

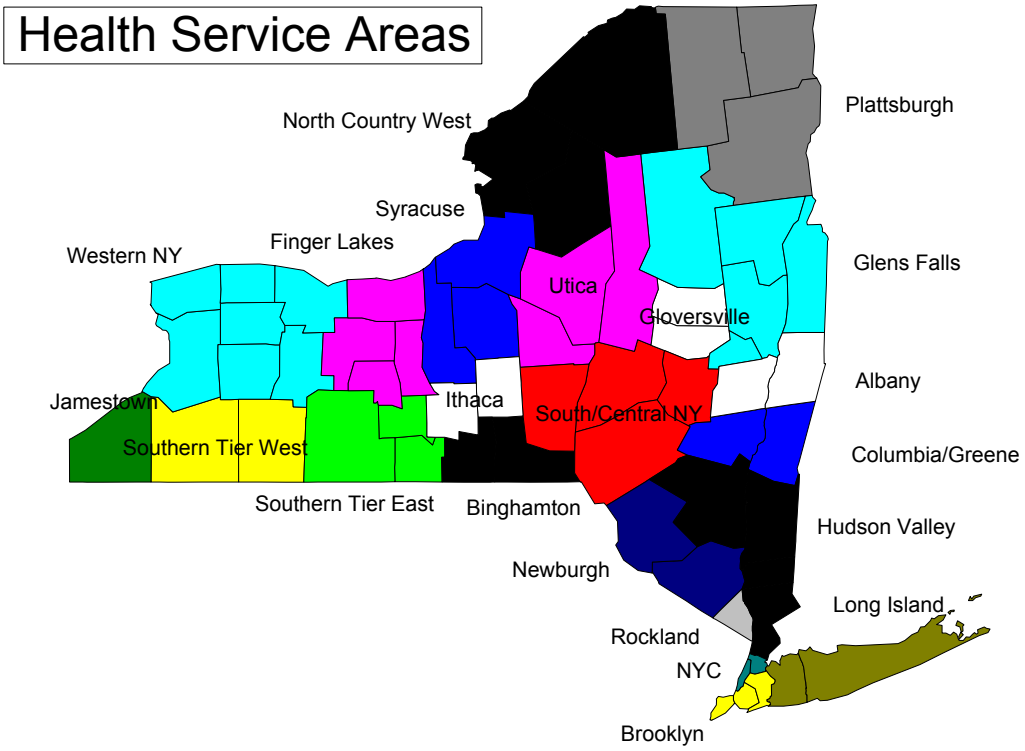
Based upon the series of goodness-of-fit tests described above, we can be quite confident that the sample survey is highly representative of the population from which it was originally drawn. Comparisons of both sample and population distributions on such demographic variables as gender, ethnicity, current age, and age at the time of completion of basic nursing preparation reveals a consistently "close match." In short, we can have a high level of confidence that sampling bias has been reduced to a minimum and that generalizations based on sample findings from other variables will depict an accurate picture of the entire RN nursing population.

## APPENDIX E: THE FOUR-REGION TAXONOMY

***The Four-Region Taxonomy Distributes New York State's Counties as Follows:***

- **New York City:** Bronx, Kings, New York, Queens, and Richmond (Staten Island)
- **Downstate Suburbs:** Nassau, Putnam, Rockland, Suffolk, and Westchester
- **Upstate Metropolitan Areas:** Albany, Broome, Cayuga, Chautauqua, Chemung, Dutchess, Erie, Genesee, Herkimer, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Rensselaer, Saratoga, Schenectady, Schoharie, Tioga, Warren, Washington, and Wayne
- **Rural Counties:** Allegany, Cattaraugus, Chenango, Clinton, Columbia, Cortland, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Jefferson, Lewis, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tompkins, Ulster, Wyoming, and Yates

## APPENDIX F: MAP OF NEW YORK HEALTH SERVICE AREAS AND THEIR COMPONENT COUNTIES




| County | Health Service Area | County | Health Service Area | County | Health Service Area |
|---|---|---|---|---|---|
| Albany | Albany | Herkimer | Utica | Richmond | Brooklyn |
| Allegany | Southern Tier West | Jefferson | North Country West | Rockland | Rockland |
| Bronx | NYC | Kings | Brooklyn | Saratoga | Glens Falls |
| Broome | Binghamton | Lewis | North Country West | Schenectady | Glens Falls |
| Cattaraugus | Southern Tier West | Livingston | Western NY | Schoharie | South/Central NY |
| Cayuga | Syracuse | Madison | Utica | Schuyler | Southern Tier East |
| Chautauqua | Jamestown | Monroe | Western NY | Seneca | Finger Lakes |
| Chemung | Southern Tier East | Montgomery | Gloversville | St. Lawrence | North Country West |
| Chenango | South/Central NY | Nassau | Long Island | Steuben | Southern Tier East |
| Clinton | Plattsburgh | New York | NYC | Suffolk | Long Island |
| Columbia | Columbia/Greene | Niagara | Western NY | Sullivan | Newburgh |
| Cortland | Ithaca | Oneida | Utica | Tioga | Binghamton |
| Delaware | South/Central NY | Onondaga | Syracuse | Tompkins | Ithaca |
| Dutchess | Hudson Valley | Ontario | Finger Lakes | Ulster | Hudson Valley |
| Erie | Western NY | Orange | Newburgh | Warren | Glens Falls |
| Essex | Plattsburgh | Orleans | Western NY | Washington | Glens Falls |
| Franklin | Plattsburgh | Oswego | Syracuse | Wayne | Finger Lakes |
| Fulton | Gloversville | Otsego | South/Central NY | Westchester | Hudson Valley |
| Genesee | Western NY | Putnam | Hudson Valley | Wyoming | Western NY |
| Greene | Columbia/Greene | Queens | Brooklyn | Yates | Finger Lakes |
| Hamilton | Glens Falls | Rensselaer | Albany | | |

# APPENDIX G: NEW YORK STATE AVERAGE ANNUAL SALARIES FOR SELECTED OCCUPATIONS IN 2001

Table G.1

New York State Average Annual Salaries of Selected Occupations, 2001[a]

| Occupation | Mean Salary |
|---|---|
| Lawyers | $101,370 |
| Financial Analysts | $79,970 |
| Computer Programmers | $67,720 |
| Pharmacists | $66,620 |
| Engineers (except Computers) | $65,679 |
| Management Analysts | $64,220 |
| Architects (except Naval and Landscape | $63,640 |
| Elementary and Secondary Teaching | $61,648 |
| Physical Therapists | $60,640 |
| Accountants and Auditors | $59,040 |
| Employment, Recruitment and Training Specialists | $58,360 |
| Life, Physical, and Social Scientists | $54,880 |
| Registered Nurses | $53,470 |
| Training and Development Specialists | $50,790 |
| Respiratory Therapists | $45,450 |
| Social Workers | $41,411 |
| Community and Social Services Occupations | $38,630 |
| Occupational Therapists | $34,950 |
| **All Occupations** | **$39,150** |

[a] Source: U.S. Department of Labor, Bureau of Labor Statistics, 2001 State Occupational and Employment Statistics.

## APPENDIX H: TECHNICAL REMARKS ON NURSING SUPPLY AND DEMAND

One important byproduct of this study is our ability to accurately estimate the supply of registered nurses working in the field as of September 2002, and to compare that information for the same time period with demand estimates developed by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services. In this appendix we comment upon the importance of interpreting any of these labor market forecasts with caution.

The generally accepted view of health policy analysts is that the nursing profession is undersupplied. That is, the demand for nursing manpower exceeds supply and a shortage condition exists. On the demand side, a traditional empirical measure of potential nursing shortages is based upon vacancy rates in hospitals and other health facilities. Exceptionally low vacancy rates, and/or lengthy admission queues provide some evidence of potential staffing shortages. Although we would argue that vacancy rates are a less than optimal measure, they are nevertheless worth noting.[9] A study conducted by the Greater New York Hospital Association (GNYHA) in 1999 reflected an overall vacancy rate of 5.5 percent.[10] This study found that vacancies were most acute for particular work settings (e.g., operative room, emergency and critical care units) and for nurses with advanced practice credentials.

Another indirect indicator of labor shortages, often cited in the popular press, is the practice of signing bonuses and other financial incentives to hire and retain staff. Like vacancy rates, the use of signing bonuses should be viewed as a less than perfect measure of supply/demand imbalance and the same methodological caveats apply. That is, their use may reflect in some instances a true, underlying supply/demand imbalance in local labor markets; in other instances, however, the phenomenon may be a function of hospital profitability.

It is noteworthy, however, that these hiring incentives have become widespread in nursing in recent years. In fact, almost ten percent of the hospital administrators who responded to the Greater New York Hospital Association (GNYHA) survey in 1999 reported using signing bonuses. Similarly, an analysis of signing bonus ads in four upstate New York regions, conducted by the New York State Nurses Association

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[9] Vacancy rates do not account for occupational mix and production function differences that may exist between hospitals, nor do they deal with the variation in profitability by hospital type. That is, one hospital's vacancy rates may be a function of overall management and/or profitability, while another's may be a function of the structural imbalance between local RN labor market supply and demand. Hospital profitability in recent years has also varied greatly by size and location of hospital. Rural hospital profit margins, for example, have been much worse than those experienced by their urban and suburban counterparts. This is because the patient composition of rural facilities is typically older and hence more dependent on Medicare, a payer whose reimbursement has been sharply curtailed since the late 1990s.

[10] Greater New York Hospital Association, *Survey of Nurse Staffing in the New York City Region, Final Report* (New York: Author, September 1999).

(NYSNA), in 1999, also suggested that ten percent of the nursing jobs advertised at that time carried signing bonuses.[11]

Another measure used by economists to gauge the extent of the imbalance between labor supply and demand is the unemployment rate. That is, shrinking unemployment rates for an occupation over time, relative to other occupations, provides evidence of a labor shortage. Note that economists generally think of an unemployment rate of two percent as full employment. Therefore, any rate less than this should reflect a labor shortage. The federal Bureau of Labor Statistics, which collects these data, found that nationwide, from 1989 to 2000, the unemployment rate for experienced registered nurses was on average, 1.3 percent as opposed to a rate of 2.2 percent for all professional workers.[12] During the last five years of this period, between 1996 and 2000, when it was generally accepted that shortages were emerging in nursing, the rates for experienced nurses versus all professionals were 1.3 percent and 2.0 percent respectively, on average. Based on these unemployment indicators, alone, it would appear that there was a shortage of registered nurses during this time period.

Another means by which economists traditionally determine the existence and extent of labor shortages are wage increases, in excess of macro-economy inflationary or cost-of-living increases. Wage growth nationwide for experienced nurses relative to all professionals from 1996 to 2000 reveals the reverse of the trend we found for unemployment rates: nurse wage growth, of 2.6 percent on average, lagged behind the all professional occupation growth of 3.0 percent.[13] Research conducted on behalf of the New York State Nurses Association, found a similar trend of real (i.e., inflation-adjusted) flat or declining wage growth in the years preceding 1999 for New York nurses.[14]

There are several caveats worth noting, which may help to explain why a traditional, neo-classical economic approach may be a poor one for analysis of the health economy. This approach generally assumes the ideal of free and "frictionless" markets. However, the health sector rarely behaves in such a fashion: aggregate income and spending in this sector is constrained by the actions of the federal government through its purchasing power as payer for the Medicare and Medicaid programs and by employers through managed care and insurance plans covering their employees. These market forces have had the effect of reducing the growth (if not the overall level) of health spending, in recent years. In turn, we can expect these damping

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[11] C. S. Brewer and C. Kovner, *A Report on The Supply and Demand for Registered Nurses in New York State* (Albany, NY: New York State Nurses Association, 2000).

[12] Note that the U.S. Department of Labor and the Bureau of Labor Statistics does not collect such data at an occupational level for a state or sub-state levels of geography. Unemployed registered nurses are defined as nurses who had jobs as RNs immediately before their spell of unemployment.

[13] U.S. Congressional Research Service, *A Shortage of Registered Nurses: Is It On the Horizon or Already Here?* (Washington: May 2001).

[14] Brewer and Kovner, 2000.

forces to be passed onto the employees of health facilities, of which registered nurses are the largest class of labor.

Critics of methods utilizing past historical experience to project future requirements, as HRSA does, have correctly pointed out in the past that a shortcoming of such projections is the inability to capture changes in health care organization and financing.[15] We would agree with this criticism as well. While the most recent (1996) HRSA model appears more highly nuanced and includes additional factors likely to affect the predicted demand for health services, there have been great changes within the health sector in the past five years alone with regard to prescription drug utilization[16] and managed care penetration.[17] For these and other reasons, experts convened to discuss health workforce strategy by the American Nurses Association, report that they do not use or have much reliance upon existing forecasting models such as the HRSA Nursing Demand Model. Their opposition to doing so was similar to ours: "rapid changes in the health care system preclude obtaining reliable projections."[18]

In short, we have no doubt about the existence of a shortage. We accept it as a given. The weight of evidence, both systematic (addressed elsewhere in this report) and anecdotal, is too compelling to say otherwise. However, it is our contention that one should be cautious in attempts to precisely estimate and forecast the shortage. Estimates and forecasts are just that: **predictions** about the future, which may (or may not) happen.

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[15] E. Salsberg, P. Wing, and C. Brewer, "Projecting the Future Supply and Demand for Registered Nurses" in E. O'Neil and J. Coffman (eds.), *Strategies for the Future of Nursing* (San Francisco: Jossey and Bass, 1998).

[16] We suspect that a 1996 baseline figure on this parameter may reflect poorly the current state of affairs, much less the future. In 1993, the Health Care Financing Administration estimated that prescription drugs reflected 5.6 percent of total health spending nationwide. This number grew to 7.9 percent by 1998. This category of spending grew 12.5 percent annually during this five-year period, while total health spending only grew by five percent per year (HCFA Office of the Actuary, 2000). Moreover, there is a growing body of literature indicating that increased drug utilization is associated with decreased demand for services in other health sectors, particularly nursing homes. See A. S. Adams, S. B. Soumerai, and D. Ross-Degnan, "The Case for a Medicare Drug Coverage Benefit: A Critical Review of the Empirical Evidence," *Annual Review of Public Health* 22 (2001), pp. 49-61.

[17] Managed care penetration rates have changed significantly in recent years both within New York State and across the nation. Nationwide, 55 million Americans were enrolled in health maintenance organizations in 1996, while this number grew to 80 million four years later. (See *The Interstudy Competitive Edge: HMO Industry Report* 12 (1) (2002).) A larger problem we foresee is that parts of the nation may have been at a stable equilibrium point by 1996 with regard to managed care—most notably the West—while the East was not. By 2001, virtually all of New York's close to seven million managed care enrollees were in fully capitated environments (New York State Department of Health, Office of Managed Care). Capitation-based systems of health care have still not made inroads within managed care plans in more rural parts of the country (See P. Wehrwein, "The March of Capitation: Reversed or Just Delayed?" *Managed Care* 6 (11) (1997).)

[18] Bass and Howes, Inc. on behalf of the America Nurses Association, discussed in "Uniting Nurses: Are We Prepared for the Future in Health Care?" *American Nurse* 30 (4) (July/August 1998).

## APPENDIX I: EMPIRICAL SUPPLY VS. NORMATIVE MEASURES OF SUPPLY AND SIMULATION FOR NEW YORK

The ratio of nurses per 100,000 persons, found in Chapter 6, is an empirical analysis, not a normative one. That is, it reflects the health system as it currently exists given scarce resources and the amount of care that health consumers have actually demanded to be supplied in the past. It does not concern itself with whether these ratios are desirable or optimal in terms of providing health care or maximizing human health. Therefore, it is difficult to "benchmark" this figure statewide of 744 nurses per 100,000 persons (or 7.44 per 1,000) and say whether it is an acceptable ratio. Such normative concerns have been examined, however. Generally, analysts examining nursing supply have concerned themselves with ratios of nurses per patients in a particular setting, e.g., hospitals, not in comparison to a population. They have found nevertheless, that a relationship can be found between so-called "nurse staffing ratios" or ratios of patients to nurses and patient health and mortality.[19] Each additional patient added to a hospital nurse's caseload results in a seven percent greater likelihood of dying within 30 days of admission, after adjusting for patient and hospital characteristics. Based on this and other research, California has mandated nurse staffing in its hospitals such that by July 2003, there must be one nurse for every six medical-surgical patients. Moreover, when the regulations are fully implemented, there must be no more than five patients per nurse in a medical-surgical unit.

In Table I.1 we simulate the impact this normative standard would have on New York hospital operations. That is, given the number of discharges and patient days for medical-surgical patients in New York hospitals, will there be enough supply, as measured by hospital medical and surgical nurses who identified themselves as such on the survey to meet the California standards?

The left-hand side of the table displays the most recent data available on discharges. Just over 1.6 million medical surgical discharges were reported by New York hospitals for a total of just over 10.6 million patient days. This result was converted into patient hours in order to compare with nurse workweeks. The hours of care delivered on average daily, is just slightly less than 24 (23.76). This is due to the fact same-day discharges, which are a very small percentage of total discharges (1.7 percent) reflect on average, just 9.67 hours from admission to discharge. Therefore, these 10.638 million patient days are multiplied by 23.76 [hours] to yield the total patient care hours demanded.

[19] L. Aiken, et al., "Hospital Nurse Staffing and Patient Mortality, Nurse Burnout and Job Satisfaction," *Journal of the American Medical Association,* 288 (16) (2002).

Table I.1

Simulation of Imputed Nurse Staffing Ratio in Medical-Surgical Units in New York State

| Demand Side of the Equation | | Supply Side of the Equation | |
|---|---|---|---|
| Number of Medical-Surgical Discharges[a] | 1,616,038 | Number of Hospital Medical-Surgical Nurses | 21,736 |
| Results in Total Patient Days[a] | 10,638,029 | Working Weekly Hours on Average | 39.93 |
| Total Patient Care Hours Demanded | 252,759,569 | Results in Total Hours Supplied | 43,395,924 |

$$\textit{Imputed Nurse Staffing Ratio} = \frac{\textit{Hours Demanded}}{\textit{Hours Supplied}}$$

**Or, number of patients per nurse: 5.8**

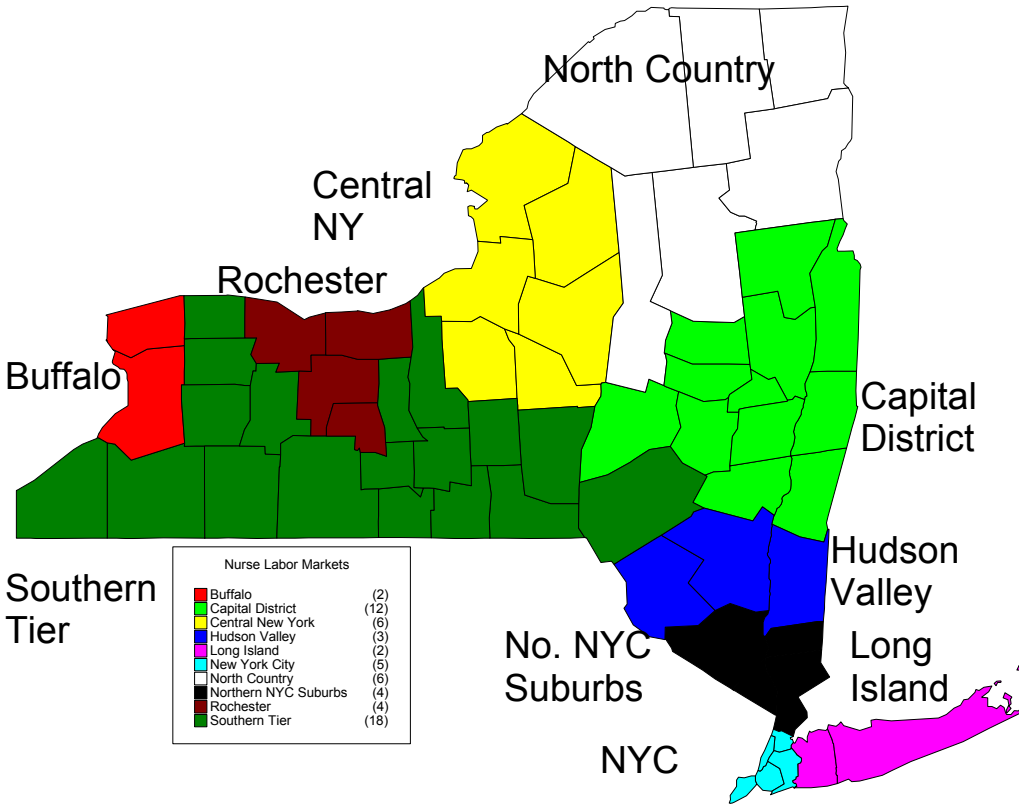
[a] Source is New York State Department of Health, Statewide Planning and Research Cooperative System (SPARCS) Annual Report, 2001.

In order to generate the number of nursing hours to be supplied to serve this number of patient hours, we multiplied the number of nurses currently working in New York identifying themselves as working in medical and surgical units of hospitals by the average total number of hours these nurses work per week. Assuming a work year of 50 weeks (allowing for two weeks of vacation) then just under 43.4 million hours of patient care can be possibly supplied by these 21,736 medical-surgical RNs.[20] **The ratio of hours demanded to those supplied is 5.8.**

The impact of a California-like mandated maximum patient-to-nurse ratio in New York would, we estimate, be a problematic standard for many New York hospitals to meet. Although in aggregate, the State appears to be able to barely meet the lower California standard of six patients per nurse, the State's health system would do so, with a very slim margin. In the event of peak periods or a catastrophe, many hospitals would probably exceed this threshold. Moreover, many rural, urban and hospitals in shortage areas may not be able to meet this normative standard during periods of non-peak demand. **Finally, if the lower California standard of five to one were to be implemented in New York at this point in time, it is doubtful that the system as a whole would comply without making significant shifts in resources and labor from within hospitals or other sectors of the health system.**

[20] The 50 week per year assumption probably overstates the number of hours worked, as it does not reflect sick and other leaves. Also, RNs who said they work in medical-surgical units may not spend all of their work time in such units.

## APPENDIX J: NURSE LABOR MARKETS AND THEIR COMPONENT COUNTIES AS IDENTIFIED BY AVERAGE 1993 REGISTERED NURSE SALARIES ACROSS THE HOSPITAL, NURSING HOME, AND DIAGNOSTIC AND TREATMENT CENTER SECTORS




| County | Nursing Labor Market Region | County | Nursing Labor Market Region | County | Nursing Labor Market Region |
|---|---|---|---|---|---|
| Albany | Capital District | Herkimer | North Country | Richmond | New York City |
| Allegany | Southern Tier | Jefferson | Central New York | Rockland | Northern NYC Suburbs |
| Bronx | New York City | Kings | New York City | Saratoga | Capital District |
| Broome | Southern Tier | Lewis | Central New York | Schenectady | Capital District |
| Cattaraugus | Southern Tier | Livingston | Southern Tier | Schoharie | Capital District |
| Cayuga | Southern Tier | Madison | Central New York | Schuyler | Southern Tier |
| Chautauqua | Southern Tier | Monroe | Rochester | Seneca | Southern Tier |
| Chemung | Southern Tier | Montgomery | Capital District | St. Lawrence | North Country |
| Chenango | Southern Tier | Nassau | Long Island | Steuben | Southern Tier |
| Clinton | North Country | New York | New York City | Suffolk | Long Island |
| Columbia | Capital District | Niagara | Buffalo | Sullivan | Hudson Valley |
| Cortland | Southern Tier | Oneida | Central New York | Tioga | Southern Tier |
| Delaware | Southern Tier | Onondaga | Central New York | Tompkins | Southern Tier |
| Dutchess | Hudson Valley | Ontario | Rochester | Ulster | Hudson Valley |
| Erie | Buffalo | Orange | Northern NYC Suburbs | Warren | Capital District |
| Essex | North Country | Orleans | Southern Tier | Washington | Capital District |
| Franklin | North Country | Oswego | Central New York | Wayne | Rochester |
| Fulton | Capital District | Otsego | Capital District | Westchester | Northern NYC Suburbs |
| Genesee | Southern Tier | Putnam | Northern NYC Suburbs | Wyoming | Southern Tier |
| Greene | Capital District | Queens | New York City | Yates | Rochester |
| Hamilton | North Country | Rensselaer | Capital District | | |

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