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# 1992

# THE REGISTERED NURSE POPULATION

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*Findings from the  
National Sample Survey  
of Registered Nurses,  
March 1992*

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U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES  
Public Health Service  
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Evelyn B. Moses  
Chief, Nursing Data and Analysis Staff  
Division of Nursing

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## PREFACE

The Division of Nursing provides national leadership to assure an adequate supply and distribution of qualified nursing personnel to meet the health needs of the Nation. To assist in carrying out this responsibility, the Division obtains data on a continuing basis to determine the current and projected supply and distribution of and requirements for nurses within the United States and within each State. This report provides a summary of the data on the number and characteristics of the registered nurse population from the 1992 national sample survey of registered nurses.

To accomplish its mission, the Division of Nursing developed a design for collecting data for sample surveys of registered nurses in this country. In July 1975 the Division initiated an investigation into methodological approaches to obtaining data on the registered nurse population using sampling techniques. That design, prepared under contract by Westat, Inc., has formed the basis for each subsequent study in the series. The data collected in these sample surveys are the major source of comprehensive data on the personal and professional characteristics of all those with current licenses to practice as registered nurses in the United States, whether or not they are employed in nursing. Sample survey studies were conducted in September 1977, November 1980 and 1984, and March 1988 and 1992.

The Research Triangle Institute collected the data for this study through a contract. The report was authored by Evelyn B. Moses, Chief, Nursing Data and Analysis Staff, Division of Nursing. John O'Donnell assisted in developing and preparing the summary tables. Dena Saunders and Leona Adams provided secretarial assistance and Marjorie Hamilton provided other technical assistance. The Division of Nursing is pleased to make this publication available.

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## Chapter I

### Introduction

A key component in the delivery of health care to the population is the availability of an appropriate supply of health care providers. Registered nurses are the largest group of health care providers. They function throughout the health care delivery system with a variety of responsibilities and roles. Periodic surveys are carried out to assess the number and characteristics of the registered nurse population and to assist in the evaluation of trends in the availability of nursing resources. This report summarizes the fifth in a series of such studies.

The data for these studies are collected from registered nurses through the means of a mail questionnaire to a sample of individuals with current licenses to practice as registered nurses at the time of the study. The design for the data collection was developed in the 1970s as a result of a contract the Division of Nursing had with Westat, Inc., a survey research firm.

The study was developed to satisfy the need for data on the country as a whole and in each State as well as the need for data on subgroups of nurses such as those with advanced degrees or specialized training. The study design was initiated at a time when Congress passed legislation calling for data on the current and future supply and distribution of and requirements for nursing personnel, including registered nurses, registered nurses with advanced degrees, and nurse practitioners, for the United States and within States (Section 951 of P.L. 94-63 (42 USC 296 note)). The legislation also called for the continued monitoring of the nurse population to determine the numbers of nurses who are employed or not in each State; the numbers working full- or part-time, their practice settings and positions, and their compensation levels; and those with advanced training according to the types of specialties for which they were prepared.

The data collection instruments for these studies respond to the data requirements identified in the legislation. The information gained from the studies provides necessary data for developing projections of the supply and distribution of and requirements for registered nurses. It also directly responds to the specific data areas cited by Congress. In addition, each time the survey is carried out, current areas of particular importance are incorporated in the survey instrument. Care is taken, however, to ensure that the information collected from study to study provides sufficient continuity so that an evaluation can be made of trends in nursing resources.

No single, unduplicated, list of individuals who have licenses as registered nurses in the country from which a sample may be selected exists. Therefore, the survey universe is the licenses to practice as registered nurses issued in each of the 50 States and the District of Columbia. The survey methodology used to select the sample and that which is used in the subsequent weighting of each sample member's response take account of the fact that nurses may hold licenses to practice in more than one State. Therefore, the resultant data provides a description of *individuals* who have current licenses to practice as registered nurses *regardless* of the number of licenses they may hold. Based on the data in this study, in March 1992, the over 2,570,000 licenses to practice as registered nurses in existence in the United States were held by about 2,254,000 individuals.

The sample selection and data collection and processing of this study was carried out by the Research Triangle Institute under a contract with the Division of Nursing. A total of 45,130 licenses were selected for the sample. An initial elimination of duplicate licenses led to the mailing of 43,629 questionnaires. After taking account of additional duplicates and sample selection errors, the overall response rate to the study was 79.7 percent. A total of 32,489 individual nurse responses were used to derive the data in this study.

To ensure an adequate response to the survey, a number of mailouts and a telephone followup to those who had not responded by mail are made. Particular efforts are made to obtain correct addresses for those questionnaires returned because the nurse could not be located at the address given. In addition to the efforts to reduce nonresponse to the survey, careful screening of the responses is undertaken to minimize ambiguous responses or nonresponses to individual questions.

The survey questions are prioritized in terms of their importance to the overall data base on registered nurses, and the degree to which the question may be of a sensitive nature, and a response rate goal is established for each question. Individual respondents may be called to clarify the response made or to obtain the missing data based on the priority rank of the question for which such information is needed. If a question of high priority rank needs followup, then all other items on the study which include ambiguous or missing information are covered in the followup telephone call. All respondents to the survey have to be classified as to whether they are employed in nursing or not. Each respondent is also classified according to "location" State.

In addition to the identification and followup of missing data, the editing procedures for the study call for a review of the items specified in the "other" categories within the questions. Those that can be reclassified to already stated categories. The remaining responses are examined to determine whether the number of

respondents providing a particular response is large enough to warrant a separate itemization of the response.

The substantial data base available from this study can be a source of many different types of analyses and uses. This report provides an overview of the characteristics of the more than 2.2 million registered nurse population. A series of detailed tables describing the data generated by this March 1992 survey is included in Appendix A.

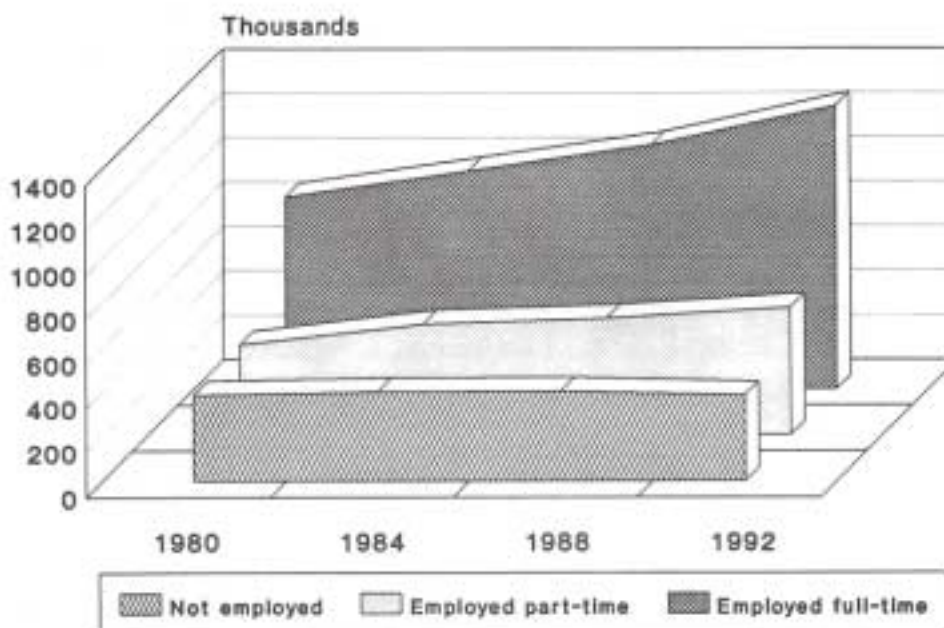
The body of the report consists of a chapter which summarizes the findings from the study and makes some comparisons to prior studies in the series. The summary primarily concentrates on the characteristics of the nurses in the country as a whole but some brief descriptive data are included on the nurse population in each State and region within the country. In addition, the report contains a chapter which highlights a number of the major trends noted in the number and characteristics of the nurse population. A review of the statistical techniques used in sample selection, response weighting and identification of sample errors is included in Appendix B and the survey instrument can be found in Appendix C.

## Chapter II

### An Overview of the Registered Nurse Population

- Since the start of this series of studies the number of registered nurses in the country has shown continual increase. In March 1992, an estimated 2,239,816 individuals located in the United States held licenses to practice as registered nurses, an increase of 35 percent since November 1980. The number who were employed in nursing increased at a higher rate. In November 1980, about 77 percent, or 1,272,851 registered nurses, were employed in nursing. In March 1992, almost 83 percent, or 1,853,024, were working in nursing positions. The number of those working on a full-time basis increased at a faster rate than those working on a part-time basis. Full-time employed nurses alone totalled 1,275,947 in 1992, more than the total employed nurses, including both full- and part-timers, in 1980.

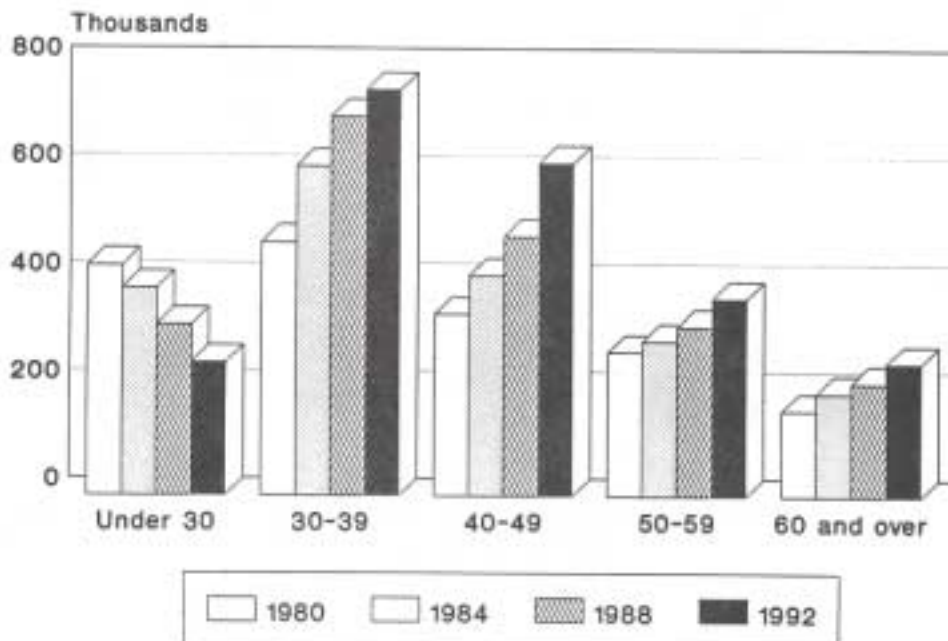
Chart 1. REGISTERED NURSE POPULATION  
BY NURSING EMPLOYMENT STATUS, 1980-1992



- Although the registered nurse population primarily consists of women, an increasing proportion of the RNs are men. Four percent of the RN population in 1992 were men. The 97 percent increase in the number of male nurses between 1980 and 1992 is almost three times greater than the 35 percent increase in the total RN population.

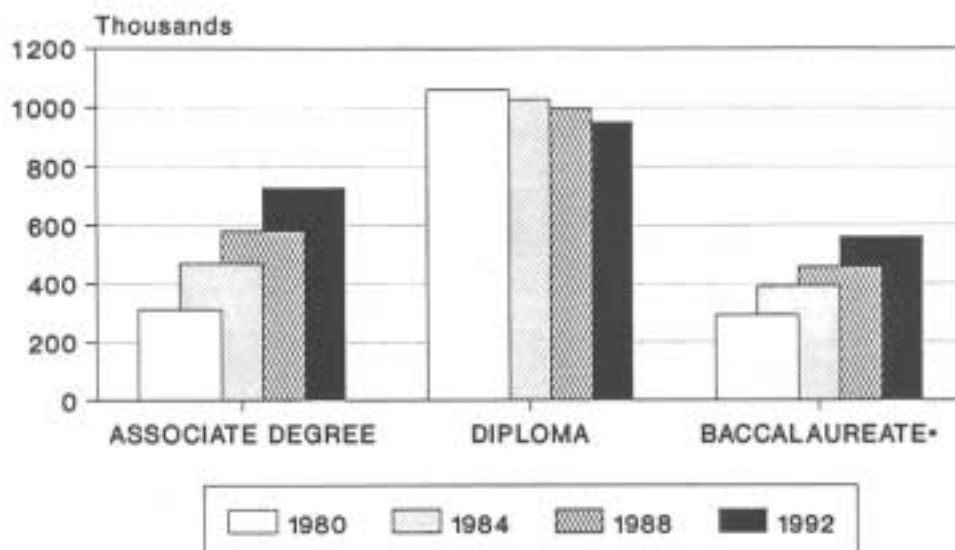
- About 9 percent of the RN population in March 1992, or 203,835 RNs, were racial/ethnic minorities. Of these, 90,611 were black (nonHispanic); 75,785 were Asian/Pacific Islanders; 30,441, Hispanic, and 9,988, American Indian/ Alaskan Native.
- Seventy-two percent of the RNs were married. About 55 percent had children living at home. Over 20 percent had children under the age of 6. Whether married or not and with children or not, the overwhelming majority were employed in nursing. However, married nurses with children, particularly those with young children, were more likely to work on a part-time basis.
- The age level of RNs has increased continually in the time period covered by these survey. Decreasing numbers of nurses were under the age of 30. The average age increased from 40.3 in November 1980 to 43.1 in March 1992.

Chart 2. AGE DISTRIBUTION OF REGISTERED NURSE POPULATION, 1980-1992



- About 385,000 of the 2,239,816 RNs in the country had been licensed practical nurses or had post-high school academic degrees prior to entering the educational program that prepared them to become RNs. Those who had become RNs in more recent years were more likely to have had post-high school academic degrees or to have been licensed practical nurses.
- Only 42.5 percent of the RN population in March 1992 had received their preparation to become RNs in a diploma program in contrast to November 1980 when about two-thirds of the nurses had graduated from diploma programs. The numbers coming from associate degree programs showed greater growth than the numbers from baccalaureate programs.

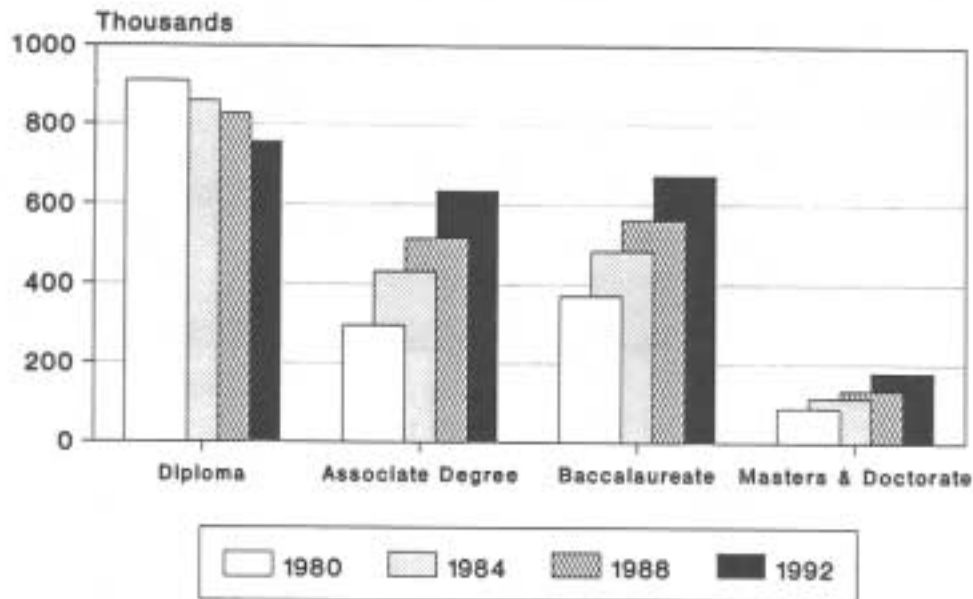
Chart 3. BASIC NURSING EDUCATION OF REGISTERED NURSE POPULATION 1980-1992



\* Includes some R.N.s whose basic nursing education was in a master's or doctoral program.

- Taking all the nursing education the nurses had into account, their basic as well as any post-basic education, in 1992, about 34 percent had a diploma as their highest educational level compared to almost 55 percent in 1980. Between 1980 and 1992, the proportion of all the RNs with associate degrees as their highest level of nursing education increased from about 18 percent to 28 percent. Those with baccalaureates from 22 percent to 30 percent. About 8 percent of the nurses in 1992 had at least a master's degree compared to 5 percent in 1988.

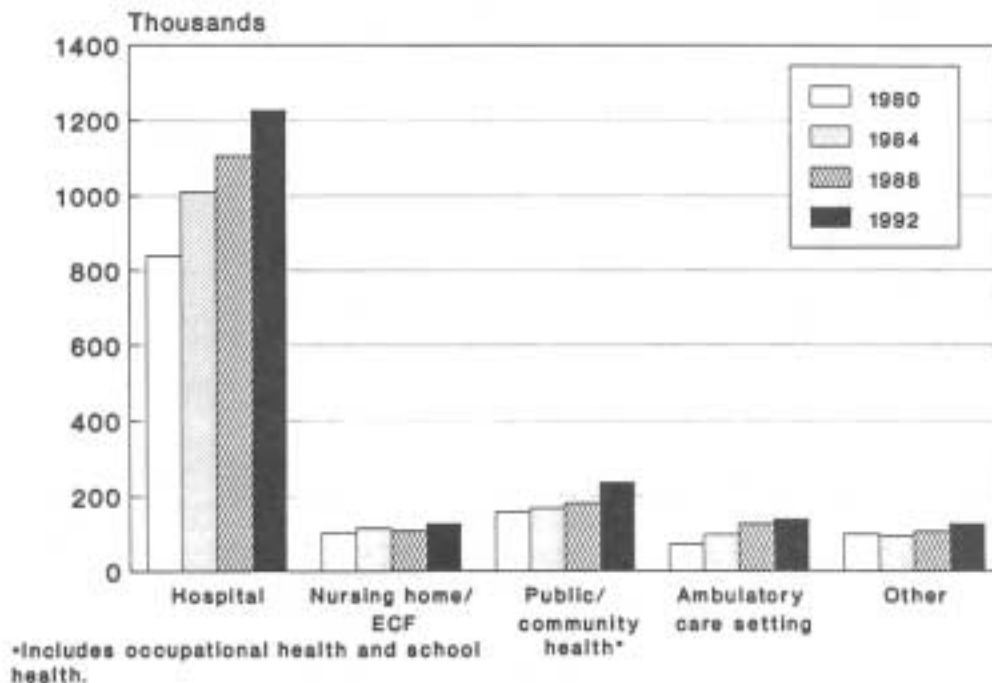
Chart 4. HIGHEST EDUCATIONAL PREPARATION  
OF REGISTERED NURSE POPULATION  
1980-1992



- The primary focus of the degree for about 43 percent of the RNs with post-basic nursing education master's degrees was advanced clinical practice. Twenty-four percent had majored in supervision/administration and 22 percent in education. Doctoral degrees were mainly focussed on either education or research. Supervision/administration and clinical practice was the focus of the doctorates for far fewer nurses.
- About 8 percent of the 2,239,816 RNs in March 1992 were enrolled in a formal education program leading to a nursing or nursing-related degree. This is both a numeric and relative decrease since the March 1988 study. In 1988, about 9.5 percent of the RNs at that time were participating in post-RN academic programs. Earlier studies in the series also showed about the same proportion of attendees among their nurse populations as in the 1988 study.

- While registered nurses can be found in all parts of the health care system the predominant employment setting is that of the hospital. In March 1992, 66.5 percent of the 1,853,024 employed nurses worked in hospitals. The proportion of the total employed nurse supply who were in hospitals declined somewhat in 1992 from the proportion in prior studies but the number of those who were in the hospital setting has continually increased. However, while the majority of nurses in hospitals are working in in-patient bed units, in recent years, increases in employment in hospitals were more likely found in areas other than these units. Between 1988 and 1992, the number of registered nurses providing patient care services in in-patient bed units increased about 6 percent compared to an increase of about two-thirds in the number providing patient care services in outpatient departments and about 17 percent in those in operating or labor/delivery rooms or in post-operative recovery rooms.
- Nursing homes had the smallest increase in numbers of RNs among the various types of employment settings between 1980 and 1992 while ambulatory care settings had the largest proportionate increase in the number of nurses. However, between 1988 and 1992, the public/community health area showed a relatively large increase in the number of nurses, to a large extent, due to those working in non-hospital-based home health care such as visiting nursing services or other home health agencies.

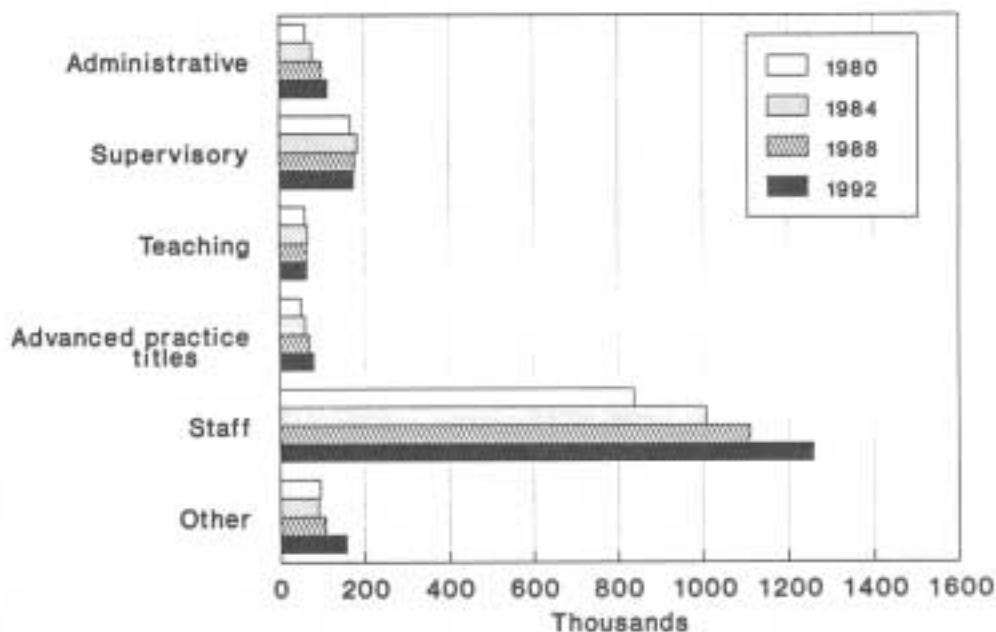
Chart 5. EMPLOYMENT SETTINGS OF REGISTERED NURSES, 1980-1992





- About 31 percent of the employed RNs were working on a part-time basis in 1992. The percentage varied according to employment setting. The highest proportion of part-timers was found among those who were working in ambulatory care settings, 39 percent and the lowest among those in occupational health or student health services, about 24 percent in each.
- About two-thirds of all employed nurses in 1992 were in staff level positions similar to what was found in prior studies. Supervisory positions, such as head nurses or supervisors, are a declining proportion of the nursing positions. Despite the increases in the total number of employed nurses, the number of those in supervisory positions decreased between 1984 and 1992.

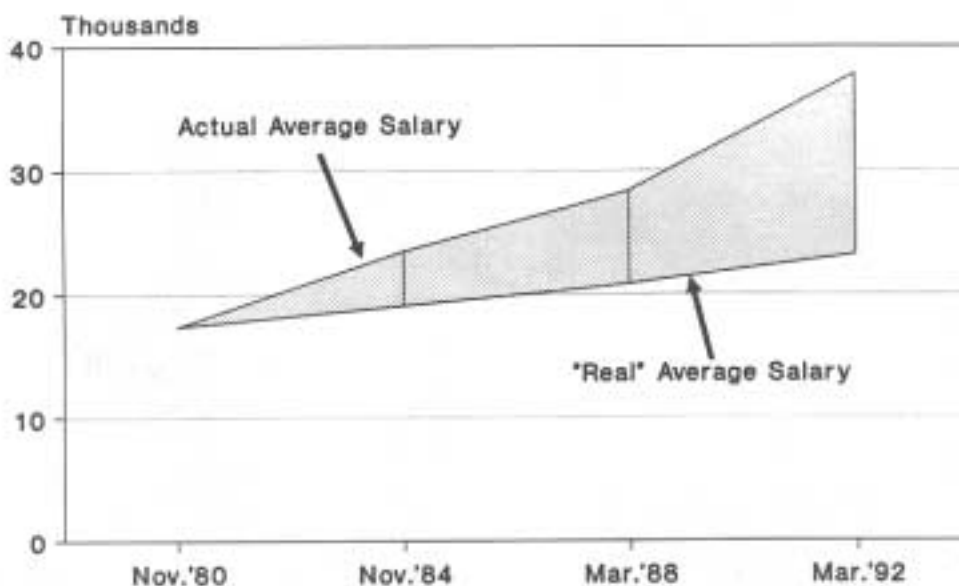
Chart 6. TYPES OF POSITIONS OF REGISTERED NURSES, 1980-1992



- As was the case in the prior studies, registered nurses were predominately involved in direct patient care activities. Sixty-nine percent of the employed nurses in 1992 spent at least 50 percent of their usual workweek in direct patient care activities. The majority of the nurses (52 percent) spent at least 75 percent of their time in such activities.

- In March 1992, the average annual salary of a full-time employed nurse was \$37,738, a 117 percent increase since November 1980 when the average salary was \$17,398. However, when inflation is considered, the increase over that period was only 33 percent.

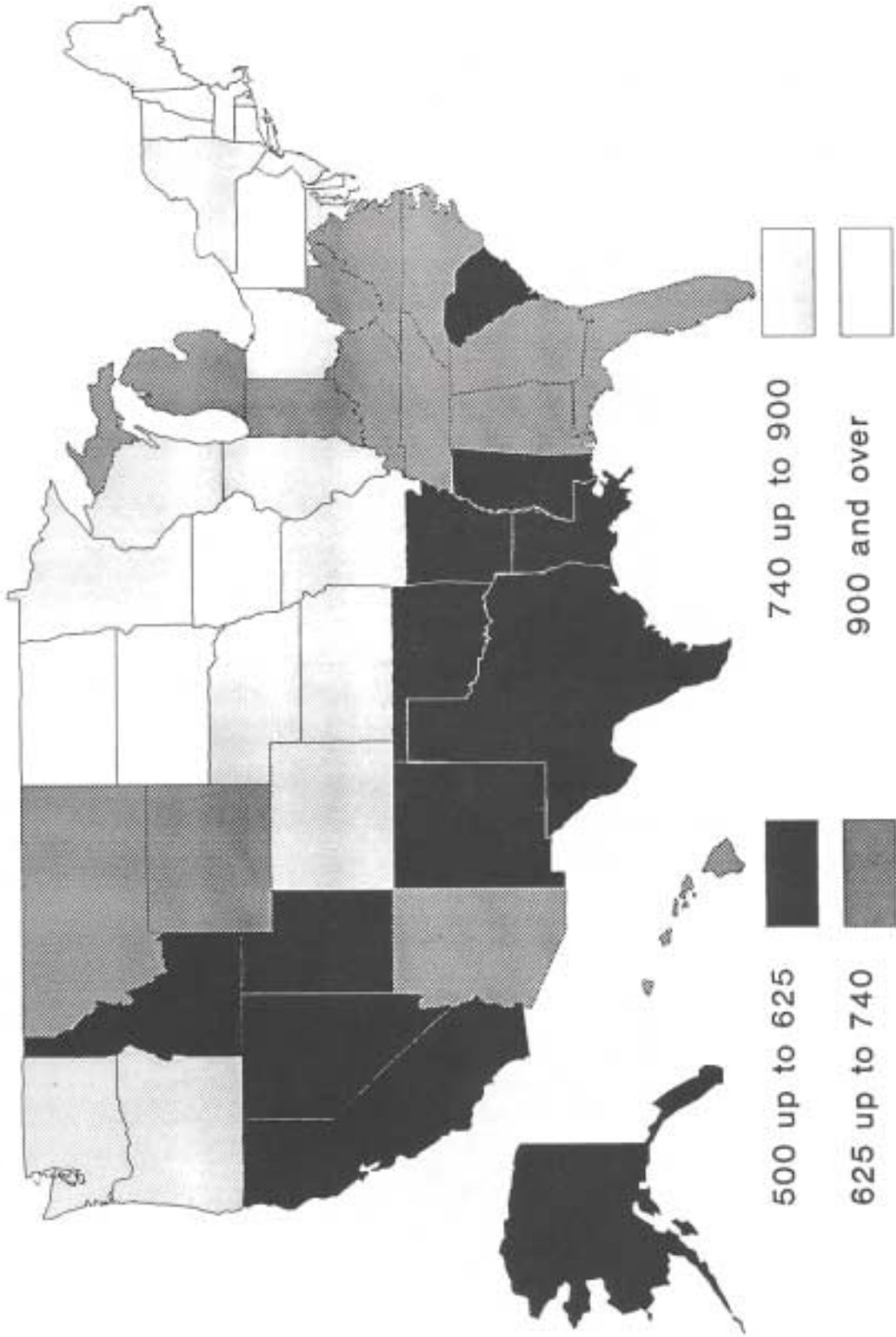
Chart 7. ACTUAL AND "REAL" AVERAGE ANNUAL SALARIES OF FULL-TIME RNS, November 1980-March 1992



- In March 1992, there were 726 employed registered nurses per 100,000 population in the country. In line with previous studies, the New England area of the country had the highest concentration of employed nurses in relation to the population of the area. Typically, the West South Central area had the lowest concentration. On an individual State by State basis, wide variation can be seen. The ratio of employed nurses to the population among the 50 States ranged from 513 per 100,000 people in Mississippi to 1,063 in Massachusetts. However, while Massachusetts had the highest ratio of employed nurses per 100,000 population in 1992, the actual number of nurses employed in the State declined between 1988 and 1992 from 68,255 to 63,751. The ratio of employed nurses per 100,000 population in Massachusetts in 1988 was 1,167.

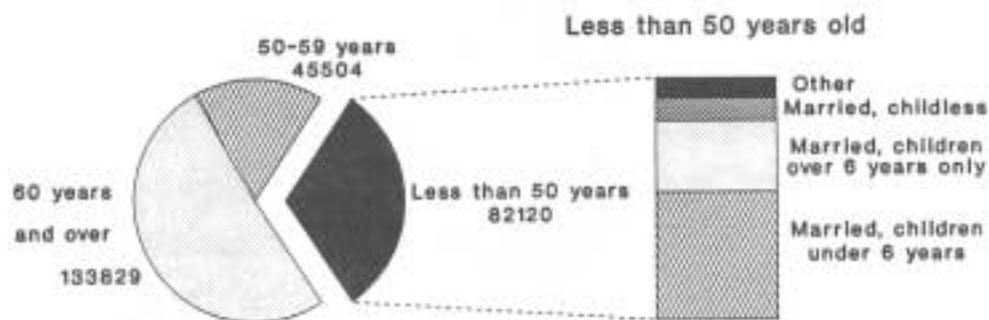
Chart 8. EMPLOYED R.N.s PER 100,000 POPULATION

MARCH 1992



- In March 1992, 386,791 RNs were not employed in nursing. They represented 17 percent of the 2,239,816 RNs in the country, the lowest proportion since the study series started. Some portion of these nurses were employed in non-nursing positions and/or were actively seeking nursing employment. But the largest portion were not working nor seeking employment as a nurse.
- Among the more than 2.2 million RNs in the country in 1992, 1.3 percent were not employed in nursing but were actively seeking nursing employment. This rate was the lowest found among all the studies in the series.
- In March 1992, 4.2 percent of the registered nurse population were employed in non-nursing positions and not looking for a nursing position. This represented a decrease since the 5.3 percent in March 1988.
- Those who were neither employed in a non-nursing position or looking for nursing employment, 12 percent of the 2.2 million RNs, were most likely to be from the older segments of the nurse population. Half of them were at least 60 years old. More than half of those who were under the age of 50 were married with young children in their home.

Chart 9. DISTRIBUTION OF INACTIVE REGISTERED NURSES, MARCH 1992



## Chapter III

### Characteristics of the Registered Nurse Population

#### A. The Population as a Whole

In March 1992 an estimated 2,254,393 individuals had current licenses to practice as registered nurses (RNs) in the United States. Of these, 2,239,816 were located in this country and 14,577 were located outside the 50 States and the District of Columbia. The data in this report focuses on the RNs who were located in this country. Nurses were considered to be located in the country if they were employed in nursing in or, if they were not employed in nursing, they were residents of one of the 50 States or the District of Columbia.

RNs may maintain licenses to practice although they are not employed in nursing. This study demonstrates that a substantial proportion of the licensees are employed in nursing. Eighty-three percent of the 2,239,816, or an estimated 1,853,024, were employed in nursing.

#### Gender

Four percent of the 2,239,816 RNs located in the United States, or 88,623, were men (see Appendix A, Table 1). Among those who were employed in nursing, 4.3 percent were men. While the RN population is primarily composed of women, the number of male RNs grew at a faster rate than the total number of RNs. The 97 percent increase in the number of male RNs is almost three times greater than the 35 percent increase in the total RN population between November 1980 and March 1992.

#### Racial/Ethnic Background

Based on the data in this March 1992 study, about 9 percent of the total RN population, or an estimated 206,835 RNs came from racial/ethnic minority backgrounds. Of these, 90,611 were black (nonHispanic); 75,785 were Asian/Pacific Islanders; 30,441, Hispanic, and 9,988, American Indian/Alaskan Native (see Appendix A, Table 1).

Although comparisons with data from prior studies in this series show changes in the number and the proportion of RNs that come from racial/ethnic minority backgrounds, some caution needs to be exercised as one evaluates these data. While most all of the key estimates from the study have relatively small sampling errors, the sampling approach has a direct impact on the variances for the data on the racial/ethnic background of the nurses (See Appendix B and particularly Appendix B Table B-2). Therefore, true statistical

significance may not be able to be shown for much of the summary data on nurses according to their racial/ethnic background. An examination of the data suggests that the growth in the number of RNs who come from racial/ethnic minority backgrounds has probably kept pace with the growth in the total number of nurses. However, it would appear that no significant increases in minorities has taken place.

### **Age Distribution**

The average age of RNs has increased continually in the span of time covered by these sample surveys, rising from an average of 40.3 in November 1980 to 43.1 in March 1992. In November 1984, the average age was 40.9 and, in March 1988, it was 41.7. Only 11 percent of the RNs were under the age of 30 in March 1992 (see Appendix A, Table 1). In November 1980, about a quarter of the RNs were less than 30 years old. In March 1988, a little over 15 percent of the nurses were in this younger age bracket. Despite the growth in the overall number of RNs, the number of those below 30 has declined, from about 418,000 in 1980 to about 246,000 in 1992.

A number of factors could contribute to this rising age level among nurses. The characteristics of the new entrants into nursing are particularly relevant to an identification of these factors.

### **Pre-Registered Nurse Background**

Twenty-nine percent of the RNs in March 1992 had worked in a health care occupation immediately prior to attending a basic nursing education program (See Appendix A, Table 2). The majority of these 645,582 nurses had worked as nursing aides (62.6 percent). Another relatively large group, 28.9 percent, were in licensed practical/vocational nurse positions before going into a basic nursing education program to prepare to become an RN.

Nurses who were health occupation workers just before entering education to become an RN tended to go to an associate degree program for their basic nursing education which prepared them to become a registered nurse. This was particularly true of those who had worked as licensed practical/vocational nurses. Eighty-one percent of those who had worked in those positions immediately prior to their basic nursing education program had attended associate degree programs for their education to become an RN.

All told there were 218,877 registered nurses in March 1992, about 10 percent of all the 2,239,816 RNs, who had been licensed practical/vocational nurses at sometime prior to becoming registered nurses (Appendix A, Table 3). Licensed practical nurses were more likely to be found among those who became RNs more recently than in the past. About 22 percent of those who had graduated from their basic nursing education program in the five

years prior to this study had been licensed practical nurses.

About 8 percent, or 189,049 of the 2,239,816 RNs, had post-high school academic degrees before entering their basic nursing education programs that prepared them to become RNs (See Appendix A, Table 4). (A total of 23,395 of these had also been licensed practical nurses.) Here, too, these types of individuals were somewhat more likely to be found among the more recent RN graduates. Before attending a nursing educational program, these RNs primarily had either associate degrees or baccalaureates. However, 5 percent of them had a master's degree. The largest single group of those who had academic degrees prior to their nursing education had been liberal arts majors, 27 percent. An almost equal number to these had majored in health-related fields.

Those with post-high school academic degrees were less likely than those who had been licensed practical nurses to get their basic nursing education in an associate degree program. About 52 percent of these RNs received their basic nursing education in an associate degree program, 34 percent in a baccalaureate program, and 15 percent in a diploma program.

#### **Age at Graduation from Basic Nursing Education Program**

The age at which individuals are entering into nursing practice has been increasing. The average age at graduation from a basic nursing education program for those who had graduated in the five years before the study date was 29.8 years compared to the average age for those who had graduated over 15 years before of 22.7 years (See Appendix A, table 5).

The increasing age level of the graduates from basic nursing education programs is due in part to the shift in the distribution of the types of educational programs from which the nurses graduate. Increased proportions of the graduates are from associate degree programs in the later years. Associate degree graduates tend to be older, on the average, than their counterparts in the diploma or baccalaureate programs.

In addition, the average age at graduation has increased for each type of RN entry program. Associate degree graduates averaged 32.1 years in the immediate 5-year period and 26.3 years among those who graduated more than 15 years ago. For diploma graduates, the averages for the respective periods were 27.3 years and 21.7 years. For baccalaureate graduates, they were 26.1 years and 22.9 years, respectively.

Those nurses who had prior academic degrees or who were licensed practical nurses generally showed the same increasing graduation age trends as did all the nurses. However, in each instance they were older on the average than their counterparts who did not have these prior educational experiences. Therefore, if the proportion

of new entrants into the RN population with prior post-high school degrees continues to increase, it can be anticipated that the average age at which individuals will become registered nurses will continue to rise.

Despite the increasing age level of registered nurses there has been an increase in the proportion of the nurses who were employed in nursing. In more recent years, nurses at most age levels were more likely to be employed in nursing than in the past. This may be due, in part, to changes in the effects of family status on the propensity of nurses to work.

### **Family Status**

Almost 72 percent of all the registered nurses were married; 16.5 percent were widowed, divorced or separated, and 11 percent were never married (See Appendix A, Table 6). About 55 percent had children living at home and 21 percent of all the nurses had children under the age of 6. In each instance, whether married or not and with children or not, the overwhelming majority were employed in nursing. It would appear that the nurses in the March 1992 study were more likely to be employed in nursing regardless of family status than were those in earlier studies. For example, about 26 percent of those who were married and had children under the age of 6 in the November 1980 study were not employed in nursing. In this study, only 14 percent of those in that marital status category were not employed in nursing.

Family status does have some impact on whether the nurses would be working full or part-time. About 26 percent of all registered nurses were employed on a part-time basis. Married nurses with children, particularly those with children under the age of 6, were more likely than other nurses to be employed on a part-time basis. About 44 percent of those who were married and had children under the age of 6 were working on a part-time basis.

The total income available to a nurse's household may be an influencing factor on the degree to which a nurse might choose to be employed. The nurses were asked to estimate income for 1992, including their earnings and their spouse's earnings if married, and all other income including alimony, child support, dividends, royalties, interest, social security, and retirement. Based on the data in Appendix A, Table 7 it is estimated that the median family income for 1992 of the total registered nurse population was \$52,444.

For married nurses, the estimated median family income for the year was \$61,743. If the married nurses were employed on a full-time basis, it was \$64,203. If they were working part-time, it was \$59,436 and if they were not working, it was \$54,073.



## **Basic Nursing Educational Preparation**

One of the most dramatic changes in the characteristics of registered nurses is that of the type of initial nursing educational preparation. When the first of these sample surveys was conducted, in September 1977, three-quarters of the nurses had received this initial preparation in a diploma program. In March 1992, 42 percent had entered nursing through diploma programs. Despite the increase in the number of nurses between 1988 and 1992, the number of those who initially attended a diploma program decreased, from 989,941 in 1988 to 951,101 in 1992 (See Appendix A table 8).

The number initially graduating from an associate degree program showed the largest growth, from 158,530 in 1977 to 729,050 in 1992. In 1977, associate degree graduates represented only 11 percent of the registered nurse population at that time. In 1992, they were about one-third of the registered nurses. Among those who graduated from their basic nursing educational programs within the five years immediately prior to this study, 59 percent were associate degree graduates.

The number of graduates from baccalaureate basic nursing educational programs also showed substantial growth, from 191,494 in 1977 to 557,654 in 1992.<sup>1</sup> However, in 1977 there were more baccalaureate graduates than associate degree graduates. In 1992, the associate degree graduates exceeded the baccalaureate graduates. Furthermore, as can be seen on Table 5 in Appendix A, in the more recent years, the proportion of the new entrants into nursing that come from baccalaureate programs has declined. Among those who graduated within the most immediate 5-year period, 31 percent were baccalaureate graduates. Among those who graduated in the 5-year period preceding that one, 34 percent were baccalaureate graduates.

## **Highest Nursing Educational Preparation**

About 21 percent of the 1992 registered nurse population had completed additional academic preparation since they graduated from their basic nursing education. When all these educational experiences are taken into account, both the initial education preparing for RN licensure and any that was taken subsequent to licensure, about a third of the nurses, 754,848 out of the 2,239,816, had a diploma as their highest educational preparation in 1992 (Appendix A, Table 8). Twenty-eight percent, or 632,483, had an associate degree. Thirty percent, or 671,399, had baccalaureates, while 168,010, 7.5 percent of the total, had

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<sup>1</sup>Included in these figures are some relatively small proportions of individuals who had graduated from master's or doctoral programs.

master's degrees. About 11,300 were estimated to have doctoral degrees.

It should be noted that not all the degrees came from programs granting nursing degrees. A number of the nurses have degrees which are not in nursing but are related to their nursing careers. This was more likely to be found among master's and doctoral degree graduates. About 29 percent of the nurses with master's degrees and 62 percent of the nurses with doctoral degrees had degrees in a related field.

The primary focus of the degree for about 43 percent of the nurses who had post-basic nursing education master's degrees in nursing or in a nursing-related field was clinical practice (See Appendix A, table 9). Twenty-four percent had majored in supervision/administration and 22 percent in education.

Doctoral degrees were mainly focused on either education or research. The primary focus of the post-basic nursing education doctoral degrees for 37 percent of the nurses with such degrees was education. For 33.5 percent, it was research. Clinical practice and supervision/administration was the focus of the doctorates for far less nurses.

About 8 percent, 190,013 out of the 2,239,816 RN population, were enrolled in a formal education program leading to a nursing or nursing-related degree in March 1992. This is both a numeric and relative decrease since the March 1988 study when about 194,000 nurses, 9.5 percent of the total, were participating in post-RN academic degree programs. Earlier studies also showed about the same proportion of attendees among the nurse population at the time as in the 1988 study.

Those enrolled in academic programs in March 1992 exhibited many of the same characteristics as those in the earlier studies. They were most likely to be part-time students and most likely to be employed in nursing on a full-time basis (See Appendix A, Table 10). The majority of them were enrolled in programs leading to a baccalaureate degree. Sixty-one percent of the attendees in 1992 were in baccalaureate programs; 34 percent were in programs leading to a master's degree and 4 percent in doctoral programs (See Appendix A, Table 11). In 1988, the distribution was somewhat different. The number of enrollees in baccalaureate programs, and the proportion they were of total enrollees, were both higher in 1988 than in the 1992 study.

Those attending school relied on multiple resources to pay tuition and fees. The two prime sources were personal resources and employer reimbursement plans. Seventy-two percent of the students were estimated to use personal resources such as earnings, savings and/or family assistance for some assistance. About 56 percent obtained assistance from employer reimbursement plans. Federal

sources of support in the form of traineeships, scholarships, or grants were a resource for about 5 percent and Federally-assisted loans for about 3 percent. However, this resource was more important for master's and doctoral degree students than for baccalaureate students. About 13 percent of the master's degree students and 23 percent of the doctoral degree students obtained such support compared to 4 percent of the baccalaureate degree students (See Appendix A, Table 11).

### **Advanced Practice Nurses**

Increased interest in expanding the availability of health care has led to particular emphasis on advanced practice nurses. The category of advanced practice nurses includes clinical nurse specialists, nurse anesthetists, nurse-midwives, and nurse practitioners. While some data on these types of nurses were obtained in the prior studies in this series, the collection of information on this subject was expanded in the March 1992 study.

After reviewing the data provided by the respondents it was clear that some misinterpretation of the questions might have occurred particularly since the data collection instrument does not contain any definitions of the terms. Therefore, a special analysis was made of these data which took advantage of a combination of the responses to a number of the areas of inquiry to determine those most likely to be appropriately classified within this category. Also, since a portion of the sample respondents indicated that they belonged to more than one of the groups of advanced practice nurses, responses to a number of the questions were examined to determine to which of the four groups of advanced practice nurses they should be assigned. Table 12 in Appendix A presents the results of this analysis.

### Clinical Nurse Specialists

The largest of the four groups of advanced practice nurses was the clinical nurse specialists. Clinical nurse specialists were defined as those who had formal preparation beyond basic nursing education resulting in a master's degree. It was estimated that there were 58,185 such nurses in March 1992, 86.5 percent of whom were employed in nursing. However, a relatively small number of these nurses, 11,541 out of the 50,352 who were employed in nursing, worked in their principal nursing position with the job title of clinical nurse specialist. Formal preparation as a clinical nurse specialist appeared to provide good background for nursing educators. Forty-one percent, or 15,965 of the 38,812 who did not have the clinical nurse specialist position title, were engaged in nursing education, primarily in schools of nursing but also in in-service education positions.

Only 7,877 of these nurses with formal preparation as clinical nurse specialists were certified by a national organization as

such. Although high proportions of both the certified and the noncertified nurses were employed in nursing, the certified nurses were more likely to be employed than the noncertified ones. They were also far more likely to have a position title of clinical nurse specialist than were the noncertified nurses.

### Nurse Practitioners

The second largest group of advanced practice nurses was the nurse practitioners. Included within this group were all those with formal preparation beyond basic nursing education as a nurse practitioner if such preparation was at least three months in duration. Given the evolving nature of the role and the education of these advanced practice nurses in the 25 to 30 years during which this nursing role has developed, it was felt that the study did not have sufficient information to refine the data further. The educational program attended by about two-thirds of the nurses included within the definition resulted in a certificate. For one-third, it resulted in a master's degree. Based on the definition, there were an estimated 48,237 nurses who had formal preparation as a nurse practitioner, 88.4 percent of whom were employed in nursing. Included among these nurses were about 2,000 whose formal preparation was that of both clinical nurse specialist and nurse practitioner. Among the 42,624 who were employed in nursing, 49 percent, or 20,733 had the position title of nurse practitioner.

About 58 percent, or 27,903 of the 48,237 nurses with formal preparation as nurse practitioners were certified by a national organization as such. As was true for the clinical nurse specialists, those who were certified were more likely to be employed in nursing than those who were not certified. Only 79 percent of the noncertified nurses were employed in nursing compared to 95 percent of the certified nurses. Here too, certified nurses were far more likely to have the position title of nurse practitioner than noncertified nurses. A total of 16,477 of the 20,733 with that position title were nationally certified.

### Nurse Anesthetists

The third largest group of advanced practice nurses was the nurse anesthetists. Included as a nurse anesthetist were all those with formal preparation beyond basic nursing education of at least three months in length in which the specialty of anesthesia was studied. Using this definition there were 25,238 nurses among the advanced practice nurses who were nurse anesthetists, 86.3 percent of whom were employed in nursing. Most of those who were employed in nursing, 18,125 out of the 21,776 employed nurses, were in positions where the job title was that of nurse anesthetist. Most, particularly those who were employed in nursing, had national certification. Practically all those with the position title of nurse anesthetist were nationally certified. Among those who were not certified, only 58 percent were employed in nursing, in

contrast to 93 percent of the certified nurses.

### Nurse-Midwives

There are far fewer nurse-midwives than there are members of the other three groups of nurses among the advanced practice nurses. To identify those who were most likely to fit the definition of nurse-midwife several screening steps were taken. The formal preparation beyond basic nursing preparation had to be at least 9 months in length. Also, a relatively large proportion of those in the sample who indicated they had formal preparation as nurse-midwives were initially foreign-educated. Such nurses usually need to take additional education here before they can qualify for certification. Therefore, in addition to the screen for the length of the educational program, those who were foreign-educated had to be nationally certified as a nurse-midwife in order to fit the definition. Based on this definition, there were an estimated 7,405 nurses with formal preparation beyond basic nursing education as nurse-midwives, 86 percent of whom were employed in nursing. Two-thirds of the 7,405, or 5,011, had national certification as nurse-midwives. As might be expected since the position title included on the survey form was that of "certified nurse-midwife", all 2,562 with the position title were nationally certified.

An examination of these data in connection with that which appears in the succeeding section of the report on employed registered nurses suggests that there are a number of nurses with position titles equivalent to that of these advanced practice nurses but without the formal preparation as indicated here (See Appendix A, Table 21). This is particularly seen in the case of the clinical nurse specialists where, according to the data on all employed nurses, regardless of whether they are advanced practice nurses, an estimated 35,524 had the position title of clinical nurse specialist compared to 11,541 among those defined as clinical nurse specialists here. An in-depth review of the functions and responsibilities of the nurse supply which might help to clarify some of the disparities in the data is beyond the scope of this study. However, these data do point to the need for some specialized data and analyses on advanced practice nurses.

### **B. Employed Registered Nurses**

As indicated earlier, the total number of registered nurses employed in the United States in March 1992 was 1,853,024, 82.7 percent of the 2,239,816 in the registered nurse population. The number of employed registered nurses in the country has increased over the years as has the proportion of the nurse population who were employed in nursing. In November 1980, 76.6 percent of those in the nurse population at that time were employed in nursing and, in March 1988, 80 percent were employed in nursing.

## Distribution Within Employment Settings

While registered nurses can be found in all parts of the health care system the predominant employment setting is that of the hospital. In March 1992, 66.5 percent of the employed nurses, 1,232,717 of the 1,853,024, worked in hospitals. Fifteen percent, or 250,004 RNs, worked in community/public health settings, including State or local health departments, non-hospital based home health agencies, various types of community health centers, student health services, and occupational health services. About 8 percent, or 144,110 RNs, were in ambulatory care settings, including physician-based practices, nurse-based practices, and health maintenance organizations. A total of 128,983 nurses, 7 percent of all those employed in nursing, worked in nursing homes or other extended care facilities. The remaining group of those employed in nursing were working in such settings as nursing education, Federal administrative agencies, State boards of nursing, nursing or other health associations, health planning agencies, prisons or jails, insurance companies (See Appendix A, Table 13).

The proportion of the total employed nurse supply who were in hospitals declined somewhat in March 1992 from the proportion in prior studies. However, the number of those who were in the hospital setting has continually increased. In 1988, the number of those in the hospital setting was estimated at 1,104,978, over 100,000 less than the 1,232,717 in 1992.<sup>2</sup>

Over 9 out of every 10 nurses in hospitals spend some portion of their time providing direct patient care services. An examination of the type of units in which they worked provides some indication of the shifting focus of RN work settings. In both 1988 and 1992, nurses providing care in in-patient bed units were by far the majority of hospital nurses. However, the number of these increased only 5.5 percent compared to an overall increase for all hospital nurses of 11.6 percent. Although still a relatively small proportion of the nurses in hospitals, those in outpatient departments increased 68 percent, from 36,904 in 1988 to 61,875 in 1992 (See Appendix A, Table 14). As might be expected, nurses predominantly worked in the in-patient bed units or in the outpatient departments with general medical/surgical patients. However, 17 percent of the nurses in 1992 worked in coronary care units. Newborn units and psychiatric units, each with 7.5 percent of the nurses, were next in importance (See Appendix A Table 15).

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<sup>2</sup> In 1988, private duty was considered a separate employment setting or field of nursing but in the 1992 study it was not. However, even if the 19,988 nurses estimated as in private duty nursing in 1988 were to be considered as working in hospitals at that time, the difference between the numbers working in hospitals in 1988 and 1992 would still be about 100,000.

Nurses in community/public health nursing showed a 38 percent increase between 1988 and 1992. Among these, however, the largest increase, by far, was noted for those working in non-hospital-based home health care such as visiting nursing services or other home health agencies. An estimated 93,271 nurses were in such settings in 1992. Nurses in hospital-based home health care settings totalled 4,861. Thus, in total, 98,132 RNs were in home health care. Most of the other areas under community/public health either showed more modest increases or remained about the same. A few exhibited some decrease in the numbers of nurses. Most notable among these was the occupational health employment setting. Since November 1980 when the number of nurses in that employment setting totalled 29,162, the number has continually decreased. In 1992, the estimated total in that setting was 19,266.

The growth in the number of nurses in ambulatory care settings between 1988 and 1992 generally kept pace with the growth in the overall number of employed nurses. The increase in the number of nurses in nursing homes and other extended care facilities, from 107,805 in 1988 to 128,983 in 1992, reversed the trend noted for the 1984-1988 period. In 1984, there were 115,077 such nurses. Similarly, those working in nursing education settings increased between 1988 and 1992 while they had shown a decrease in the 1984-1988 period.

#### **Characteristics within Employment Settings**

About 31 percent, or 577,077 of the 1,853,024 employed RNs, were working on a part-time basis. The proportion working on a part-time basis varied according to the field of employment. The highest proportion of part-timers was found among those working in ambulatory care settings, about 39 percent. The lowest among those in occupational health or student health services, about 24 percent (See Appendix A, Table 16).

The average scheduled work hours per year for all full-time nurses was 2,004, including paid vacations, holidays, etc. For part-timers, it was 1,110. The average scheduled hours in most all the fields of nursing tended to be lower, on an overall basis, than they were in 1988. However, in comparison to 1988, the average hours in 1992 were always lower for full-time nurses but generally higher in most fields for part-time workers (Appendix A, Table 16).

An examination of the differences between the number of scheduled hours per week and the actual number of hours worked showed that, for the week of March 23, 1992, nurses tended to work longer hours than their schedules called for in all the fields of nursing. Full-time nurses averaged 41.7 actual hours that week in contrast to average scheduled hours of 39.5. Part-timers averaged 24.5 actual hours worked compared to average scheduled hours of 22.9 (See Appendix A, Table 17).

As shown in previous surveys as well, younger nurses were more likely to be employed in hospitals than older ones. The average age of the hospital nurses in March 1992 was 39.2 years, almost two years less than the 41 year average for all employed nurses. Eighty-four percent of all the employed nurses under 30 were working in the hospital employment setting. In contrast, only half the nurses who were 50 years old or over worked in hospitals (See Appendix A, Table 18). Nurses in occupational health, student health services, and nursing homes or other extended care facilities had the highest average ages, 47.8, 47.5, and 47 years, respectively.

Seventy-three percent of all employed nurses whose highest educational preparation was an associate degree and 69 percent of those whose highest preparation was a baccalaureate worked in hospitals. Nursing homes drew 77 percent of their nurses from among those whose highest preparation was that of a diploma or associate degree. They were less likely than other patient care service settings to have baccalaureate, master's or doctorally-prepared nurses. As could be anticipated, 72.5 percent of those in nursing education had as their highest preparation a master's or doctoral degree (See Appendix A, Table 19).

#### **Employment Basis**

Most nurses were employees of the facility in which they worked. About 2 percent worked in their principal nursing position through a temporary employment service and another 2 percent were self-employed (Appendix A, Table 20).

The data on the number of nurses who worked through temporary employment services is of particular interest as one looks back at prior studies. The 1988 study showed a marked increase over the prior studies in the number of nurses working through temporary employment services. This 1992 study shows a reversal of that trend. In 1988, it was estimated that 50,678 nurses were employed in their principal nursing position through temporary employment services. In 1992, there were 35,506. There were considerably more nurses in 1992 than in 1988 who, while employed through other means in their principal positions, had additional positions for which they received work through a temporary employment service. However, those individuals brought the total nurses who received work through temporary employment services in 1992 to 84,414, about 4,000 less than the 88,444 in 1988.

#### **Position Levels**

About two-thirds of all employed nurses in 1992, similar to the data from prior studies, were in staff-level positions. As was the case in the prior studies, this study also shows that positions such as head nurse or supervisor are a declining proportion of the nursing positions. In 1988, there were 177,449 nurses in such



positions, 10.9 percent of the 1.627 million employed nurses at that time. In 1992, there were 176,806 nurses in those positions, 9.5 percent of the 1.853 million employed nurses (See Appendix A, Tables 21 and 22).

Over three-quarters of the employed nurses whose highest nursing education preparation was that of an associate degree were employed in staff-level positions. The nurses whose highest educational preparation was a diploma or baccalaureate were also mainly in staff-level positions, 69 and 66 percent, respectively. Those with master's degrees were approximately equally divided among advanced practice, administrative, and teaching positions (See Appendix A, Table 23).

### **Functions during Usual Workweek**

Sixty-nine percent of the employed nurses in 1992 spent at least 50 percent of their usual workweek in direct patient care activities. The majority of the nurses (52 percent) spent at least 75 percent of their time in such activities (See Appendix A, Table 24). While these data generally affirm the findings of the prior studies, they do suggest some change. From the 1977 study to the 1988 one, the proportion of nurses who spent at least half their time in direct patient care activities tended to increase. The 1992 study, however, showed a slight decrease in the percent of nurses who spent half their their time in direct patient care from 1988 when the proportion was 71 percent.

As could be anticipated from the position levels of nurses with associate degrees, they averaged about 69 percent of their usual workweek in direct patient care activities (See Appendix A, Table 25). Similarly, in line with their position levels, diploma and baccalaureate nurses also spent a considerable amount of their workweeks in direct patient care activities. Master's and doctorally-prepared nurses, as well, exhibited functional patterns fairly suggestive of their position level distribution. Master's degree nurses averaged about a third of their time in direct patient care, 26 percent of their time in administration, and 19 percent in teaching. Nurses with doctorates averaged about 35 percent of their time in teaching and 31 percent in administration. Doctorally-prepared nurses were the only group to spend significant time in research. In 1992, they averaged about 13 percent of their usual workweek in research, somewhat lower than the 16 percent shown in the 1988 study.

### **Annual Earnings**

In March 1992, the average annual earnings of full-time employed registered nurses in their principal nursing positions was \$37,738 (See Appendix A, Table 26); an increase of 33 percent over the \$28,383 in March 1988. Among the various employment settings,

nurses in hospital employment had the highest average earnings, \$39,253. Those in student health services the lowest, \$28,316.

Certified registered nurse anesthetist had the highest average earnings among the nurses in all the different employment settings and position levels, \$76,053. This was considerably higher than the average of \$47,717 found for these nurses in the 1988 study. However, given the large variation in earnings of nurse anesthetists found in each of the studies, it is difficult to ascertain the real change in earning levels for these nurses.

The average annual earnings of the nurses varied according to educational preparation. Those whose highest educational preparation was that of an associate degree averaged \$35,258 while the doctorally-prepared nurses averaged \$50,646 (See Appendix A, Table 27). Both nursing earnings and the distribution of the educational preparation of nurses vary according to employment setting and position level. These factors need to be considered in determining the effect of educational preparation on earnings levels. An examination of staff nurse earnings showed that the average earnings of those whose highest education was an associate degree was \$733 less than that of the nurse whose highest education was a diploma, \$34,072 and \$34,805, respectively. Nurses with baccalaureates who were in staff nurse positions averaged \$36,552 and the relatively small number of master's degree nurses in such positions averaged \$41,610.

About 16 percent of all the employed nurses held other paid nursing positions in addition to their principal nursing position. As would be expected the average annual earnings of these nurses were higher than those of the nurses with only one nursing position. For all nurses, regardless if they had one or more than one position and if they worked full- or part-time in their principal position, the average annual earnings from nursing were \$33,898. If they had more than one nursing position the average earnings were \$39,674. Those with one position averaged \$32,821 (See Appendix A, Table 28).

### **C. Registered Nurses Not Employed in Nursing**

In March 1992, 386,791 individuals with current licenses to practice as registered nurses, 17.3 percent of the 2,239,816 nurses, were not employed in nursing. Twenty-six percent of the 386,791 registered nurses were working in non-nursing positions (including some who were actively seeking nursing employment). About 7 percent of those not employed in nursing were actively seeking nursing employment. Fifty-one percent of all those who were not employed in nursing had not worked in nursing for at least five years and 1.2 percent had never worked as nurses (See Appendix A, Table 29).

### **Nurses Seeking Nursing Employment**

The 28,603 registered nurses who were not employed in nursing in March 1992 but were actively seeking nursing employment represented 1.3 percent of the 2.239 million registered nurses in the country. This rate was the lowest found among the five studies in this series.

Those who were actively seeking nursing employment were more likely to have been employed in nursing more recently than other nurses who were not working in nursing. Sixty-seven percent of the job seekers had been employed in nursing less than five years prior to the study with the majority of these having been employed less than a year before. In contrast, only 43 percent of the nurses who were not employed, and not seeking employment, had been in nursing positions less than 5 years prior to the study, and the vast majority of these had not been employed as nurses for at least a year.

The majority of the RNs who were looking for nursing employment were looking for part-time positions. The majority had been searching for employment for less than 4 weeks prior to the study. Twenty-three percent had been looking for less than a week (See Appendix A, Table 30).

### **Nurses Employed in Non-Nursing Occupations**

The 99,955 registered nurses who were employed in non-nursing occupations in March 1992 represented a decrease from the 114,064 such nurses in March 1988. Included among the 99,955 were 6,034 who were also seeking nursing employment. Those who were employed in non-nursing occupations and were not looking for nursing positions were 4.2 percent of the 2.239 million registered nurse population.

Similar to the data found in the March 1988 study, while the majority of those employed in non-nursing positions were in non health-related occupations, 44 percent were in health-related jobs. Sixty-four percent of the nurses in non-nursing work were full-time workers. However, the nurses in health-related occupations were much more likely than those in non health-related occupations to be full-time workers (See Appendix A, Table 31).

The predominant reasons for these nurses to be in non-nursing positions were that the hours were more convenient in this position and that the position was more rewarding professionally. The third ranking reason was the salaries were better in these positions. About 23 percent were concerned about their nursing skills being out-of-date and 18 percent were concerned about safety in the health-care environment (See Appendix A, Table 32).

## **Inactive Registered Nurses**

The largest segment of the nurses who were not employed in nursing were neither looking for nursing positions or employed in a non-nursing occupation. The 264,267 such nurses were 12 percent of the 2,239,816 registered nurse population. Both the number and the proportion these registered nurses are of the total RN population have decreased since the prior studies in this series.

For the most part these inactive nurses came from the older segments of the nurse population. Half of them were at least 60 years old. Less than 20 percent were under the age of 40. Seventy-one percent of these younger nurses were married with preschool age children at home. An additional 14 percent of them were married with older age children (See Appendix A, Table 33).

## **D. Geographic and Employment Mobility**

The survey instrument provided for the exploration of a number of changes that the nurses might experience during the course of their careers in nursing. Among these were geographic relocations, movement in or out of work status and changes in the type of employment setting.

### **Location of Basic Nursing Education**

Thirty-six percent of those with current licenses to practice in March 1992 had received their basic nursing education in a foreign country or in a State different from the State in which they were located at the time of the survey. About 3 percent, or 74,151 out of the 2,239,816 registered nurses, received their basic nursing education in a foreign country. As would be expected, the longer the time between graduation from the basic nursing education program and March 1992, the more likely it was that the nurse was in a different location. Forty-four percent of the nurses who had graduated at least 15 years before were in a different location compared to 19 percent of those who had graduated less than 5 years before.

There were noticeable differences, however, among the graduates from the different types of basic nursing educational programs. Associate degree graduates, no matter how long they were out of school, were least likely to be located in a different State from the State in which their basic nursing education was received. Baccalaureate graduates were most likely to be in a different location (See Appendix A, Table 34).

### **Residence in March 1991 and 1992**

Most of the nurses with current licenses to practice in March 1992 were residents of the same State as they were in March 1991. Only

3 percent had changed their residential State between 1991 and 1992. This is less than the 4.7 percent who had done so between March 1987 and 1988. However, as was true in the past studies, younger nurses in the 1992 study were far more likely than older ones to have moved their State of residence. Six percent of the nurses who were under the age of 35 in 1992 had changed their resident State compared to 2 percent of those 35 years old or over (See Appendix A, Table 35).

#### **Employment Status in March 1991 and 1992**

About 3 percent, or 72,689 of the 2,239,816 registered nurses, had received their first license to practice as a registered nurse in 1991. As would be expected, a little over half of these nurses were not employed in nursing in March 1991 but, for the most part, were employed in March 1992.

On an overall basis, taking into account all the nurses located in this country and licensed to practice as of March 1992, most had the same employment status in March 1991 and March 1992. Only 12.5 percent of them had shifted their employment status (See Appendix A, Table 36). Those who were employed on a full-time basis in March 1991 were most likely to be so employed in March 1992. Only 7 percent of these nurses had shifted their employment status between 1991 and 1992. Among those who were not employed in nursing in March 1991, about 21 percent were employed in March 1992. However, if you exclude those who were newly licensed in 1991, only 14 percent of those not employed in 1991 had become employed in 1992.

Nurses who were working in hospitals in 1992 were most likely to have also worked in a hospital in 1991. The nurses were less likely to be employed in the same type of setting if that setting was not a hospital. Nevertheless, the vast majority of the nurses in the other settings, as well, had been employed in the same type of employment setting in each of those years (See Appendix A, Table 37).

#### **E. Geographic Distribution of the Registered Nurse Population**

In line with the previous studies in this series, the New England area of the country had the highest concentration of employed nurses in relation to the population of the area. Typically, the West South Central area had the lowest concentration. Although the gap between those two areas has closed some since the 1988 study, the number of nurses per 100,000 people in the West South Central area is only 54 percent of the number in New England. Thus, the nursing resources as well as the personal and professional characteristics of the nurse population vary across the country.

### **State-by-State Distribution**

The registered nurse population in each State varied from about 3,500 in Wyoming to almost 208,000 in California. Seven States had nurse populations of over 100,000 while 10 States had less than 10,000 nurses in their State (See Appendix A, Table 38). The majority of the States increased their nurse populations between March 1988 and 1992. In general, the southern part of the country experienced greater gains than did other areas. New England, on the other hand, showed a loss in nurse population between 1988 and 1992. Only 2 States in that area, Connecticut and Vermont, increased their nurse population. The number of nurses in the other 4 States in the area were about the same or had decreased between 1988 and 1992. The largest loss of nurses occurred in Massachusetts which had an 11 percent decrease in its nurse population. Other States in the country where the nurse population remained about the same or decreased between the two years were Alaska, North Dakota and West Virginia.

Most of the States showed increases in the proportion of their RN population who were employed in nursing. Three States, Indiana, South Dakota and Wyoming, had a decrease in the proportion of the nurses located in the State who were employed in nursing. However, all three States had sizeable increases in their nurse populations. Therefore, they all experienced increases in their active nurse supply. Only Massachusetts and West Virginia showed a decline in their active nurse supply between 1988 and 1992.

As was the case in prior years, however, wide variation was found from State to State in the proportion of nurses who were employed in nursing. These rates ranged from a low of 75 percent in Connecticut to 94 percent in North Dakota and 96 percent in the District of Columbia. The proportion of the employed nurses who worked on a part-time basis also varied considerably from State to State. The New England area had the highest part-time rate in the country. Of particular interest here is that Connecticut not only had the lowest activity rate in the country but also 41 percent of its active nurse supply was employed on a part-time basis. In comparison, the overall part-time rate for the country was 31 percent. Nurses in the southern part of the country were least likely to be working on a part-time basis (See Appendix A, Table 39).

### **Metropolitan Areas**

In March 1992, 83.4 percent of the RNs were located in metropolitan areas. This is a somewhat higher proportion than in the earlier studies in the series where about 82 percent of the registered nurse population was estimated to be located in metropolitan areas. RNs who were located in metropolitan areas were more likely to be employed in nursing than those in nonmetropolitan areas, 83.2 percent and 80.1 percent, respectively. Therefore, about 84 percent of the 1,853,024 employed nurses were working in

metropolitan areas in the country.

As would be expected given the distribution of metropolitan areas in the country, the proportion of the registered nurses who were located in metropolitan areas varied from region to region. The highest proportions were found in the Middle Atlantic and Pacific areas and the lowest in the West North Central (See Appendix A, Table 40).

#### **Characteristics of RNs in Geographic Areas**

New England and the West North Central areas of the country were least likely to have nurses with racial/ethnic minority backgrounds among their nurse populations. The Pacific area had the highest proportion of minorities in its population, 16 percent compared to about 3 percent in the other two areas. The predominant minority nurses in the Pacific area were those with Asian/Pacific Island background, 9.5 percent of the nurse population. In addition to the Pacific area, Asian/Pacific Island nurses were also more likely to be a part of the nurse population in the Middle Atlantic area than in other parts of the country. Black (nonHispanic) nurses were more prevalent among the nurse populations in the south and in the Middle Atlantic area than elsewhere. Hispanic nurses, although a relatively small part of any area's population, were more likely to be found among the nurses in the Pacific, Mountain and West South Central areas (See Appendix A, Table 41).

The East South Central area of the country was the only one of the nine regions where the majority of the nurses (53 percent) was less than 40 years old. In contrast, only 40 percent of the nurses in the Pacific area were under the age of 40. Generally, nurses in the eastern and western parts of the country were more likely to be older than those in the mid-section (See Appendix A, Table 42).

The northeast was least likely to have nurses whose highest educational preparation was that of an associate degree. The south and the west were most likely to have nurses with such preparation. The nurses in the western part of the country were more likely to have at least a baccalaureate degree than were the nurses in other areas. Those in the northeast were more likely to be at least master's-prepared than were those elsewhere in the country (See Appendix A, Table 43).

#### **Employment Settings of Nurses in Geographic Areas**

As expected, the predominant employment setting for the nurses in each area was the hospital. The proportion of the nurse supply in each area working in hospitals ranged from 61.9 percent in New England to 69.2 percent in the West South Central. The New England and the West North Central areas were more likely than the other areas to have higher proportions of their nurses employed in nursing homes or other extended care facilities. The East South

Central and South Atlantic areas had greater concentrations of their nurse supply employed in community/public health facilities than other areas. The Pacific area, followed by the East North Central and Mountain areas, was more likely to have a higher proportion of its nurse supply working in ambulatory care settings than other areas (See Appendix A, Table 44).

#### **Average Salaries within Geographic Areas**

The average annual salary of full-time employed nurses in staff-level positions in each area was examined to get some indication of variations in salaries around the country. The average salary of these nurses ranged from \$31,510 in the West North Central area to \$41,315 in the Pacific area (see Appendix A, Table 45).

The average salaries of the nurses in the northeastern and the Pacific areas of the country increased about 38 percent between March 1988 and March 1992, the highest increase among all the areas. The Mountain area increase of about 28 percent was the lowest.



**Appendix A**

**Tables**

Table 1. Registered nurse population by sex, racial/ethnic background, and age group: March 1992

Sex, racial/ethnic background and age group	Total		Employed in nursing		Not employed in nursing	
	Number in sample	Estimated Number	Number in sample	Estimated Number	Number in sample	Estimated Number
Total	32,304	2,239,816	27,336	1,853,024	4,968	386,791
		100.0		100.0		100.0
<b>Sex</b>						
Male	1,373	88,623	1,242	79,557	131	9,066
Female	30,908	2,149,398	26,080	1,772,395	4,828	377,004
Not known	23	1,794	14	1,073	9	721
		4.0		4.3		2.3
		96.0		95.6		97.5
		0.1		0.1		0.2
<b>Racial/ethnic background</b>						
White (non-Hispanic)	29,598	2,018,456	24,916	1,655,704	4,682	362,752
Black (non-Hispanic)	1,074	90,611	973	80,568	101	10,042
Asian/Pacific Islander	804	75,785	806	69,973	78	5,811
American Indian/Alaskan Native	177	9,998	145	8,162	32	1,835
Hispanic	381	30,441	345	27,470	36	2,971
Not known	190	14,526	151	11,147	39	3,379
		90.1		89.4		93.8
		4.0		4.3		2.6
		3.4		3.8		1.5
		0.4		0.4		0.5
		1.4		1.5		0.8
		0.6		0.6		0.9
<b>Age group</b>						
Less than 25	679	47,625	669	46,903	10	722
25-29	2,910	198,405	2,775	189,370	135	9,035
30-34	4,784	328,190	4,359	296,556	425	31,635
35-39	6,258	421,553	5,653	376,592	605	44,961
40-44	5,245	355,799	4,747	319,071	498	36,728
45-49	3,814	259,093	3,366	225,541	448	33,552
50-54	2,893	202,111	2,439	167,164	454	34,947
55-59	2,258	164,273	1,738	121,562	520	42,711
60-64	1,662	120,667	986	66,733	676	53,954
65 and over	1,594	126,476	453	31,898	1,141	94,578
Not known	207	15,603	151	11,634	56	3,970
		2.1		2.5		0.2
		8.9		10.2		2.3
		14.7		16.0		8.2
		18.8		20.3		11.6
		15.9		17.2		9.5
		11.6		12.2		8.7
		9.0		9.0		9.0
		7.3		6.6		11.0
		5.4		3.6		13.9
		5.6		1.7		24.5
		0.7		0.6		1.0

Note: Estimated number and percent may not add to total because of rounding.

Table 2. Distribution of registered nurses who were employed in a health occupation before entering basic nursing education, by type of health occupation and basic nursing education: March 1992

RNs who were in health occupation prior to taking basic nursing education	Number in sample	Total <sup>1</sup>		Basic nursing education				Baccalaureate and higher degree	
		Number	Percent	Diploma	Associate degree	Number	Percent	Number	Percent
Total	9,710	645,582	100.0	160,475	24.9	344,848	53.4	140,112	21.7
Nursing aide	6,086	403,890	100.0	131,023	32.4	162,236	40.2	110,550	27.4
Licensed practical/vocational nurse	2,809	186,834	100.0	19,196	10.3	151,519	81.1	16,088	8.6
Managerial/clerical in health care setting	73	6,194	100.0	913	14.7	4,007	64.7	1,274	20.6
Allied health	586	37,790	100.0	7,825	20.7	21,071	55.8	8,858	23.4
Other	148	10,155	100.0	1,408	13.9	5,542	54.6	3,204	31.6
Not known	8	720	100.0	109	15.2	472	65.5	139	19.3

<sup>1/</sup> Includes an estimated 146 nurses whose basic nursing education was not known.

Table 3. Registered nurses who were licensed practical/vocational nurses before entering basic nursing education program, by type of basic nursing education: March 1992

RNs who were LP/VNs prior to taking basic nursing education	Number in sample	Estimated total <sup>1/</sup>		Diploma		Associate degree		Baccalaureate and higher degrees	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	3,285	218,877	100.0	24,333	100.0	172,606	100.0	21,907	100.0
Year of graduation from basic nursing education									
1987 or later	1,081	67,220	30.7	4,097	16.8	56,509	32.7	6,614	30.2
1982 - 1986	963	64,103	29.3	5,681	23.3	51,562	29.9	6,860	31.3
1977 - 1981	685	45,687	20.9	4,823	19.8	35,593	20.6	5,271	24.1
1976 or earlier	549	41,211	18.9	9,625	39.6	28,563	16.5	3,023	13.8
Not known	7	656	0.3	107	0.4	378	0.2	139	0.6
Average age at graduation by year of graduation									
1987 or later		34.6		32.7		34.6		34.9	
1982 - 1986		32.8		32.5		33.0		31.4	
1977 - 1981		30.9		30.6		31.1		30.0	
1976 or earlier		30.0		26.6		31.6		25.5	

<sup>1/</sup> Includes 23,395 nurses who are also included on Table 4. Also includes an estimated 2,010 nurses whose basic nursing education was not known.

Table 4. Characteristics of registered nurses with post-high school academic degree before entering basic nursing education, by type of basic nursing education: March 1992

Characteristics of nurses with prior degrees	Number in sample	Estimated total		Diploma		Associate degree		Baccalaureate and higher degrees	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	2,675	189,049	100.0	27,799	100.0	97,654	100.0	63,579	100.0
RNAs with prior degree									
Degree obtained before									
basic nursing education									
Associate degree	1,150	83,616	44.2	11,094	39.9	47,996	49.1	24,526	38.6
Baccalaureate	1,368	94,970	50.2	15,095	54.3	44,152	45.2	35,707	56.2
Master's degree	134	9,208	4.9	1,388	5.0	4,812	4.9	3,008	4.7
Doctorate	3	95	0.1	--	--	14	--	81	0.1
Not known	20	1,160	0.6	222	0.8	680	0.7	258	0.4
major field of study									
Biological/Physical science	409	27,884	14.7	3,214	11.6	11,031	11.3	13,621	21.4
Business/management	193	13,147	7.0	1,555	5.6	9,598	9.8	1,994	3.1
Education	340	24,349	12.9	4,953	17.8	14,242	14.6	5,153	8.1
Liberal art	696	50,390	26.7	7,377	26.5	29,679	26.3	17,334	27.3
Social science	273	19,973	10.6	2,264	8.1	11,565	11.8	6,145	9.7
Health-related	641	45,783	24.2	7,677	27.6	21,497	22.0	16,608	26.1
Other	111	6,896	3.6	710	2.6	3,462	3.5	2,724	4.3
Not known	9	628	0.3	47	0.2	581	0.6	--	--
RNAs year of graduation									
Year of graduation from basic nursing education									
1987 or later	702	48,216	25.5	3,541	12.7	30,014	30.7	14,662	23.1
1982 - 1986	806	57,878	30.6	6,951	25.0	32,397	33.2	18,530	29.1
1977 - 1981	634	43,362	22.9	5,951	21.4	21,541	22.1	15,870	25.0
1976 or earlier	526	38,950	20.6	11,357	40.9	13,346	13.7	14,247	22.4
Not known	7	644	0.3	--	--	355	0.4	270	0.4
RNAs average age at graduation									
Average age at graduation by year of graduation									
1987 or later			33.1		32.3		34.1		31.2
1982 - 1986			31.6		30.5		32.7		29.9
1977 - 1981			29.1		28.8		30.1		28.0
1976 or earlier			27.0		25.5		29.8		25.7

Table 5. Year of graduation from basic nursing education and the average age at graduation for the registered nurse population, by type of basic nursing education: March 1992

Year of graduation	Number in sample	Estimated total		Average age		Diploma		Average age	
		Number	Percent	at graduation	at graduation	Number	Percent	at graduation	at graduation
Total	32,304	2,239,816 <sup>1/</sup>	100.0	25.0	25.0	951,101	100.0	22.3	22.3
1987 or later	4,599	305,830	13.7	29.8	29.8	29,765	3.1	27.3	27.3
1982 - 1986	5,552	378,143	16.9	27.7	27.7	56,821	6.0	25.7	25.7
1977 - 1981	5,529	378,910	16.9	25.8	25.8	79,339	8.3	23.7	23.7
Earlier than 1976	16,548	1,171,448	52.3	22.7	22.7	783,154	82.3	21.7	21.7
Not known	76	5,485	0.2	--	--	2,023	0.2	--	--
<b>Year of graduation</b>									
		Associate degree		Average age		Baccalaureate		Average age	
		Number	Percent	at graduation	at graduation	Number	Percent	at graduation	at graduation
Total		729,050	100.0	29.2	29.2	554,902	100.0	24.2	24.2
1987 or later		181,486	24.9	32.1	32.1	94,098	17.0	26.1	26.1
1982 - 1986		193,128	26.5	30.1	30.1	127,366	23.0	24.9	24.9
1977 - 1981		165,533	22.7	28.1	28.1	133,524	24.1	24.1	24.1
1976 and earlier		187,889	25.8	26.3	26.3	198,724	35.8	22.9	22.9
Not known		1,014	0.1	--	--	1,190	0.2	--	--

<sup>1/</sup> Includes an estimated 2,581 nurses whose basic nursing education was in master's degree program, 171 in a doctoral program and 2,010 whose basic nursing education was not known.

Table 6. Registered nurse population, by marital status and employment status: March 1992

Marital status	Total		Employed in nursing full-time		Employed in nursing part-time		Not employed in nursing	
	Number in sample	Estimated Number Percent	Number in sample	Estimated Number Percent	Number in sample	Estimated Number Percent	Number in sample	Estimated Number Percent
• Total	32,304	2,239,816	10,849	1,275,947	8,487	577,077	4,968	486,791
Married	23,197	1,600,446	12,353	829,912	7,191	488,997	3,653	281,536
With children under 6 only	3,349	232,556	1,433	96,223	1,534	106,958	382	29,374
With children 6 and over only	8,870	610,745	5,259	356,506	2,625	179,452	986	74,786
both age groups	3,128	214,449	1,392	92,334	1,326	90,571	410	31,544
No children at home	7,802	538,913	4,241	282,521	1,694	111,237	1,867	145,155
No information on children	48	3,784	28	2,328	12	779	8	677
Widowed, divorced, separated	5,366	368,226	3,643	240,511	817	54,978	906	72,737
With children under 6 only	180	11,129	137	8,771	35	1,933	8	425
With children 6 and over only	2,038	140,195	1,620	110,025	259	17,758	159	12,412
both age groups	223	14,357	160	9,835	47	3,455	16	1,068
No children at home	2,912	201,638	1,720	111,473	474	31,727	718	58,438
No information on children	13	907	6	407	2	105	5	394
Never married	3,421	248,435	2,672	193,134	412	28,196	337	27,105
No information on marital status	320	22,708	181	12,390	67	4,907	72	5,412

1/ Less than 0.1 percent.

Note: Number and percent may not add up to total because of rounding.

Table 7. Distribution of registered nurses according to total family income expected in 1992, by marital status and employment status: March 1992

Marital status and family income	Number in sample	Estimated total nurses	Employed in nursing		Not employed in nursing	
			Total	Part-time		
Total	32,304	2,239,816	1,853,024	1,275,947	577,077	386,791
\$15,000 or less	688	49,863	14,684	2,297	12,386	35,180
15,001 - 25,000	1,543	102,452	54,983	23,827	31,156	47,669
25,001 - 35,000	4,279	271,760	224,476	164,443	60,033	47,284
35,001 - 50,000	8,129	541,815	484,438	356,579	127,859	57,378
50,001 - 75,000	8,923	626,830	567,559	386,778	180,781	59,271
75,001 - 100,000	3,909	288,828	256,326	184,687	71,639	32,503
100,001 - 150,000	1,594	118,972	93,801	62,211	31,590	25,172
More than 150,000	705	53,944	30,504	15,873	14,631	23,440
Not known	2,534	185,150	126,255	79,252	47,003	58,895
Married	23,197	1,600,446	1,318,909	829,912	488,997	281,536
\$15,000 or less	171	11,323	3,711	416	3,295	7,612
15,001 - 25,000	648	42,950	18,705	5,036	13,669	24,245
25,001 - 35,000	1,731	108,916	75,481	41,202	34,279	33,435
35,001 - 50,000	4,965	314,854	267,979	160,470	107,509	46,875
50,001 - 75,000	7,968	549,850	499,150	323,090	176,060	50,699
75,001 - 100,000	3,753	276,670	245,959	175,821	70,139	30,710
100,001 - 150,000	1,544	115,470	90,938	59,881	31,057	24,532
More than 150,000	685	52,549	29,807	15,424	14,382	22,743
Not known	1,732	127,863	87,179	48,572	38,607	40,685

Note: Estimated number may not add up to total because of rounding.



Table 8. Registered nurse population by basic and highest nursing-related education: March 1992

Highest nursing-related education	Number in sample		Total Estimated		Basic nursing education						Baccalaureate Estimated	
	Number in sample	Percent	Number	Percent	Diploma Number	Diploma Percent	Associate degree Number	Associate degree Percent	Number in sample	Percent	Number	Percent
Total	32,304	2,239,816 <sup>1</sup>	100.0	13,081	951,101	100.0	10,894	729,050	100.0	8,262	554,902	100.0
Diploma	10,434	754,848	33.7	10,434	754,848	79.4	--	--	--	--	--	--
Associate degree	9,439	632,483	28.2	102	8,885	0.9	9,337	623,598	85.5	--	--	--
Baccalaureate in nursing	9,099	612,415	27.3	1,203	85,777	9.0	992	66,330	9.1	6,903	460,252	82.9
Baccalaureate in related field	774	58,984	2.6	555	41,901	4.4	218	17,065	2.3	--	--	--
Master's in nursing	1,692	119,636	5.3	445	33,814	3.6	218	16,305	2.0	993	69,005	12.4
Master's in related field	660	48,374	2.2	283	22,541	2.4	113	6,810	0.9	263	18,878	3.4
Doctorate in nursing	68	4,241	0.2	14	911	0.1	8	378	0.1	43	2,712	0.5
Doctorate in related field	113	7,043	0.3	45	2,424	0.3	8	563	0.1	60	4,056	0.7
Not known	25	1,792	0.1	--	--	--	--	--	--	--	--	--
Total employed in nursing	27,336	1,853,024	100.0	10,112	711,077	100.0	9,966	660,894	100.0	7,217	478,348	100.0
Diploma	7,993	557,585	30.1	7,993	557,585	78.4	--	--	--	--	--	--
Associate degree	8,644	574,099	31.0	87	7,387	1.0	8,557	566,712	85.7	--	--	--
Baccalaureate in nursing	7,955	528,894	28.5	982	68,639	9.7	920	61,211	9.3	6,052	398,988	83.4
Baccalaureate in related field	609	45,653	2.5	430	31,823	4.5	178	13,811	2.1	--	--	--
Master's in nursing	1,450	100,138	5.4	366	26,856	3.8	201	12,953	2.0	857	58,547	12.2
Master's in related field	520	36,629	2.0	206	16,195	2.3	97	5,530	0.8	216	14,760	3.1
Doctorate in nursing	65	4,141	0.2	13	893	0.1	7	331	0.1	42	2,676	0.6
Doctorate in related field	91	5,421	0.3	35	1,699	0.2	6	346	0.1	50	3,377	0.7
Not known	9	465	2/	--	--	--	--	--	--	--	--	--
Total not employed in nursing	4,968	386,791	100.0	2,969	240,024	100.0	928	68,156	17.6	1,045	76,554	100.0
Diploma	2,441	197,262	51.0	2,441	197,262	82.2	--	--	--	--	--	--
Associate degree	795	58,384	15.1	15	1,498	0.6	780	56,806	83.5	--	--	--
Baccalaureate in nursing	1,144	83,521	21.6	221	17,138	7.1	72	5,120	7.5	851	61,264	80.0
Baccalaureate in related field	165	13,332	3.4	125	10,078	4.2	40	3,254	4.8	--	--	--
Master's in nursing	242	19,498	5.0	79	6,957	2.9	17	1,352	2.0	136	10,458	13.7
Master's in related field	140	11,745	3.0	77	6,346	2.6	16	1,280	1.9	47	4,118	5.4
Doctorate in nursing	3	100	2/	1	18	0.0	1	47	0.1	1	35	2/
Doctorate in related field	22	1,622	0.4	10	726	0.3	2	218	0.3	10	679	0.9
Not known	16	1,327	0.3	--	--	--	--	--	--	--	--	--

1/ Include an estimated 2,581 nurses whose basic nursing education was in a master's degree, 171 in a doctoral program and 2,010 whose basic nursing was not known.

2/ Less than 0.1 percent.

Table 9. Primary focus of degree for registered nurses with post nursing education master's and/or doctoral degrees; March 1992

Primary focus	Master's degree		Doctoral degree	
	Number in sample	Estimated Number Percent	Number in sample	Estimated Number Percent
Total	2,485	175,888 100.0	179	11,113 100.0
Clinical practice	1,110	76,281 43.4	12	774 7.0
Education	541	39,272 22.3	66	4,085 36.8
Supervision/administration	582	42,245 24.0	19	946 8.5
Research	2	163 0.1	63	3,721 33.5
Public health	60	4,217 2.4	--	--
Other	181	13,041 7.4	17	1,426 12.8
Not known	9	670 0.4	2	161 1.4

1/ Includes those nurses whose degrees were in nursing or related to their nursing career.

Table 10. Current enrollment of registered nurses in nursing-related educational program preparing for an academic degree, by employment status and student status:  
March 1992

Employment and student status	Number in sample	Estimated Number	Percent
Total	2,700	190,013	100.0
Employed in nursing full-time			
Total	1,982	139,322	73.3
Full-time student	236	14,952	7.9
Part-time student	1,743	124,098	65.3
Status not known	3	272	0.1
Employed in nursing part-time			
Total	590	41,534	21.9
Full-time student	135	9,522	5.0
Part-time student	454	31,977	16.8
Status not known	1	35	0.0
Not employed in nursing			
Total	128	9,157	4.8
Full-time student	55	3,390	1.8
Part-time student	72	5,737	3.0
Status not known	1	30	0.0

Note: Estimated number and percent may not add to total because of rounding.

Table 11. Financial resources used for tuition and fees by registered nurses currently enrolled in nursing-related education program preparing for an academic degree, by type of degree for which studying: March 1992

Source of funding	Number in sample	Total <sup>1/</sup>		Baccalaureate		Master's		Doctorate				
		Estimated Number	Percent	Number in sample	Estimated Percent	Number in sample	Estimated Percent	Number in sample	Estimated Percent			
Total	2,700	190,013 <sup>2/</sup>	100.0	1,633	115,915	100.0	937	64,831	100.0	109	7,599	100.0
Personal resources	1,999	136,967	72.1	1,213	83,535	72.1	674	45,511	70.2	95	6,537	86.0
Employer reimbursement plan	1,422	105,801	55.7	907	67,552	58.3	476	35,284	54.4	33	2,543	33.5
Federal traineeship, scholarship, or grant	147	9,387	4.9	38	2,284	2.0	89	5,632	8.7	19	1,354	17.8
Federally assisted loan	94	5,911	3.1	43	2,547	2.2	45	2,826	4.4	5	399	5.3
State or local government loan or scholarship	60	4,517	2.4	29	2,373	2.0	27	1,941	3.0	4	203	2.7
Non-government scholarship loan or grant	91	5,568	2.9	43	2,269	2.0	39	2,581	4.0	9	717	9.4
University teaching or research fellowship	37	2,578	1.4	3	188	0.2	18	1,182	1.8	16	1,208	15.9
Other sources	1	38	0.0	1	38	0.0	--	--	--	--	--	--
Source not known	4	305	0.2	1	69	0.1	2	154	0.2	--	--	--

<sup>1/</sup> Source of funding may add to more than total because more than one source may be named.

<sup>2/</sup> Include 97 nurses who were studying for an associate degree.

Table 12. Distribution of advanced practice nurses,  
by national certification and employment status  
March 1992

Type of advanced practice nurse and employment status	Total		Certified <sup>1/</sup>		Not Certified	
	Number	Percent	Number	Percent	Number	Percent
<u>Clinical nurse specialists</u>						
Total <sup>2/</sup>	58,185	100.0	7,877	100.0	50,217	100.0
Employed in nursing	50,352	86.5	7,233	91.8	43,119	85.9
With position title	11,541	19.8	3,313	42.0	8,228	16.4
Without position title	38,812	66.7	3,918	49.7	34,891	69.5
Not employed in nursing	7,833	13.5	644	8.2	7,098	14.1
<u>Nurse practitioners</u>						
Total <sup>2/</sup>	48,237	100.0	27,903	100.0	20,282	100.0
Employed in nursing	42,624	88.4	26,401	95.3	16,022	79.0
With position title	20,733	43.0	16,477	59.0	4,255	21.0
Without position title	21,888	45.4	10,125	36.3	11,767	58.0
Not employed in nursing	5,614	11.6	1,302	4.7	4,260	21.0
<u>Nurse anesthetists</u>						
Total <sup>2/</sup>	25,238	100.0	20,539	100.0	4,699	100.0
Employed in nursing	21,776	86.3	19,053	92.8	2,723	57.9
With position title	18,125	71.8	17,760	86.5	365	7.8
Without position title	3,651	14.5	1,293	6.3	2,258	48.6
Not employed in nursing	3,462	13.7	1,486	7.2	1,976	42.0
<u>Nurse midwives</u>						
Total <sup>2/</sup>	7,405	100.0	5,011	100.0	2,394	100.0
Employed in nursing	6,360	85.9	4,235	84.5	2,126	88.8
With position title	2,562	34.6	2,562	51.1	-	-
Without position title	3,798	51.3	1,671	33.3	2,126	88.8
Not employed in nursing	1,044	14.1	776	15.5	268	11.2

1/ Includes only those who had certification matching the type of formal preparation. Those with other types of certification (e.g. formal preparation as clinical nurse specialist but certified as nurse practitioner) are included with the not certified.

2/ Includes all those for whom it was determined that they had formal preparation for that category of advanced practice nurse.

Table 13. Employment setting of primary positions of registered nurses employed in nursing: March 1992

Employment setting	Number in sample	Total	Estimated Percent	Employment setting	Number in sample	Total	Estimated Percent
<b>Total</b>	27,366	1,853,024	100.0	Student health service	750	50,606	2.7
<b>Hospital</b>	18,095	1,232,717	66.5	Board of education (public school)	529	36,776	2.0
Non-federal short-term hospital	15,272	1,045,128	56.4	Private or parochial school	52	3,803	0.2
Non-federal long-term hospital	1,224	88,218	4.8	College or university	149	10,028	0.5
Non-federal psychiatric hospital	607	39,235	2.1	Occupational health	302	19,266	2.7
Federal government hospital	985	59,722	3.2	Private industry	244	15,750	0.8
Other hospital	7	414	1/	Government	58	3,516	0.2
<b>Nursing home/extended care facility</b>	1,996	128,983	7.0	Ambulatory care setting	2,108	144,110	7.8
Nursing home unit in hospital	162	9,769	0.5	Physician-based practices	512	34,144	1.8
Other nursing home	1,625	104,906	5.7	Solo practice	239	16,957	0.9
Mentally retarded facility	111	7,650	0.4	Partnership	481	32,179	1.7
Retired home residence	28	1,838	0.1	Group practice	283	18,684	1.0
Other extended care facility	70	4,820	0.3	Freestanding clinic	157	10,163	0.6
<b>Nursing education</b>	583	36,514	2.0	Ambulatory surgical center (Non-hospital based)	45	3,354	0.2
LPN/LVN program	67	4,077	0.2	Nurse-based practices	3	73	1/
Diploma program	31	2,560	0.1	Solo practice	8	552	1/
Associate degree program	150	9,411	0.5	Group practice	27	1,840	0.1
Baccalaureate or higher degree	268	16,589	0.9	Freestanding clinic	172	11,269	0.6
Other nursing education	59	3,877	0.2	Mixed professional practice group	175	14,623	0.8
<b>Community/public health setting</b>	2,694	180,132	9.7	Health maintenance org.	6	272	1/
State health department	329	17,570	0.9	Other ambulatory care setting	757	56,263	3.0
State mental health department	57	4,036	0.2	Other	13	942	1/
City or county health department	387	25,765	1.4	Non-nursing health personal education program	25	1,802	0.1
Combination nursing services	15	833	1/	Nurse entrepreneur	43	3,472	0.2
Visiting nurse service	482	34,350	1.8	Private duty in home	59	4,022	0.2
Other home health agency (non-hospital based)	809	58,088	3.1	Central or regional federal agency	7	327	1/
Community mental health service	107	7,218	0.4	State board of nursing	14	1,159	0.1
Neighborhood health center	130	8,527	0.5	Nursing or health association	38	2,967	0.2
Planned parenthood/family planning center	43	2,511	0.1	Health planning agency	105	8,539	0.5
Rural health care center	48	1,838	0.1	Prison or jail	271	19,602	1.0
Day care center	30	2,761	0.1	Insurance company	182	13,431	0.7
Hospice	114	7,634	0.4	Other	71	4,433	0.2
Retirement community center	17	1,001	0.1	Not known			
Substance abuse out-patient facility	31	2,079	0.1				
Other setting	95	5,920	0.3				

1/ Less than 0.1 percent

Note: Estimated number and percent may not add up to total because of rounding.

Table 14. Type of hospital work unit where hospital-employed registered nurses spent more than half their direct patient care time, by employment status: March 1992

Type of work unit	Total		Employment status			
	Number	Percent	Employed full-time Number	Employed full-time Percent	Employed part-time Number	Employed part-time Percent
Total	1,119,800	100.0	757,021	100.0	362,778	100.0
Intensive care bed unit	203,169	18.1	144,519	19.1	58,651	16.2
Step-down, transitional bed unit	69,392	6.2	48,615	6.4	20,777	5.7
General/specialty bed unit	448,820	40.1	290,468	38.4	158,352	43.6
Outpatient department	61,875	5.5	40,144	5.3	21,731	6.0
Operating room	93,310	8.3	72,826	9.6	20,484	5.6
Post operative recovery room	34,811	3.1	21,195	2.8	13,615	3.8
Labor/delivery room	63,333	5.7	38,247	5.1	25,086	6.9
Emergency room	76,380	6.8	53,166	7.0	23,214	6.4
Home health care	4,861	0.4	2,647	0.3	2,214	0.6
Hospice unit	2,320	0.2	1,688	0.2	632	0.2
Chemical dependency unit	4,386	0.4	3,049	0.4	1,337	0.4
Specialized laboratories	10,367	0.9	8,394	1.1	1,973	0.5
Other specific area	5,858	0.5	4,358	0.6	1,500	0.4
No specific area	24,807	2.2	15,855	2.1	8,951	2.5
Not known	16,110	1.4	11,849	1.6	4,262	1.2

Table 15. Type of patient treated in hospital inpatient unit and outpatient department where registered nurses spent more than half their direct patient care time, by employment status: March 1992

Type of patient treated	Total		Employment status			
	Number	Percent	Number	Percent	Number	Percent
Total	783,256	100.0	523,745	100.0	259,511	100.0
Chronic care	25,516	3.3	19,924	3.8	5,592	2.2
Coronary care	131,078	16.7	91,458	17.5	39,620	15.3
Neurological	18,846	2.4	13,996	2.7	4,850	1.9
Newborn	58,732	7.5	36,013	6.9	22,719	8.8
Obstetrics/gynecologic	38,311	4.9	20,882	4.0	17,429	6.7
Orthopedic	27,871	3.6	18,697	3.6	9,174	3.5
Pediatric	52,942	6.8	33,689	6.4	19,253	7.4
Psychiatric	58,901	7.5	43,293	8.3	15,608	6.0
Rehabilitation	22,139	2.8	15,178	2.9	6,961	2.7
Medical/surgical	316,456	40.4	211,130	40.3	105,326	40.6
Multiple unit	31,420	4.0	19,069	3.6	12,352	4.8
Not known	1,043	0.1	416	0.1	626	0.2



Table 16. Registered nurses employed in each employment setting, by employment status and average annual hours worked: March 1992

Field of employment	Estimated total			Employed full-time			Employed part-time		
	Number of nurses	Percent	Average annual hours worked	Number of nurses	Percent	Average annual hours worked	Number of nurses	Percent	Average annual hours worked
Total	1,853,024	100.0	1,728	1,275,947	68.9	2,004	577,077	31.1	1,110
Hospital	1,232,717	100.0	1,750	850,969	69.0	2,013	381,748	31.0	1,160
Nursing home, extended care facility	128,983	100.0	1,735	86,027	66.7	2,063	42,956	33.3	1,059
Nursing education	36,514	100.0	1,552	27,241	74.6	1,773	9,273	25.4	893
Community/public health setting	180,132	100.0	1,732	124,314	69.0	2,047	55,818	31.0	1,025
Student health service	50,606	100.0	1,382	38,285	75.7	1,568	12,322	24.3	785
Occupational health	19,266	100.0	1,797	14,687	76.2	2,061	4,579	23.8	890
Ambulatory care setting (non-nurses)	138,290	100.0	1,643	84,250	60.9	2,022	54,040	39.1	1,051
Ambulatory care setting (Nurse)	5,820	100.0	1,589	3,640	62.5	1,980	2,180	37.5	960
Other	56,263	100.0	1,835	43,774	77.8	2,068	12,489	22.2	980
Not known	4,433	100.0	1,614	2,759	62.2	1,954	1,674	37.8	962

Note: Number may not add up to total because of rounding.

Table 17. Comparison between average scheduled hours per week of employed registered nurses in their principal position and average actual hours worked during week beginning March 23, 1992, by employment setting:

Field of employment	Employed in nursing full-time		Employed in nursing part-time	
	Scheduled hour/week	Actual hour/week	Scheduled hour/week	Actual hour/week
Total	39.5	41.7	22.9	24.5
Hospital	39.4	41.6	23.5	25.2
Nursing home, extended care facility	40.2	42.4	22.1	23.9
Nursing education	40.0	44.4	23.8	25.2
Community/public health setting	39.9	41.6	21.7	22.9
Student health	37.6	38.8	20.9	25.6
Occupational health	40.0	42.9	21.6	26.0
Ambulatory care setting (Non nurse)	32.4	41.1	21.3	22.4
(Nurse)	32.7	42.7	22.1	22.0
Other	36.1	42.9	21.2	23.1

Table 16. Employed registered nurses by field of employment and age group:  
March 1992

Field of employment	Number in sample	Estimated Total	Under 25	Age Group									
				25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over	
Total	27,366	1,853,024 <sup>1</sup>	46,903	189,370	296,556	376,592	319,071	225,541	167,164	121,562	66,733	31,898	
Hospital	18,095	1,232,717	41,673	157,176	226,514	267,589	206,083	133,010	90,433	58,497	33,152	11,347	
Nursing home, extended care facility	1,996	128,983	1,734	7,531	10,566	17,692	15,824	21,493	16,811	17,155	9,338	9,581	
Nursing education	583	36,514	129	647	2,900	5,211	7,118	6,346	5,665	5,152	2,841	201	
Community/public health setting	2,694	180,132	1,428	10,630	24,745	35,235	36,662	23,888	19,263	15,521	7,484	4,092	
Student health service	730	50,606	52	852	2,571	6,838	9,616	9,770	7,724	7,378	3,342	1,921	
Occupational health	302	19,266	--	565	1,103	2,846	2,447	3,309	3,906	2,509	1,732	714	
Ambulatory care setting	2,108	144,110	1,228	8,528	21,055	28,837	28,439	19,641	15,165	11,371	6,249	2,873	
Other	757	56,263	144	2,622	6,314	11,471	12,149	7,863	7,816	3,969	2,558	1,162	
Not known	71	4,433	514	821	788	873	732	220	380	11	36	B	

<sup>1/</sup> Includes an estimated 11,634 nurses for whom age was not known.

Note: Number may not add up to total because of rounding.

Table 19. Field of employment and highest nursing-related educational preparation of registered nurses employed in nursing: March 1992

Field of employment	Number in sample	Estimated total Number	Percent	Diploma		Associate degree		Baccalaureate		Master's		Doctorate	
				Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	27,336	1,853,024	100.0	557,585	30.1	574,099	31.0	574,547	31.0	136,767	7.4	9,562	0.5
Hospital	18,095	1,232,717	100.0	339,531	27.5	420,064	34.1	397,982	32.3	72,903	5.9	1,773	0.2
Nursing home, extended care facility	1,996	128,983	100.0	58,654	45.5	40,932	31.7	24,749	19.2	4,480	3.4	168	0.1
Nursing education	583	36,514	100.0	2,627	7.2	1,647	4.5	5,782	15.8	20,397	55.9	6,062	16.6
Community/public health setting	2,694	180,132	100.0	50,513	28.0	49,535	27.5	63,683	35.4	16,022	8.9	380	0.2
Student health service	730	50,606	100.0	17,693	35.0	8,215	16.2	18,418	36.4	6,084	12.1	196	0.4
Occupational health	302	19,266	100.0	9,584	49.7	3,921	20.4	4,205	21.8	1,555	8.0	--	--
Ambulatory care setting	2,108	144,110	100.0	58,906	40.9	34,751	24.1	39,449	27.4	10,361	7.2	642	0.4
Other	757	56,263	100.0	18,974	33.7	12,985	23.1	19,049	33.9	4,915	8.7	341	0.6
Not known	71	4,433	100.0	1,103	24.9	2,049	46.2	1,231	27.8	50	1.1	--	--

1/ Includes an estimated 465 nurses who did not indicate highest nursing-related educational preparation.

Note: Number may not add up to total because of rounding.

Table 20. Employment setting of registered nurses by work basis: March 1992

Field of employment	Number in sample	Total Estimated Number	Percent	Employee of agency		Temporary agency		Self employed				
				Number in sample	Estimated Number	Number in sample	Estimated Number	Number in sample	Estimated Number			
Total	27,336	1,853,024	100.0	26,251	1,781,102	96.1	537	35,506	1.9	523	34,595	1.9
Hospital	18,095	1,232,717	100.0	17,623	1,205,854	97.8	321	18,020	1.5	138	7,705	0.6
Nursing home, extended care facility	1,996	128,983	100.0	1,924	123,676	95.9	31	2,607	2.0	40	2,686	2.1
Nursing education	583	36,514	100.0	572	35,958	98.5	1	18	0.1	9	519	1.4
Community/public health setting	2,694	180,132	100.0	2,467	162,230	90.1	122	10,056	5.6	101	7,592	4.2
Student health service	730	50,606	100.0	718	49,704	98.2	2	152	0.3	10	750	1.5
Occupational health	302	19,266	100.0	264	16,257	84.4	13	1,077	5.6	25	1,932	10.0
Ambulatory care setting	2,108	144,110	100.0	1,995	136,851	95.0	12	736	0.5	100	6,501	4.5
Other	757	56,263	100.0	628	46,943	83.4	28	2,293	4.1	98	6,803	12.1
Not known	71	4,433	100.0	60	3,629	81.9	7	547	12.3	2	107	2.4

Note: Number and percent may not add up to total because of rounding.

Table 21. Position titles in primary nursing jobs for registered nurses employed in nursing: March 1992

Position title	Number in sample	Estimated Number	Percent
Total	27,336	1,853,024	100
Administrator	1,744	114,619	6.2
Administrator or assistant	616	42,534	2.3
Dean, director, or assistant/associate director of nursing education	210	13,510	0.7
Director or assistant/associate director of nursing service	918	58,575	3.2
Certified nurse anesthetist	350	18,617	1.0
Clinical nurse specialist	519	35,524	1.9
Consultant	250	16,771	0.9
Head nurse or assistant	1,197	84,726	4.6
Instructor	988	64,349	3.5
Inservice education director or instructor	319	21,333	1.2
Instructor	456	29,777	1.6
Professor or assistant/associate	213	13,239	0.7
Nurse clinician	327	24,824	1.3
Nurse practitioner/midwife	409	26,704	1.4
Nurse midwife	46	3,045	0.2
Nurse practitioner	363	23,659	1.2
Private duty nurse	147	11,651	0.6
Researcher	103	7,800	0.4
Staff nurse	18,244	1,233,537	66.6
Charge nurse	2,780	177,608	9.6
General duty nurse	2,155	139,835	7.5
Public health nurse	502	32,036	1.7
School nurse	572	40,263	2.2
Staff nurse	11,699	806,680	43.6
Team leader	251	18,192	1.0
No position title	285	18,923	1.0
Supervisor or assistant	1,359	92,080	5.0
Other	1,674	120,024	6.5
Nurse coordinator	442	29,148	1.6
Patient care coordinator	286	20,175	1.1
Quality assurance nurse	347	27,386	1.5
Infection control nurse	86	5,504	0.3
Discharge planner	91	7,010	0.4
Insurance reviewer	169	12,884	0.7
Other	253	17,917	1.0
Not known	25	1,798	0.1

Note: Estimated number and percent may not add up to total because of rounding.

Table 22. Field of employment and type of position of employed registered nurses:  
March 1992

Field of Employment	Total	Administrator or assistant	Consultant	Supervisor or assistant	Instructor	Head nurse or assistant	Staff or gen. duty nurse
Total	1,853,024	114,619 <sup>1</sup>	16,771	92,080	64,349	84,726	1,233,537
Hospital	1,232,717	40,181	2,161	43,855	19,454	68,423	932,164
Nursing home, extended care facility	128,983	31,505	2,289	18,786	6,671	4,926	55,236
Nursing education	36,514	3,253	112	--	31,355	22	1,068
Community/public health setting	180,132	20,124	3,413	17,255	1,589	2,179	92,884
Student health service	50,606	1,551	32	647	2,543	359	41,307
Occupational health	19,266	1,906	1,079	1,905	103	933	11,278
Ambulatory care setting	144,110	10,203	1,116	6,339	918	6,802	83,622
Other	56,263	5,705	6,569	3,025	1,695	867	12,750
Not known	4,433	191	--	268	21	214	3,228

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Field of Employment	Nurse practitioner/ midwife	Clinical nurse specialist	Nurse clinician	Certified nurse anesthetist	Researcher	Private duty	Other
Total	26,704	35,524	24,824	18,617	7,800	11,651	120,024
Hospital	7,624	23,360	15,043	15,826	3,591	2,477	57,448
Nursing home, extended care facility	348	650	396	--	--	439	7,737
Nursing education	207	--	--	--	74	--	422
Community/public health setting	6,049	4,005	3,990	53	254	5,884	22,107
Student health service	1,660	372	--	--	645	--	1,491
Occupational health	568	179	186	31	--	--	1,097
Ambulatory care setting	9,810	6,394	4,755	2,351	1,030	459	10,220
Other	438	578	454	186	2,159	2,392	19,408
Not known	--	--	--	170	47	--	94

<sup>1/</sup> Include an estimated 1,798 nurses whose type of position is not known.  
Note: Number may not add up to total because of rounding.

Table 23. Type of position and highest nursing-related educational preparation of registered nurses employed in nursing: March 1992

Position title	Number in sample		Estimated		Diploma		Associate degree		Baccalaureate		Master's		Doctorate	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	27,336	1,853,024 <sup>1</sup>	100.0	557,585	30.1	574,099	31.0	574,547	31.0	136,767	7.4	9,562	0.5	
Administrator or assistant	1,744	114,619	100.0	32,924	28.7	22,675	19.8	31,293	27.3	25,167	21.9	2,561	2.2	
Consultant	250	16,771	100.0	4,729	28.2	2,553	15.2	6,312	37.6	2,809	16.8	366	2.2	
Supervisor or assistant	1,359	92,080	100.0	33,152	36.0	27,241	29.6	25,149	27.3	6,450	7.0	67	0.1	
Instructor	908	64,349	100.0	8,842	13.7	5,405	8.4	18,099	28.2	26,896	41.8	5,109	8.0	
Head nurse or assistant	1,197	84,726	100.0	26,111	30.8	23,891	28.2	27,964	33.0	6,760	8.0	--	--	
Staff nurse	18,244	1,233,537	100.0	384,625	31.2	440,286	35.7	381,933	31.0	25,893	2.1	365	--	
Nurse practitioner/midwife	409	26,704	100.0	4,228	15.8	3,297	12.3	7,379	27.6	11,651	43.7	149	0.6	
Clinical specialist	519	35,524	100.0	5,512	15.5	6,827	19.2	9,330	26.3	13,448	37.8	408	1.0	
Nurse clinician	327	24,824	100.0	5,684	22.9	5,324	21.4	10,720	43.2	3,096	12.5	--	--	
Certified nurse anesthetist	350	18,617	100.0	6,437	34.6	3,077	16.5	5,084	32.1	3,112	16.8	--	--	
Researcher	103	7,800	100.0	2,173	27.9	897	11.5	3,420	43.8	887	11.4	422	5.5	
Private duty nurse	147	11,651	100.0	4,995	42.9	3,402	29.2	3,119	26.7	135	1.1	--	--	
Other	1,674	120,024	100.0	37,397	31.2	28,577	23.8	43,515	36.3	10,419	8.7	117	0.1	
Not known	25	1,798	100.0	776	43.1	647	36.0	332	18.5	44	2.4	--	--	

<sup>1/</sup> Includes an estimated 465 nurses who did not indicate highest nursing-related educational preparation.





Table 25. Average percent of time in work week spent by registered nurses in each function, by highest educational preparation: March 1992

Highest educational preparation	Average percent of time spent in:		
	Administration	Consultation	Direct patient care
Total	14.4	6.8	62.0
Diploma	14.3	6.0	64.1
Associate degree	11.0	5.9	68.8
Baccalaureate	14.9	7.8	61.1
Master's	25.5	10.5	32.2
Doctorate	31.3	9.6	6.8
Not known	2.1	0.7	91.4

Highest educational preparation	Average percent of time spent in:		
	Research	Supervision	Teaching
Total	1.6	10.2	4.7
Diploma	1.4	10.9	2.9
Associate degree	1.2	10.3	2.8
Baccalaureate	1.8	9.7	4.5
Master's	2.6	9.7	19.3
Doctorate	13.1	4.3	34.8
Not known	0.5	4.6	0.7

Table 26. Average annual earnings of registered nurses employed full-time in their principal nursing position by field of employment and type of position: March 1992

Field of employment	Total 1/	Administrator or assistant	Consultant	Supervisor or assistant	Instructor	Head nurse or assistant	Staff nurse	Nurse practitioner/midwife
Total	\$37,738	\$45,071	\$41,076	\$38,979	\$36,896	\$41,068	\$35,212	\$43,636
Hospital	39,253	51,884	2/	42,948	41,455	42,589	36,618	46,689
Nursing home, extended care facility	33,846	36,497	2/	32,569	30,930	34,566	31,298	2/
Nursing education	38,271	54,093	2/	2/	36,071	2/	2/	2/
Community/public health setting	35,298	41,877	40,861	35,423	2/	32,799	32,621	40,602
Student health service	28,316	2/	2/	2/	31,016	2/	27,227	2/
Occupational health	36,685	2/	2/	38,439	2/	2/	33,854	2/
Outpatient care setting	34,527	46,693	2/	38,330	2/	32,717	27,949	44,268
Other	37,724	48,317	41,587	38,301	2/	2/	33,835	2/

Field of employment	Clinical specialist	Nurse clinician	Certified nurse anesthetist	Researcher
Total	\$41,226	\$38,307	\$76,053	\$39,218
Hospital	42,422	40,906	75,712	38,635
Nursing home, extended care facility	2/	2/	2/	2/
Nursing education	2/	2/	2/	2/
Community/public health setting	37,214	34,721	2/	2/
Student health service	2/	2/	2/	2/
Occupational health	2/	2/	2/	2/
Outpatient care setting	38,787	32,476	2/	2/
Other	2/	2/	2/	2/

1/ Includes all registered nurses in positions not separately identified as well as those itemized separately.

2/ Too few to compute average.

Table 27. Average annual earnings of registered nurses employed full-time by type of position and highest educational preparation: March 1992

Type of position	Total <sup>1</sup>	Diploma	Associate degree	Highest educational preparation		
				Baccalaureate	Master's Doctorate	
Total	\$37,738	\$36,755	\$35,258	\$38,724	\$45,463	\$50,646
Administrator or assistant	45,071	41,021	38,700	45,015	53,605	2/
Consultant	41,076	40,221	43,158	37,905	46,395	3/
Supervisor or assistant	38,979	37,119	36,725	41,864	45,083	2/
Instructor	36,896	35,358	31,724	35,297	37,243	45,014
Head nurse or assistant	41,068	40,101	38,288	42,964	46,057	3/
Staff nurse	35,212	34,805	34,072	36,552	41,553	2/
Nurse practitioner/midwife	43,636	38,766	48,740	41,738	45,298	2/
Clinical specialist	41,226	37,793	36,726	40,749	44,268	2/
Nurse clinician	38,307	35,904	37,447	38,948	41,610	3/
Certified nurse anesthetist	76,053	77,764	79,962	76,116	68,518	3/
Researcher	39,218	2/	2/	38,678	2/	2/
Private duty nurse	37,770	2/	2/	2/	2/	3/
Other	37,587	35,806	35,764	38,329	44,481	2/

1/ Include all registered nurses not separated identified as well as those itemized separately.

2/ Too few to compute average.

3/ There are no cases.

Table 28. Distribution of employed registered nurses with added positions, by employment in their principal position and average total earnings: March 1992

Positions held	Number in sample	Total <sup>1</sup>		Employment status in principal position				Part-time			
		Number	Estimated Number	Estimated Number	Percent	Average total earnings	Estimated Number	Percent	Estimated Number	Percent	Average total earnings
Total	27,336	1,853,024	100.0	1,275,947	100.0	\$38,898	577,077	100.0	577,077	100.0	\$22,409
Secondary positions	4,535	303,348	16.4	195,941	15.4	\$39,674	107,407	18.6	107,407	18.6	\$28,959
Principal position only	22,787	1,548,660	83.6	1,079,258	84.6	\$32,821	469,402	81.3	469,402	81.3	\$20,994

<sup>1/</sup> Includes an estimated 1,017 registered nurses whose number of positions held was not known.

Table 29. Distribution of registered nurses not employed in nursing, by length of time since last worked as a nurse and whether nurse was seeking nursing position or had other occupation: March 1992

Length of time since last worked	Number in sample	Total		Seeking nursing employment		Has other occupation	
		Number	Percent	Number	Percent	Number	Percent
Total	4,968	386,791	100.0	28,603	100.0	99,955 <sup>1</sup>	100.0
Less than a year	793	55,003	14.2	10,855	38.0	9,916	9.9
1-4 years	1,688	119,687	30.9	8,288	29.0	26,510	26.5
5-9 years	1,088	91,102	23.6	4,329	15.1	27,490	27.5
10-19 years	794	67,727	17.5	2,955	10.3	20,429	20.4
20-29 years	247	22,244	5.8	1,093	3.8	7,522	7.5
30 years or more	160	15,433	4.0	269	0.9	3,196	3.2
Never worked	64	4,471	1.2	453	1.6	1,806	1.8
Not known	134	11,123	2.9	360	1.3	3,087	3.1

<sup>1/</sup> Includes an estimated 6,034 nurses who were also seeking nursing positions.

Table 30. Registered nurses actively seeking nursing employment, by type of employment sought and number of weeks looking: March 1992

Type of employment and weeks looking	Number in sample	Estimated Number	Percent
Total	374	28,603	100.0
Type of employment			
Full time	92	6,987	24.4
Part time	216	16,189	56.6
Either	60	5,103	17.8
Not known	6	323	1.1
Number of weeks looking			
Less than a week	91	6,460	22.6
1-4 weeks	126	9,136	31.9
5-9 weeks	47	3,939	13.8
10-14 weeks	30	2,343	8.2
15-34 weeks	39	3,347	11.7
35 weeks or over	26	2,421	8.5
Not known	15	957	3.3

Table 31. Type of employment of registered nurses employed  
in non-nursing occupation: March 1992

Type of employment	Number in sample	Estimated Number	Percent
Total	1,311	99,955 <sup>1</sup>	100.0
Health-related occupation	572	43,657	43.7
Full time	411	32,000	32.0
Part time	132	9,247	9.3
Not known	29	2,410	2.4
Non health-related occupation	733	55,748	55.8
Full time	444	32,250	32.3
Part time	288	23,364	23.4
Not known	1	134	0.1
Not known	6	551	0.6

<sup>1/</sup> Includes an estimated 6,034 nurses employed in a non-nursing field, but actively seeking nursing employment.

Note: Estimated number and percent may not add to total because of rounding.



Table 32. Reasons for registered nurses to have occupation other than nursing:  
March 1992

Reasons for other occupation	Number in sample	Estimated	
		Number <sup>1</sup>	Percent
Total	1,311	99,955 <sup>2</sup>	100.0
Difficult to find a position	28	1,770	1.8
Hours are more convenient in other position	580	43,761	43.8
Better salaries available in current type of position	398	30,414	30.4
Concern for safety in health care environment	233	18,292	18.3
Inability to practice nursing on a professional level	121	8,994	9.0
Find current position more rewarding professionally	553	40,855	40.9
Nursing skills are out of date	278	23,327	23.3
Other	360	26,292	26.3

<sup>1/</sup> Estimates and percent may not add up to total because registered nurses may answer to more than one reason.

<sup>2/</sup> Includes an estimate of 7,443 registered nurses whose reasons for having an occupation other than a nurse were not known.

Table 33. Age group and marital status of nurses who are not employed:  
March 1992

Marital status	Total		Less than 40		40-49		50-59		60 and over	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	264,267 <sup>1</sup>	100.0	51,717	100.0	30,403	100.0	45,504	100.0	133,829	100.0
Married										
With children under 6 only	21,384	8.1	19,188	37.1	1,877	6.2	117	0.3	150	0.1
With children 6 and over only	40,808	15.4	7,236	14.0	16,277	53.5	9,196	20.2	7,928	5.9
With children, both age groups	22,250	8.4	17,530	33.9	4,137	13.6	80	0.2	421	0.3
No children at home	106,370	40.3	2,875	5.6	4,208	13.8	28,505	62.6	70,353	52.6
No information on children	268	0.1	102	0.2	129	0.4	14	--	22	--
Widowed, divorced, separated	52,527	19.9	1,178	2.3	2,694	8.9	5,409	11.9	42,674	31.9
Never married	15,765	6.0	2,838	5.5	746	2.5	1,616	3.6	10,338	7.7
No information on marital status	4,895	1.9	772	1.5	335	1.1	566	1.2	1,943	1.5

1/ Includes 2,814 nurses whose age was not known.

Note: Estimated number and percent may not add to total because of rounding.

Table 34. Comparison between State of location<sup>1/</sup> of registered nurses as of March 1992 and State of graduation, by type of basic nursing education and number of years since graduation: March 1992

Number of year since graduation from basic nursing education program	Number in sample	Total <sup>2/</sup>		Diploma		Basic nursing education		Baccalaureate	
		Number	Estimated Percent	Number	Percent	Number	Percent	Number	Percent
Total <sup>3/</sup>	32,001	2,209,489	100.0	934,208	100.0	727,102	100.0	544,533	100.0
Located in same State	4/ 18,790	1,405,772	64.0	541,403	58.0	550,276	75.7	312,510	57.4
Located in different State	13,211	803,716	36.0	392,804	42.0	176,827	24.3	232,022	42.6
Less than 5 years	4,587	304,836	100.0	29,330	100.0	181,287	100.0	93,739	100.0
Located in same State	4/ 3,473	246,978	81.0	24,036	82.0	155,275	85.7	67,559	72.1
Located in different State	1,114	57,858	19.0	5,293	18.0	26,013	14.3	26,180	27.9
5-9 years	5,520	374,522	100.0	55,432	100.0	192,925	100.0	125,337	100.0
Located in same State	4/ 3,661	267,661	72.0	40,590	73.2	147,999	76.7	78,567	62.7
Located in different State	1,859	106,861	28.0	14,842	26.8	44,926	23.3	46,770	37.3
10-14 years	5,479	373,492	100.0	77,611	100.0	165,515	100.0	129,853	100.0
Located in same State	4/ 3,319	243,222	65.0	51,704	66.6	120,342	72.7	70,979	54.7
Located in different State	2,160	130,270	35.0	25,907	33.4	45,172	27.3	58,874	45.3
15 years or more	16,354	1,152,272	100.0	769,827	100.0	186,416	100.0	194,596	100.0
Located in same State	4/ 8,299	645,129	56.0	424,013	55.1	125,907	67.5	94,743	48.7
Located in different State	8,055	507,143	44.0	345,814	44.9	60,510	32.5	99,853	51.3

<sup>1/</sup> State of location is the State in which employed, if employed in nursing, or the State of residence, if not employed in nursing.

<sup>2/</sup> Includes those who graduated from basic nursing education program granting a master's or doctoral degree or for whom the type of basic nursing education was not known.

<sup>3/</sup> Excludes an estimated 30,327 nurses for whom the State of graduation was not known.

<sup>4/</sup> Includes those who graduated from a school located in a different State or a foreign country.

Table 35. Comparison between resident states in 1991 and 1992 for the registered nurse population, by age group, as of March 1992

Age group	Number in sample	Estimated total		Resident State same in 1991 and 1992		Different in 1992 than in 1991 <sup>1/</sup>	
		Number	Percent	Number	Percent	Number	Percent
Total	32,304	2,239,816	100.0	2,168,745	100.0	70,770	100.0
Less than 25 years	679	47,625	2.1	42,963	2.0	4,662	6.6
25-29	2,910	199,405	8.9	183,989	8.5	14,416	20.4
30-34	4,784	328,190	14.7	312,237	14.4	15,727	22.2
35-39	6,258	421,553	18.8	408,851	18.9	12,702	17.9
40-44	5,245	355,799	15.9	347,899	16.0	7,900	11.2
45-49	3,814	259,093	11.6	254,036	11.7	5,057	7.1
50-54	2,893	202,111	9.0	198,098	9.1	4,013	5.7
55-59	2,258	164,273	7.3	161,595	7.5	2,677	3.8
60-64	1,662	120,687	5.4	118,586	5.5	2,101	3.0
65 years and over	1,594	126,476	5.6	125,267	5.8	1,209	1.7
Not known	207	15,603	0.7	15,223	0.7	306	0.4

<sup>1/</sup> Location in 1991 may be in a different State or in a foreign country.

Note: Estimated number and percent may not add to total because of rounding.



Table 37. Percent distribution of registered nurses in each employment setting in 1992, by employment setting in 1991:  
March 1992

Employment setting in 1992	Total Number in sample	Estimated Number	Percent	Employment setting in 1991						
				Hospital	Extended care	Nursing Education	Public/community health	Ambulatory care setting	Other	Not employed
Total	27,336	1,853,024 <sup>2</sup>	100.0	64.0	6.4	1.8	11.9	7.0	2.6	5.7
Hospital	18,095	1,232,717	100.0	91.6	0.5	0.2	0.9	0.6	0.3	5.4
Nursing home, extended care facility	1,996	128,983	100.0	6.2	82.0	0.6	2.3	0.5	0.9	6.6
Nursing education	583	36,514	100.0	7.8	1.0	81.0	2.8	1.9	0.6	4.4
Community/Public health setting <sup>1</sup>	3,726	250,004	100.0	9.7	1.5	0.2	79.7	1.4	0.8	6.2
Ambulatory care setting	2,100	144,110	100.0	9.2	0.7	0.2	2.0	80.7	0.8	5.7
Other	757	56,263	100.0	11.3	1.3	0.4	5.1	1.2	72.3	7.8

1/ Includes student and occupational health.

2/ Includes an estimated 4,433 registered nurses whose employment setting in 1991 and/or 1992 was not known.

Note: Estimated percent may not add up to total because of rounding.

Table 38. Registered nurse population in each State and area, by activity status: March 1992

State and area	Number in sample	Total	Employed in nursing Number	Percent	Not employed in nursing Number	Percent	Employed nurses per 100,000 population/
United States	32,304	2,239,816	1,853,024	82.7	386,791	17.3	726
New England	3,317	163,198	130,860	80.2	32,338	19.8	991
Connecticut	577	41,239	30,918	75.0	10,320	25.0	942
Maine	598	12,731	10,584	83.1	2,147	16.9	857
Massachusetts	710	78,322	63,751	81.4	14,571	18.6	1,063
New Hampshire	496	13,036	10,743	82.4	2,293	17.6	967
Rhode Island	519	11,564	9,665	83.6	1,899	16.4	962
Vermont	417	6,307	5,199	82.4	1,108	17.6	912
Middle Atlantic	3,246	415,346	332,478	80.0	82,868	20.0	877
New Jersey	673	82,555	64,519	78.2	18,037	21.8	828
New York	1,409	189,342	159,297	84.1	30,045	15.9	879
Pennsylvania	1,164	143,449	108,663	75.8	34,786	24.2	905
East North Central	3,706	400,313	327,794	81.9	72,519	18.1	767
Illinois	871	110,762	93,069	84.0	17,692	16.0	800
Indiana	626	49,153	39,602	80.6	9,551	19.4	699
Michigan	644	85,544	65,441	76.5	20,103	23.5	693
Ohio	983	107,950	89,799	83.2	18,151	16.8	815
Wisconsin	582	46,905	39,883	85.0	7,022	15.0	797
West North Central	3,915	175,142	153,907	87.9	21,236	12.1	857
Iowa	631	29,743	25,838	86.9	3,906	13.1	919
Kansas	581	22,301	19,773	88.7	2,528	11.3	784
Minnesota	678	45,681	39,876	87.3	5,805	12.7	890
Missouri	605	48,167	42,035	87.3	6,132	12.7	809
Nebraska	496	14,829	13,257	89.4	1,572	10.6	825
North Dakota	476	6,718	6,300	93.8	418	6.2	991
South Dakota	448	7,704	6,828	88.6	876	11.4	960
South Atlantic	5,549	384,681	316,317	82.2	68,364	17.8	702
Delaware	396	7,463	6,137	82.2	1,326	17.8	891
Dist. of Columbia	307	11,812	11,352	96.1	461	3.9	1,927
Florida	1,060	119,405	94,591	79.2	24,813	20.8	701
Georgia	771	51,412	43,386	84.4	8,026	15.6	643
Maryland	630	43,823	38,170	87.1	5,653	12.9	778
North Carolina	791	56,943	47,602	83.6	9,341	16.4	696
South Carolina	547	24,265	20,684	85.2	3,581	14.8	574
Virginia	607	54,958	42,519	77.4	12,439	22.6	667
West Virginia	440	14,600	11,875	81.3	2,726	18.7	655

Continued

Table 3B. (cont.) Registered nurse population in each State and area, by activity status: March 1992

State and area	Number in sample	Total	Employed in nursing		Not employed in nursing		Employed nurses per 100,000 <sup>1/</sup> population
			Number	Percent	Number	Percent	
East South Central	2,328	115,585	101,002	87.4	14,583	12.6	650
Alabama	612	31,908	27,717	86.9	4,191	13.1	670
Kentucky	552	28,154	24,552	87.2	3,603	12.8	654
Mississippi	487	15,334	13,415	87.5	1,919	12.5	513
Tennessee	677	40,188	35,318	87.9	4,870	12.1	703
West South Central	2,502	177,039	148,016	83.6	29,022	16.4	537
Arkansas	455	17,059	14,001	82.1	3,058	17.9	584
Louisiana	542	28,169	24,233	86.0	3,936	14.0	565
Oklahoma	541	20,032	16,972	84.7	3,060	15.3	528
Texas	964	111,778	92,810	83.0	18,968	17.0	526
Mountain	4,217	114,387	94,731	82.8	19,657	17.2	659
Arizona	606	32,988	27,093	82.1	5,895	17.9	707
Colorado	722	31,948	26,697	83.6	5,251	16.4	769
Idaho	508	7,287	5,702	78.2	1,585	21.8	534
Montana	513	7,370	5,848	79.3	1,522	20.7	710
Nevada	614	8,943	7,135	79.8	1,809	20.2	538
New Mexico	447	11,121	9,393	84.5	1,728	15.5	594
Utah	589	11,195	9,831	87.8	1,364	12.2	542
Wyoming	418	3,536	3,032	85.7	504	14.3	651
Pacific	3,524	294,124	247,920	84.3	46,204	15.7	609
Alaska	378	4,153	3,583	86.3	570	13.7	610
California	1,446	207,563	173,973	83.8	33,590	16.2	564
Hawaii	478	9,222	7,674	83.2	1,547	16.8	662
Oregon	513	26,561	23,992	90.3	2,569	9.7	806
Washington	709	46,626	38,698	83.0	7,928	17.0	753

<sup>1/</sup> Population data were based on estimates of resident population of States in U.S. Department of Commerce, Bureau of the Census: United State Department of Commerce News: 1991 - 1992, CB92-276. Issued Dec. 1992



Table 39. Supply of registered nurse in each State and area according to whether employed on a full-time or part-time basis: March 1992

State and area	Number in sample	Total Estimated		Employed full-time		Employed part-time		Estimated Full-time Equivalent <sup>1/</sup>
		Number	Percent	Estimated Number	Percent	Estimated Number	Percent	
United States	7,336	1,853,024	100.0	1,275,947	68.9	577,077	31.1	1,564,486
New England	2,776	130,860	100.0	77,239	59.0	53,621	41.0	104,050
Connecticut	441	30,919	100.0	18,249	59.0	12,670	41.0	24,584
Maine	501	10,584	100.0	6,696	63.3	3,889	36.7	8,641
Massachusetts	586	63,751	100.0	36,875	57.8	26,875	42.2	50,313
New Hampshire	432	10,743	100.0	6,644	61.8	4,099	38.2	8,694
Rhode Island	434	9,665	100.0	5,846	60.5	3,819	39.5	7,756
Vermont	362	5,199	100.0	2,930	56.4	2,269	43.6	4,065
Middle Atlantic	2,599	332,478	100.0	231,705	69.7	100,773	30.3	282,092
New Jersey	530	64,518	100.0	44,287	68.6	20,232	31.4	54,403
New York	1,180	159,297	100.0	113,931	71.5	45,365	28.5	136,614
Pennsylvania	889	108,663	100.0	73,488	67.6	35,175	32.4	91,076
East North Central	3,037	327,794	100.0	210,237	64.1	117,556	35.9	269,015
Illinois	732	93,070	100.0	59,271	63.7	33,798	36.3	76,170
Indiana	506	39,602	100.0	28,930	73.1	10,672	26.9	34,266
Michigan	491	65,441	100.0	42,874	65.5	22,567	34.5	54,158
Ohio	813	89,799	100.0	55,397	61.7	34,402	38.3	72,598
Wisconsin	495	39,883	100.0	25,766	59.6	16,117	40.4	31,825
West North Central	3,498	153,906	100.0	101,228	65.8	52,679	34.2	127,568
Iowa	548	25,839	100.0	17,133	66.3	8,706	33.7	21,486
Kansas	517	19,773	100.0	13,972	70.7	5,801	29.3	16,873
Minnesota	594	39,876	100.0	21,684	54.4	18,192	45.6	30,780
Missouri	530	42,035	100.0	31,383	74.7	10,653	25.3	36,710
Nebraska	447	13,257	100.0	8,408	63.4	4,848	36.6	10,832
North Dakota	450	6,300	100.0	3,911	62.1	2,389	37.9	5,106
South Dakota	412	6,828	100.0	4,737	69.4	2,091	30.6	5,783
South Atlantic	4,659	316,317	100.0	236,108	74.6	80,209	25.4	276,213
Delaware	34	6,137	100.0	4,054	66.1	2,084	34.0	5,096
Dist. of Columbia	296	11,351	100.0	8,971	79.0	2,381	21.0	10,162
Florida	835	94,592	100.0	70,718	74.8	23,873	25.2	82,655
Georgia	658	43,386	100.0	34,261	79.0	9,125	21.0	38,824
Maryland	540	38,170	100.0	25,098	65.8	13,072	34.2	31,634
North Carolina	670	47,602	100.0	37,449	78.7	10,153	21.3	42,526
South Carolina	477	20,684	100.0	16,178	78.2	4,506	21.8	18,431
Virginia	472	42,519	100.0	30,288	71.2	12,230	28.8	36,403
West Virginia	364	11,874	100.0	9,091	76.6	2,784	23.4	10,483

Continued

Table 39.(cont.) Supply of registered nurse in each State and area according to whether employed on a full-time or part-time basis: March 1992

State and area	Number in sample	Total Estimated		Employed full-time Estimated		Employed part-time Estimated		Estimated Full-time Equivalent <sup>1</sup>
		Number	Percent	Number	Percent	Number	Percent	
East South Central	2,052	101,002	100.0	79,768	79.0	21,234	21.0	90,385
Alabama	533	27,717	100.0	22,025	79.5	5,692	20.5	24,871
Kentucky	491	24,551	100.0	18,640	75.9	5,912	24.1	21,596
Mississippi	430	13,415	100.0	11,180	83.3	2,235	16.7	12,298
Tennessee	598	35,318	100.0	27,923	79.1	7,395	20.9	31,621
West South Central	2,114	148,017	100.0	119,415	80.7	28,601	19.3	133,716
Arkansas	380	14,001	100.0	11,347	81.0	2,654	19.0	12,674
Louisiana	472	24,233	100.0	19,402	80.1	4,831	19.9	21,818
Oklahoma	459	16,972	100.0	13,403	79.0	3,569	21.0	15,188
Texas	803	92,810	100.0	75,263	81.1	17,547	18.9	84,037
Mountain	3,590	94,730	100.0	65,347	69.0	29,383	31.0	80,039
Arizona	507	27,093	100.0	20,303	74.9	6,790	25.1	23,698
Colorado	607	26,697	100.0	17,548	65.7	9,149	34.3	22,123
Idaho	408	5,702	100.0	3,710	65.1	1,992	34.9	4,706
Montana	407	5,848	100.0	3,512	60.1	2,336	39.9	4,680
Nevada	365	7,134	100.0	5,510	77.2	1,624	22.8	6,322
New Mexico	405	9,393	100.0	6,685	71.2	2,708	28.8	8,039
Utah	523	9,831	100.0	6,017	61.2	3,814	38.8	7,924
Wyoming	368	3,032	100.0	2,062	68.0	970	32.0	2,547
Pacific	3,011	247,920	100.0	154,898	62.5	93,022	37.5	201,409
Alaska	325	3,503	100.0	2,283	65.2	1,220	34.8	2,933
California	1,208	173,973	100.0	112,933	64.5	61,040	35.5	143,453
Hawaii	411	76,755	100.0	5,597	7.3	2,077	2.8	6,636
Oregon	467	23,992	100.0	12,841	53.5	11,151	46.5	18,417
Washington	600	38,698	100.0	21,244	54.9	17,454	45.1	29,971

<sup>1/</sup> Nurses working full-time plus one-half of nurses working part-time.

Table 40. Registered nurse population by activity status and geographic location: March 1992

Geographic area	Total number of nurses	In metropolitan statistical area		Not in metropolitan statistical area	
		Employed in nursing	Not employed in nursing	Employed in nursing	Not employed in nursing
Total	2,239,816	1,555,048	312,657	297,977	74,134
New England	163,198	106,798	26,086	24,072	6,252
Middle Atlantic	415,346	306,256	74,013	26,222	8,855
East North Central	400,313	274,355	55,300	53,439	17,219
West North Central	175,142	107,824	13,317	46,083	7,918
South Atlantic	384,681	257,953	52,857	58,364	15,507
East South Central	115,585	74,606	10,508	26,395	4,075
West South Central	177,039	127,259	24,484	20,758	4,538
Mountain	114,387	73,341	14,952	21,390	4,704
Pacific	294,124	226,666	41,139	21,255	5,065

Table 41. Percent distribution of the registered nurse population in each geographic area, by racial/ethnic background: March 1992

Racial/ethnic background	United States	East			West			East			West		
		New England	Middle Atlantic	South Atlantic	North Central	West North Central	South Atlantic	North Central	West North Central	South Central	West South Central	Mountain	Pacific
Estimated RN population in area	2,239,816	163,198	415,346	400,313	175,142	394,681	115,586	177,039	114,387	294,124			
White (non-hispanic)	90.1	96.7	86.4	94.3	96.4	88.9	91.3	88.4	93.4	83.1			
Black (non-hispanic)	4.0	1.2	5.5	2.8	1.6	6.4	6.7	5.1	1.1	3.1			
Asian/Pacific Islander	3.4	1.1	5.2	1.8	0.7	2.2	0.8	2.9	1.2	9.5			
American Indian/Alaskan Native	0.4	0.3	0.5	0.2	0.5	0.3	0.3	0.7	0.9	0.7			
Hispanic	1.4	0.3	1.3	0.6	0.3	1.4	0.5	2.5	2.5	2.7			
Not known	0.6	0.4	1.0	0.3	0.5	0.6	0.4	0.5	0.5	0.9			

Table 42. Percent distribution of the registered nurse population in each geographic area by age group: March 1992

Age Group	United States	New England	Middle Atlantic	East		West		South Atlantic		East South Central		West South Central		Mountain	Pacific
				North Central	South Central	North Central	South Atlantic	South Central	South Central	South Central	South Central				
Estimated RN population in area	2,239,816	163,198	415,346	400,313	175,142	384,681	115,586	177,039	114,387	294,124					
Less than 25 years	2.1	1.2	3.0	2.3	2.3	2.0	3.1	2.0	1.4	1.2					
25-29	8.9	8.6	8.8	10.0	9.6	8.6	11.8	8.7	7.4	6.9					
30-34	14.7	14.0	14.4	14.7	15.5	14.5	16.6	15.1	16.2	14.2					
35-39	18.8	18.4	17.3	18.6	20.3	18.9	21.5	20.6	19.6	17.9					
40-44	15.9	16.4	14.3	15.4	16.2	15.0	15.2	17.6	17.5	18.1					
45-49	11.6	12.5	11.2	11.0	10.1	11.6	12.0	12.3	13.2	12.0					
50-54	9.0	9.6	8.7	9.1	9.3	9.5	7.5	7.0	8.4	10.3					
55-59	7.3	7.4	7.9	7.5	7.3	7.4	5.2	6.0	7.1	8.0					
60-64	5.4	5.5	5.5	5.1	5.2	6.0	3.5	5.2	5.1	5.8					
65 and over	5.6	5.8	7.8	5.8	3.4	5.8	3.0	4.9	5.5	4.9					
Not known	0.7	0.5	1.0	0.6	0.8	0.7	0.5	0.6	0.6	0.7					

Note: Percentage may not add to 100 because of rounding.

Table 43. Percent distribution of the registered nurse population in each geographic area, by highest nursing-related educational preparation: March 1992

Highest educational preparation	United States	New England			Middle Atlantic			East North Central			West North Central			East South Central			West South Central			Mountain Pacific
		163,198	41.9	39.8	400,313	37.5	37.4	32.2	25.5	27.7	24.9	25.4	27.7	32.5	31.6	32.2	31.6	33.0	31.6	
Estimated RN population in area	2,239,816	163,198	415,346	400,313	175,142	384,681	115,586	177,039	114,387	294,124										
Diploma	33.7	18.9	22.2	27.0	27.0	31.8	37.6	32.5	31.6	25.4										
Associate degree	28.2	26.2	26.0	25.1	26.4	25.6	27.2	30.8	33.0	32.2										
Baccalaureate in nursing	27.3	3.0	3.1	3.0	2.7	2.1	1.7	1.8	2.5	2.8										
Baccalaureate in related field	2.6	6.4	5.8	5.2	4.0	5.5	5.7	5.4	4.7	5.0										
Master's in nursing	5.3	2.2	2.9	2.6	1.9	2.3	1.6	1.3	2.3	2.6										
Master's in related field	2.2	0.3	0.1	0.2	0.1	0.2	0.2	0.4	0.3	0.1										
Doctorate in nursing	0.2	0.3	0.4	0.4	0.3	0.2	0.5	0.1	0.5	0.3										
Doctorate in related field	0.3	--	0.1	0.2	0.1	0.1	--	--	0.1	0.1										
Not known	0.1																			

Notes: Percentage may not add up to 100 because of rounding.

Table 44. Field of employment of registered nurses in each geographic area:  
March 1992

Field of employment	United States	New England	Middle Atlantic	East		West		South		East		West		Mountain	Pacific
				North Central	South Atlantic	North Central	South Atlantic	North Central	South Central	North Central	South Central				
Total	1,853,024	130,860	332,478	327,794	153,907	316,317	101,002	148,016	94,731	247,920					
Hospital	1,232,717	80,961	215,594	217,227	102,096	211,149	69,215	102,371	63,748	170,356					
Nursing home, extended care facility	128,983	14,009	26,748	27,238	15,462	18,480	4,341	4,306	6,096	12,302					
Nursing education	36,514	2,237	5,441	7,642	3,213	5,999	3,363	3,274	1,739	3,587					
Community/public health setting	180,132	12,876	34,444	29,288	12,465	36,327	11,903	12,731	8,330	21,769					
Student health service	50,606	5,150	14,868	5,692	3,634	5,675	1,572	6,452	2,221	5,353					
Occupational health	19,266	2,016	2,927	2,374	1,674	4,067	920	1,540	1,043	2,505					
Ambulatory care setting	144,110	9,802	21,752	28,468	10,420	24,828	6,619	11,217	8,208	22,795					
Other	56,263	3,365	9,988	8,614	4,579	9,159	2,740	5,808	3,139	8,871					
Not known	4,433	444	717	1,061	364	632	308	318	206	382					

Note: Number may not add up to total because of rounding.

Table 45. Average annual salary of full-time registered nurses in staff positions in each geographical area: March 1992

Area of employment	Number in sample	Estimated number	Annual salary
Total	11,421	770,621	\$35,212
New England	974	44,820	\$37,785
Middle Atlantic	1,086	140,137	\$37,225
East North Central	1,194	128,040	\$33,453
West North Central	1,423	62,376	\$31,510
South Atlantic	2,087	141,188	\$34,058
East South Central	988	49,003	\$32,227
West South Central	999	69,816	\$33,641
Mountain	1,506	41,048	\$32,551
Pacific	1,164	94,193	\$41,315

Note: Estimated number may not add to total because of rounding.



## Appendix B

### Survey Methodology

Five national sample surveys of registered nurses (RNs) have been carried out: September 1977; November 1980; November 1984; March 1988; and March 1992. These studies all utilized a design initially developed in 1975-76 under a contract the Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, had with Westat, Inc. In designing the approach, Westat, Inc., took into account the lack of single listing of all individuals who have licenses to practice in the United States and the fact that nurses may be licensed in more than one State at a time. The description of the survey methodology included here has been abstracted from a technical report of the adaptation of the survey design to this current study prepared by Research Triangle Institute (RTI), the contractor for the 1992 study.

#### Sample Design

Because State-level estimates were desired, different sampling rates were set for the States based on considerations of the statistical precision of the estimates and the costs involved. States that had smaller numbers of RNs currently licensed were assigned higher sampling rates than were larger States, to yield a sample large enough to provide State estimates of reasonable precision. It was deemed too expensive to set sampling rates that would yield estimates of equal precision for all States while also achieving good precision for national estimates. Sample sizes and the precision of sample estimates thus typically were lower for smaller States than they were for larger States.

The use of differential State sampling rates substantially reduced variations in State sample sizes and thus permitted more precise State-level estimation than if a uniform sampling rate had been used. For example, States such as Wyoming and Alaska would have had samples of fewer than 200 RNs if a uniform sampling rate (near the overall sampling rate) had been employed across all States. The cost of this disproportionate sampling (i.e., using higher sampling rates in smaller States) was reduced precision of national estimates due to unequal weighting effects.

When the survey was originally designed, the State Boards of Nursing in the 50 States and in the District of Columbia (hereafter also referred to as a State) were determined to be the only sources for a sampling frame for the RN survey. Each

State's Board of Nursing maintains a file containing the name, address, and license number of every RN who is currently licensed in that State. These 51 files formed the basis of the sampling frame.

Approximately equal-sized alpha-segments were constructed by partitioning an alphabetically ordered list of all RN names nationwide into 250 segments with equal (or as nearly equal as possible) numbers of RNs. An alpha-segment consisted of all alphabetically adjacent names falling between set boundaries.

Registered nurses were in the sample on the basis of name, with an RN falling into the sample if her/his name of licensure fell within a specific portion of the alpha-segments included in the sample from her/his State. Specifically, the lower boundary of an alpha-segment was the name lowest in alphabetical order of all names included in that segment. The membership of the segment consisted of all names, beginning with the lower boundary, up to but not including a name that defined the upper boundary. (The latter name fell into the next alpha-segment.)

There was a planned variation in the size of the portions of segments used to accommodate the differing State sampling rates. The largest portions used were full alpha-segments, while other sizes were 1/2-, 1/4-, 1/8-, 1/16-, and 1/32- portions. The fractions indicated the size of the specified alpha-segment portion relative to the size of the basic alpha-segment. The sampling rate required for a given State was achieved using a combination of these portions of alpha-segments. Each State's sample consisted of 40 primary sampling units (portions of alpha-segments). Although each State had the same number (40) of sample segments (i.e., portions of alpha-segments), the segments differed in size depending on the State's sampling rate.

The fact that some RNs maintain active licenses to practice in more than one State complicated how selection probabilities were determined. An RN is represented on the licensure file of each State in which she/he has an active license at the time a sample is selected. To identify and account for such multiple licenses, the alpha-segment portions associated with larger States were "nested" (or included) within those associated with smaller States. Under this scheme, an RN who was licensed under the same name in two States with identical sampling rates was selected (or not selected) for both States, because the alpha-segments and portions of alpha-segments that defined sample membership were identical for both States. However, for two States that were sampled at different rates, the alpha-segment portions for the lower sampling rate (the larger State) were nested within those of the higher sampling rate (the smaller State).

The nesting was based on how the 40 basic alpha-segment selections were used to define the sample for each State. Each of these alpha-segments, or one of the fractional portions of it, constituted one of the 40 sample clusters for each State. Accordingly, each of the basic alpha-segments had associated with it a 1/2-portion selection, a 1/4-portion selection from the selected 1/2-portion, a 1/8-portion selection from the selected 1/4-portion, a 1/16-portion selection from the selected 1/8-portion, and a 1/32-portion selected from the 1/16 portion. The sample 1/2-portion for a particular alpha-segment was selected at random and remained in the sample for all States for which half-portions were sampled from this alpha-segment. Similarly, each of the smaller sample portions was randomly selected from the halves of the next largest sample portion; e.g., a sample 1/8-portion was a randomly selected half of the corresponding sample 1/4-portion.

The sampling rate for a particular State was obtained from some combination of the alpha-segments and portions. For example, the 40 alpha-segments constituted the sample for States with a 16-percent sampling rate. (Because each segment contained an expected 0.4 percent of the State's RN names, taken together they contained an expected  $40 \times 0.4$  percent, or 16 percent of those names.) The sample for a State with an 8-percent sampling rate consisted of the 40 1/2-portion selections. A 5-percent sampling rate was achieved by first randomly dividing the 40 alpha-segments into two groups, the first containing 30 alpha-segments and the other containing 10, and using the 1/4-portions from the first group and 1/2-portions from the second group ( $0.4 \times [(30 \times 1/4) + (10 \times 1/2)] = 5$ ).

The survey design specified, at the time of implementation, precisely which alpha-segments and portions would correspond to each of the different sampling rates used. This task resulted in the specification of 40 pairs of names for each of the sampling rates. Each pair consisted of the names defining the lower and upper boundary for one of the alpha-segments or alpha-segment portions corresponding to the sampling rate. Thus, the alpha-segment (portion) was defined by all names, beginning with its lower boundary, up to but not including its upper boundary.

To ensure that current information about RNs could be obtained, the survey design called for periodic implementation. A panel structure for the RN survey allowed for the systematic replacement of several of the sample alpha-segments in the periodic surveys. Under the design, the 40 sample alpha-

segments were randomly assigned to five panels of 8 alpha-segments each. For each successive survey, a new panel (consisting of eight new alpha-segments) was entered into the sample, thus replacing one of the five panels that was in the previous survey. Under this scheme, a nurse whose name did not change could be retained in the sample for up to five surveys. The alpha-segments were reconstructed in the fourth survey (1988) and, therefore, exact correspondence of the current segments to those established initially may no longer exist.

Each of the 51 State Boards of Nursing provided one or more files that contained the names of currently licensed RNs. The files formed the basis of the sampling frame from which the RNs for that State were selected. The licensure files provided by the States were submitted on computer tape, on diskettes, or on a printed list. Essentially the same procedure was followed for sample selection for all States regardless of which form was submitted. Once a licensure file provided by a State was complete (i.e., contained all appropriate names of individuals with active RN licenses) and met all specifications, the required sample names in that file were selected.

The sample for a given State consisted of all RN names falling into any one of the State's designated 40 alphabetic portions (one portion from each of the 40 alpha-segments associated with the current sample). The sample alphabetic portions varied among States, depending on the State's sampling rate. The sample for a particular State was defined by the alphabetic portion boundaries, associated with its sampling rate. Regardless of the way a State alphabetized and standardized the names on its files, the sample names were selected according to the standards established by the survey design. That is, sample selections ignored blanks and punctuation in the last names (except a dash in hyphenated names) and ignored titles (e.g., "Sister").

Table B-1 shows the sampling rates and sample sizes that were planned and actually obtained for the 51 States in the survey. Both the sampling rate planned for each State and the actual sampling rate are shown. States are priority-ordered by frame size (smaller to larger) so that sampling rates are decreasing down the table.

The percentage difference shows the State-specific variation caused by the nurse names in each State. The percentage difference averaged less than 0.50 percent over the full sample. The State frame sizes shown in Table B-1 were adjusted to account for ineligible licenses (i.e., frame errors) found in the sample. The ineligible licenses were identified in the process of reconciling the State and nurse reported licenses.

Table B-1 State Sampling Rates and Sample Sizes (Priority-Ordered)

State	Frame <sup>1/</sup> Size	Percent Sampling Rate <sup>2/</sup>		Actual Sample Size
		Planned	Actual	
Total	2,579,208			45,130
Wyoming	4,274	16.0	14.7	629
Alaska	5,128	12.0	12.0	616
North Dakota	6,853	9.0	8.1	557
Vermont	7,212	9.0	8.9	641
South Dakota	8,306	8.0	7.8	644
Idaho	8,705	8.0	8.3	723
Nevada	9,139	8.0	7.6	695
Montana	9,154	8.0	7.8	709
Delaware	9,528	7.0	7.4	709
Hawaii	10,986	7.0	7.0	768
New Mexico	11,250	6.0	5.8	657
Utah	12,458	6.0	6.5	805
Maine	14,472	5.0	5.3	773
Rhode Island	14,544	5.0	5.4	792
New Hampshire	15,556	5.0	5.2	816
Nebraska	17,095	4.0	4.0	688
District of Columbia	17,173	4.0	3.9	673
Mississippi	18,075	4.0	4.1	749
West Virginia	18,643	4.0	3.9	725
Arkansas	20,841	3.5	3.5	736
Oklahoma	23,748	3.5	3.5	841
Kansas	25,457	3.0	3.2	808
South Carolina	27,098	3.0	2.9	787
Oregon	30,846	2.5	2.3	706
Kentucky	31,048	2.5	2.5	774
Louisiana	31,416	2.5	2.4	766
Iowa	32,090	2.5	2.4	774
Alabama	34,189	2.5	2.4	834
Colorado	35,359	2.5	2.6	915
Arizona	35,835	2.5	2.3	811
Tennessee	46,480	1.8	1.9	874
Minnesota	49,096	1.8	1.7	818
Connecticut	49,318	1.8	1.7	826
Washington	49,688	1.8	1.7	831
Maryland	52,215	1.5	1.6	842
Wisconsin	55,551	1.5	1.4	758
Missouri	55,884	1.5	1.5	836
Georgia	57,514	1.5	1.8	1,041
Indiana	58,102	1.5	1.5	887
North Carolina	60,274	1.5	1.7	993
Virginia	65,480	1.25	1.2	786
Massachusetts	96,497	1.00	0.93	921
Michigan	102,554	1.00	0.93	950
New Jersey	102,236	1.00	1.00	1,036
Ohio	121,788	1.00	1.02	1,245
Illinois	123,472	1.00	1.00	1,229
Texas	124,410	1.00	0.98	1,220
Florida	127,919	1.00	0.99	1,264
Pennsylvania	183,004	0.90	0.89	1,629
California	223,463	0.90	0.86	1,927
New York	227,785	0.90	0.92	2,096

<sup>1/</sup> Adjusted frame size

<sup>2/</sup> Since the actual distribution of names differs for each State from the distribution derived from the merged States used for the development of the 250 alpha-segments some variation occurs between the planned and actual sampling rate.

Cases that could not be reconciled by RTI were sent to the State Boards of Nursing for resolution. Based on the States' responses, some nurses were found to have been incorrectly included in the sample frame; that is, they were not licensed to practice as an RN at the time of frame construction.

An adjustment to the State frame size was made by computing an estimated number of ineligibles in the State based on the proportion of verified ineligibles in the sample, and subtracting this estimated number from the original frame total. This adjustment results in frame sizes more closely reflecting the population numbers of eligible nurses and thus improves the accuracy of all survey estimates. Priority changed only for the States of New Jersey and Michigan and both States had the same sampling rate. Therefore, the sample alpha-segments were the same for the States involved.

Some RNs who had more than one active license were selected more than once. Steps were taken, in accordance with the sample design, to ensure that each sampled RN was retained in the national sample exactly once to avoid multiple questionnaires being sent to nurses. Specifically, after all State samples were selected, they were combined on computer into a single national sample file. This file, referred to as the master file, was sorted by last name, ZIP code, address, and first name. A complete listing of the file was printed out and reviewed visually. Special attention was paid to all groups of names that sorted together. Two names were taken to represent the same individual if entire names appeared to be the same and addresses were the same. Allowances were made for obvious unimportant differences between representations of the same name and/or address. When there was any doubt, both names were retained in the sample and questionnaires were mailed to both addresses.

## **Statistical Techniques**

### **A. Weighting**

The probability sample design for the Fifth National Sample Survey of Registered Nurses, (RN V) permits the computation of unbiased estimates of characteristics of the target population. These estimates are based on weights that reflect the complex design and compensate for the potential risk of nonresponse bias to the extent feasible. The weights that are assigned to each sample nurse may be interpreted as the number of nurses in the target population that the sample nurse represents. The weight for an RN is the reciprocal of the nurse's probability of selection, adjusted to account for nonresponding nurses and for multiple licenses.

A nurse is uniquely linked on the national sampling frame with his/her "priority State," i.e., the State with the lowest number of currently licensed RNs in which she or he was licensed. All nurses with the same priority State had an equal probability of being selected within that State and, consequently, all sampled nurses with that priority State had equal weights. The sum of the weights for all respondents assigned a specific priority State equals, approximately, the total number of active licenses in the State at the time the sample was drawn less the number of those licenses assigned to higher priority States.

The weights were computed sequentially for States A, B, etc., where A was the highest-priority State, and B the next highest State. The weight for State A was the ratio of the count of licenses in the sampling frame for State A to the number of respondents licensed in State A. For State B, and the remaining States, the numerator and denominator of this ratio were adjusted to account for State A and other higher-priority States. To describe the basic method, the following terms are defined:

$N(i)$  = total number of licenses for State  $i$

$m(i)$  = number of respondents for State  $i$  that did not have a license in higher-priority State

$n(i,j)$  = number of respondents with a license in both State  $i$  and State  $j$  (note  $n(i,i)$  denotes the number of eligible respondents with a license only in State  $i$ )

$W(i)$  = the adjusted weight for eligible respondents who were assigned to the priority State  $i$ .

The weight for State A was computed as follows:

$$W(A) = N(A) / m(A) .$$

For State B weight,  $W(B)$ , the numerator was the total frame count of RNs licensed in State B,  $N(B)$ , after removal of the estimated total count of State B nurses who were also licensed in State A (i.e.,  $W(A)n(A,B)$ ). Similarly, the numerator of  $W(C)$  excluded State C nurses who were also licensed in either State A or State B (i.e.,  $W(A)n(A,C) + W(B)n(B,C)$ ). That is, for the State B weight and the State C weight, the computations were:

$$W(B) = [N(B) - W(A) n(A,B)] / m(B)$$

$$W(C) = [N(C) - W(A) n(A,C) - W(B) n(B,C) ] / m(C) .$$

In either case, the denominator was the number ( $m(B)$  or  $m(C)$ ) of respondents in the State not licensed in a higher-priority State.

In general, the numerator of a State I weight,  $W(I)$ , was the total frame count licensed in State I after removal of the estimated total count of State I nurses also licensed in higher-priority States. The denominator,  $m(I)$ , was the number of State I respondents not licensed in a higher-priority State. This weighing scheme incorporated a nonresponse adjustment that inflated the respondents' data to represent the entire universe.

### B. Estimation Procedures

State-level estimates can be computed using the final set of sampling weights,  $W_k$  (for sample nurse- $k$ ). For example, an estimate of the total number of RNs working in Iowa may be based on the following indicator variable  $X_k$ :

$$X_k = \begin{cases} 1 & \text{if nurse-}k \text{ worked in Iowa,} \\ 0 & \text{otherwise.} \end{cases}$$

The desired estimated total may then be written as

$$\hat{X} = \sum_k W_k X_k,$$

the sum being over all sample nurses.

Estimates of ratios and averages are obtained as the ratio of estimated totals.

### C. Sampling Errors

To the extent that samples are sufficiently large, relatively precise estimates of characteristics of the licensed RN population of the United States can be made because of the underlying probability structure of the sample data. Such estimates are, sometimes, an imperfect approximation of the truth. Several sources of error could cause sample estimates to differ from the corresponding true population value. These sources of error are commonly classified into two major categories: sampling errors and nonsampling errors.



A probability sample such as the one used in this study is designed so that estimates of the magnitude of the sampling error can be computed from the sample data. Nonsystematic components of nonsampling error will also be reflected in the sampling error estimates.

Some sources of error--such as unusable response to vague or sensitive questions, no response from some nurses, and errors in coding, scoring, and processing the data--are, to a considerable extent, beyond the control of the sampling statistician. They are called "nonsampling errors" and also occur in cases where there is a complete enumeration of a target population, such as the U.S. Census. Among the activities that were directed at reducing nonsampling errors to the lowest level feasible for the current survey were careful planning, keeping nonresponses to the lowest feasible level, and coding and processing the sample data carefully.

Nonresponse to the survey is one source of nonsampling error because a characteristic being estimated may differ, on average, between respondents and nonrespondents. It is for this reason that considerable effort is expended to obtain a high response rate through such actions as respondent motivation and followup procedures. A high response rate will reduce both random and systematic errors.

Sample survey results are subject to sampling error. The magnitude of the sampling error for an estimate, as indicated by measures of variability such as its variance or its standard error (the square root of its variance), provides a basis for judging the precision of the sample estimates.

Systematic sampling, which was the selection procedure used in choosing the alpha-segments for this study, is very convenient from certain practical points of view, including providing for panel rotation. However, it does not permit unbiased estimation of the variability of survey estimates unless some assumptions are made. Estimates of standard errors are made based upon the assumption that RTI's systematic sample of 40 alpha-segments is equivalent to selecting a stratified random sample of two alpha-segments from each of 20 strata of adjacent alpha-segments. Ordinarily, this assumption should lead to overestimates of the sampling error for systematic sampling, but in this case (with alpha-segments as the sampling units) RTI believes the magnitude of the overestimate is trivial.

Regarding the sample as consisting of 20 pairs of alpha segments (thus obtaining 19 degrees of freedom) for the purpose of variance estimation, the probability will be approximately

0.95 that the statistic of interest differs from the value of the population characteristic that it estimates by not more than 2.093 standard deviations. Specifically, a 95 percent confidence interval for an estimated statistic  $\hat{x}$  takes the form

$$\hat{x} \pm 2.093 \hat{\sigma}_{\hat{x}} ,$$

where  $\hat{\sigma}_{\hat{x}}$  is the estimated standard error of  $\hat{x}$ . Inferences involving a small number of respondents (where, for example, 25 is considered a small number) have estimated standard errors of  $\hat{\sigma}_{\hat{x}}$  that themselves are subject to high variability. Thus, inferences based on such estimates should be guarded.

#### 1. Direct Variance Estimation

The direct computation of the sampling variance used the jackknife variance estimation procedure with 20 replicates of the sample. Each replicate was based on 19 pairs of alpha-segments and one alpha-segment from the 20th pair. The actual respondent count in the included segments for a particular replicate constituted a sample of approximately 39/40ths of the full respondent sample, and were weighted to represent the full population.

Variance estimates using the jackknife approach require the computation of a set of weights for the full sample and a set for each replicate using the established weight computation procedure (i.e., 20 additional sets of weights). For the replicates, the weights were based on the responding nurses from the 39 segments associated with each replicate. The 20 sets of weights permits the construction of 20 replicate estimates to compare with the estimate produced from all of the data; each replicate estimate will be based on about 39/40ths of the data.

The variance estimate is computed using the following procedure. Define the following,

$\hat{X}_i$  = an estimated total for replicate  $i$  associated with alpha-segment pair  $i$ ;

$\hat{X}$  = an estimated total obtained over the full sample.

The variance of  $\hat{x}$ ,  $\text{Var}(\hat{x})$ , is estimated by computing

$$\text{Var}(\hat{x}) = \sum_{i=1}^{20} (\hat{X}_i - \hat{X})^2 .$$

If the estimate of interest is a ratio of two estimated totals (e.g., the proportion of RNs resident in Florida between 25 and 29 years old), the variance estimate for the estimated ratio would be of the following form:

$$\text{Var}\left(\frac{\hat{x}}{\hat{y}}\right) = \sum_{i=1}^{20} \left(\frac{\hat{x}_i}{\hat{y}_i} - \frac{\hat{x}}{\hat{y}}\right)^2$$

Following the example, the  $\hat{x}$  and  $\hat{x}_i$  measurements would be full sample and replicate estimates, respectively, of the total number of RNs resident in Florida who were 25 to 29 years old while  $\hat{y}$  and  $\hat{y}_i$  would be the corresponding estimates of the total number of RNs resident in Florida. The variance of any other statistic, simple or complex, can be similarly estimated by computing the statistic for each replicate.

The jackknife variance estimator can use either the full sample estimate,  $\hat{x}$ , or the average of the replicate estimates,  $\bar{x}_i$ . While usually little difference exists between the two estimates, RTI used the estimator  $\hat{x}$ , which tends to provide more conservative estimates of variance.

Direct estimates of the variance were computed for a variety of variables. These variables were chosen not only due to their importance, but also to represent the range of expected design effects. The average of these design effects (on a State-by-State basis) provides the basis for the variance estimate for variables not included in the set for which direct variance estimates were computed. Direct estimates of the standard error (the square root of the variance) are presented for a selected set of national estimates in Table B-2. Table B-3 shows the estimated State population of nurses, and the standard error of these population totals.

## 2. Design Effects and Generalized Variances

The generalized variance is a model-based approximation to the sampling variance estimate, which is less computationally complex than the direct variance estimator but is also less accurate. The generalized variance equations use the national-level or State-level estimates of the design effect and, for some estimates, the coefficient of variation (CV) to estimate the sampling variance. The design effect,  $F$ , for an estimated proportion  $\hat{p}$  is determined by taking the ratio of the estimated sampling variance,  $\hat{\sigma}_p^2$ , obtained by the jackknife method, to the sampling variance of the  $\hat{p}$  simple random sample

Table B-2. Standard errors(S.E.) of selected statistics(number and percentage) for U.S. registered nurse population

Description	Estimated Number	S.E. of estimated Number	Estimated percent	S.E. of estimated percent
Total RN population	2,239,816	5,554	--	--
Basic Nursing Education				
Diploma	951,101	7,679	42.46	0.35
Associate Degree	729,050	11,847	32.55	0.51
Baccalaureate Degree	554,902	7,599	24.77	0.34
Master's degree	2,581	426	0.12	0.02
Doctorate	171	135	0.01	0.01
Not known	2,010	432	0.09	0.02
Employment Status				
Employed in nursing	1,853,024	10,862	82.73	0.38
Not employed in nursing	386,791	8,392	17.27	0.38
Racial/Ethnic Background				
Hispanic	30,441	5,335	1.36	0.24
American Indian/Alaskan native	9,998	1,356	0.45	0.06
Asian/Pacific Islander	75,785	17,554	3.38	0.78
Black	90,611	8,699	4.05	0.39
White	2,018,456	19,439	90.12	0.91
Not known	14,526	1,355	0.65	0.06
Employment setting				
Hospital	1,232,717	12,037	66.53	0.48
Nursing Home Ext. Care	128,983	3,173	6.96	0.14
Nursing Education	36,514	2,023	1.97	0.09
Public/Community Health	180,132	3,948	9.72	0.18
Student Health	50,606	2,753	2.73	0.12
Occupational Health	19,266	1,263	1.04	0.06
Ambulatory care setting				
(Non-Nurse)	138,290	4,289	7.46	0.19
(Nurse)	5,620	955	0.31	0.04
Other	56,263	2,291	3.04	0.10
Not known	4,433	607	0.24	0.03
Type of position				
Administrator or Assistant				
Administrator	114,419	3,101	6.19	0.14
Consultant	16,771	1,299	0.91	0.06
Supervisor	92,080	2,566	4.97	0.11
Instructor	64,349	2,923	3.47	0.13
Head Nurse or Assistant	84,726	3,635	4.57	0.16
Staff or Gen. Duty	1,233,537	13,066	66.57	0.55
Practitioner/Midwife	26,704	1,331	1.44	0.06
Clinical Specialist	35,524	1,682	1.92	0.08
Nurse Clinician	24,824	1,497	1.34	0.07
Certified Registered Nurse				
Anesthetist	18,617	1,305	1.01	0.06
Research	7,800	858	0.42	0.04
Private Duty	11,651	1,263	0.63	0.06
Other	120,024	4,418	6.48	0.19
Not known	1,798	363	0.10	0.02

Table B-2. (cont.) Standard errors (S.E.) of selected statistics (number and percentage) for U.S. registered nurse population

Description	Estimated Number	S.E. of estimated Number	Estimated percent	S.E. of estimated percent
<b>Highest Nursing Education</b>				
Diploma	754,848	7,084	33.70	0.32
Associate Degree	632,483	10,760	28.24	0.47
Baccalaureate	671,400	8,353	29.98	0.36
Master's	168,009	3,353	7.50	0.15
Doctorate	11,285	1,004	0.50	0.04
Not known	1,792	432	0.08	0.02
<b>Age of Nurses</b>				
Less than 25 yrs of Age	47,625	2,452	2.13	0.11
25 to 29 Years of Age	198,405	3,595	8.86	0.17
30 to 34 Years of Age	328,190	6,555	14.65	0.29
35 to 39 Years of Age	421,553	5,537	18.82	0.24
40 to 44 Years of Age	355,799	5,762	15.89	0.25
45 to 49 Years of Age	259,093	5,019	11.57	0.22
50 to 54 Years of Age	202,111	4,016	9.02	0.18
55 to 59 Years of Age	164,273	5,908	7.33	0.26
60 to 64 Years of Age	120,687	3,811	5.39	0.17
65 to More Years of Age	126,476	4,234	5.65	0.19
Not known	15,603	1,216	0.70	0.05

Table 8-3 Direct Estimates of State Nurse Population,  
Standard Error, and Coefficient of Variation by State, 1992

State	1992 Estimated State Nurse Population	Standard Error	Coefficient of Variation (in Percent)
United States	2,239,816	5,554	0.25
Alabama	31,908	494	1.55
Alaska	4,153	121	2.92
Arizona	32,988	674	2.04
Arkansas	17,059	426	2.50
California	207,563	1,650	0.79
Colorado	31,948	459	1.44
Connecticut	41,239	912	2.21
Delaware	7,463	339	4.55
District of Columbia	11,812	513	4.34
Florida	119,405	1,692	1.42
Georgia	51,412	741	1.44
Hawaii	9,222	267	2.90
Idaho	7,287	226	3.10
Illinois	110,762	1,692	1.53
Indiana	49,153	833	1.69
Iowa	29,743	399	1.34
Kansas	22,301	417	1.87
Kentucky	28,154	656	2.33
Louisiana	28,169	461	1.64
Maine	12,731	287	2.25
Maryland	43,823	1,229	2.80
Massachusetts	78,322	1,281	1.64
Michigan	85,544	1,401	1.64
Minnesota	45,681	479	1.05
Mississippi	15,334	360	2.35
Missouri	48,167	940	1.95
Montana	7,370	141	1.91
Nebraska	14,829	374	2.52
Nevada	8,943	475	5.32
New Hampshire	13,036	495	3.80
New Jersey	82,555	1,569	1.90
New Mexico	11,121	320	2.88
New York	189,342	2,280	1.20
North Carolina	56,943	733	1.29
North Dakota	6,718	134	2.00
Ohio	107,950	1,376	1.28
Oklahoma	20,032	528	2.64
Oregon	26,561	506	1.90
Pennsylvania	143,449	2,528	1.76
Rhode Island	11,564	282	2.44
South Carolina	24,265	650	2.68
South Dakota	7,704	265	3.44
Tennessee	40,188	615	1.53
Texas	111,778	1,073	0.96
Utah	11,195	193	1.73
Vermont	6,307	391	6.20
Virginia	54,958	924	1.68
Washington	46,626	693	1.49
West Virginia	14,600	612	4.19
Wisconsin	46,905	855	1.82
Wyoming	3,536	105	2.98

of the same size. For the percentage  $p$ , this is given by

$$F = n \hat{\sigma}_p^2 / [\hat{p} (1-\hat{p})] ,$$

where  $n$  is the unweighted number of respondents used to determine the denominator of  $\hat{p}$ .

Direct estimates of the design effect were computed for a set of variables for each State. The averages of the design effects were then computed for each State and the nation. These average design effects can be used in formulas for estimating generalized variances or standard errors. This procedure uses average design effects for a class of estimates instead of calculating direct estimates (with a resulting economy in time and costs), at the sacrifice generally of some accuracy in the variance estimates.

The standard error for an estimated proportion,  $\hat{p} = \hat{Y}/\hat{X}$ , for a State or for the United States, is provided by the equation:

$$\sigma_{\hat{Y}/\hat{X}} = \sqrt{F \cdot (\hat{Y}/\hat{X}) \cdot (1-\hat{Y}/\hat{X}) / n} \quad (1)$$

where  $n$  is the number of survey respondents used to determine the estimate  $\hat{X}$ . The multiplier  $F$ , the average design effect, depends upon the State for which the estimated proportion was generated. Table B-4 contains the list of average design effects for the United States and each State.

Generalized estimates of standard errors can also be computed for estimated numbers (or totals) of RNs in a State,  $\hat{Y}$ , with a particular characteristic. The estimate  $\hat{Y}$  is a subtotal of the estimate  $\hat{X}$ , the estimated total of RNs working and/or living in the State. The standard error and coefficient of variation of  $\hat{X}$  (represented by  $C.V._{\hat{X}}$ ) were determined for the nation and each State (see Table B-3). The following exposition is made simpler by defining the rel-variance of an estimate as the square of its coefficient of variation.

Then the rel-variance of the ratio of  $\hat{Y}$  to  $\hat{X}$  (called  $V_{\hat{Y}/\hat{X}}^2$ ) can be calculated as:

$$V_{\hat{Y}/\hat{X}}^2 = \frac{F(1-\hat{Y}/\hat{X})}{n(\hat{Y}/\hat{X})} ,$$

Table B-4 Average Design Effects for Percentages  
 Estimated from the Fifth National Sample Survey of  
 Registered Nurses, 1992

State	Average Design Effect
United States	1.91
Alabama	1.06
Alaska	1.03
Arizona	1.12
Arkansas	1.13
California	1.13
Colorado	1.10
Connecticut	1.24
Delaware	1.40
District of Columbia	1.15
Florida	1.15
Georgia	1.02
Hawaii	1.35
Idaho	1.21
Illinois	0.98
Indiana	1.01
Iowa	1.06
Kansas	1.06
Kentucky	1.02
Louisiana	1.07
Maine	1.06
Maryland	1.07
Massachusetts	1.15
Michigan	1.02
Minnesota	0.99
Mississippi	1.17
Missouri	1.06
Montana	0.96
Nebraska	1.03
Nevada	1.71
New Hampshire	1.18
New Jersey	1.06
New Mexico	1.28
New York	1.14
North Carolina	1.05
North Dakota	1.20
Ohio	1.01
Oklahoma	1.07
Oregon	0.97
Pennsylvania	1.20
Rhode Island	0.97
South Carolina	1.05
South Dakota	1.52
Tennessee	1.08
Texas	1.11
Utah	1.08
Vermont	1.59
Virginia	1.09
Washington	1.25
West Virginia	1.23
Wisconsin	1.16
Wyoming	1.07



where  $F$  is the design effect for the State of interest and  $n$  is the number of respondents to the survey (i.e., the number in the sample that were weighted to obtain the estimate  $\hat{X}$ ).

Then we can approximate the rel-variance of  $\hat{Y}$ , denoted  $V_{\hat{Y}}^2$ , using

$$V_{\hat{Y}}^2 = V_{\hat{Y}/\hat{X}}^2 + (\text{C.V.}_{\hat{X}})^2 .$$

Finally, the variance of  $\hat{Y}$  can be estimated by multiplying by the rel-variance above,  $V_{\hat{Y}}^2$ . The standard error of  $\hat{Y}$ ,  $\sigma_{\hat{Y}}$ , is thus estimated as

$$\sigma_{\hat{Y}} = \hat{Y} \sqrt{V_{\hat{Y}}^2} . \quad (2)$$

The standard error of an estimated percentage for a region of the United States depends upon a linear combination of the variance of the same estimated percentages for the States comprising that particular region. The estimated proportion (or percentage) for the region is

$$\hat{Y}_R / \hat{X}_R = \frac{\sum_{s=1}^h \hat{Y}_s}{\sum_{s=1}^h \hat{X}_s} .$$

where  $h$  is the number of States in region (R), and  $\hat{Y}_s$  and  $\hat{X}_s$  are estimates for a particular State. The formula used to approximate the standard error of an estimated proportion for a region is

$$\sigma_{\hat{Y}_R / \hat{X}_R} = \sqrt{\sum_{s=1}^h (\hat{X}_s^2 \sigma_{\hat{Y}_s / \hat{X}_s}^2) / (\sum_{s=1}^h \hat{X}_s)^2} \quad (3)$$

where  $\sigma_{\hat{Y}_s/\hat{X}_s}$  represents the standard error of the estimated proportion  $\hat{Y}_s/\hat{X}_s$  for the States and the standard errors are estimated from equation (1) or from direct estimation.

The direct standard error for an estimated number for a region of the United States also depends upon a linear combination of the variance of the same estimated numbers for the States which comprise the region. The formula used is

$$\sigma_{\hat{Y}_R} = \sqrt{\sum_{s=1}^h \sigma_{\hat{Y}_s}^2} \quad (4)$$

where the standard error ( $\sigma_{\hat{Y}_s}$ ) of the estimated number  $\hat{Y}_s$  is available either from the direct procedures or from formula (2).

Illustrative examples of the computation of the generalized variance are given in Chart B-1.

Chart B-1 Illustrative Examples of Generalized Variance Estimates

1. Estimated Percentages (or proportions) for a State or the United States

- a) Percent of nurses located in New York who were employed in nursing on a full-time basis:

$$p = 60.2 \quad F = 1.14 \quad n = 1,409$$

$$\hat{\sigma} = [1.14 (.602)(.398)/1409]^{1/2} = .014 \text{ or } 1.4\%$$

- b) Percent of employed nurses in the United States who were working in hospitals:

$$p = 66.5 \quad F = 1.91 \quad n = 27,336$$

$$\hat{\sigma} = [1.91 (.665)(.335)/27,336]^{1/2} = .0039 \text{ or } .39\%$$

2. Estimated number for a State or the United States

- a) Estimated number of nurses located in New York State who were not employed in nursing:

$$\hat{Y} = 30,045 \quad \hat{X} = 189,342 \quad \hat{Y}/\hat{X} = .159 \quad n = 1,409 \quad C.V._x = 1.20\%$$

$$F = 1.14$$

$$\hat{V}_{\hat{Y}}^2 = [(1.14)(.841)/1409(.159)] + (.0120)^2 = .0044$$

$$\sigma_{\hat{Y}} = 30,045 (.0044)^{1/2} = 1,998$$

- b) Estimated number of nurses located in United States who were employed in nursing:

$$\hat{Y} = 1,853,024 \quad \hat{X} = 2,340,816 \quad n = 32,304$$

$$C.V._x = .0025 \quad \hat{Y}/\hat{X} = .827 \quad F = 1.91$$

$$\hat{V}_{\hat{Y}}^2 = [(1.91)(.173)/32,304(.827)] + (.0025)^2 = .0000186$$

$$\sigma_{\hat{Y}} = 1,853,024 (.0000186)^{1/2} = 7,996$$

Chart B-1 (cont.) Illustrative Examples of Generalized Variance Estimates

3. Standard error of a regional estimate (or a grouping of States)

Estimated percent of nurses employed in nursing in the Middle Atlantic region:

$$Y/X = 80.0\%$$

New Jersey:

$$\sigma_{YX} = [1.06(.7815)(.2185)/673]^{1/2} = .016 \text{ or } 1.6\%$$

New York:

$$\sigma_{YX} = [1.14(.8413)(.1587)/1409]^{1/2} = .010 \text{ or } 1.0\%$$

Pennsylvania:

$$\sigma_{YX} = [1.20(.7575)(.2425)/1164]^{1/2} = .014 \text{ or } 1.4\%$$

Middle Atlantic Region:

$$\begin{aligned} \sigma_{YX} &= \{[(82,555)^2(.016)^2 + (189,342)^2(.010)^2 + (143,449)^2 \\ &\quad (.014)^2] / (82,555 + 189,342 + 143,449)^2\}^{1/2} = \\ &\quad .0074 \text{ or } .74\% \end{aligned}$$

**Appendix C**  
**Questionnaire**



## NATIONAL SAMPLE SURVEY OF REGISTERED NURSES



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Health Resources and  
Services Administration  
Rockville MD 20857

Dear Colleague:

We are writing to request your participation in an important study of the nurse population in the United States. This survey is being conducted for the Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, Public Health Service, U.S. Department of Health and Human Services by the Research Triangle Institute. The information is for statistical purposes only and will not be connected with your name. Individually identifiable information will be used for sample definition and for preventing data duplication. Once this process is completed, individual identifiers will be destroyed. Participation is voluntary, and there are no penalties for failure to answer any question; however, each unanswered question substantially reduces the accuracy of the data.

This study is being carried out to assist in fulfilling congressional requirements stated in Section 951 of P.L. 94-63 (42 USC 296 note), which specifies that information be obtained, on a continuing basis, on the number and distribution of nurses; and in Section 708 of Title VII of the Public Health Service Act (42 USC 292h) which requires collection systems and analytical studies on the supply of registered nurses and other health professionals. These public laws require the preparation and submission of reports to Congress. In addition, these data are a primary resource throughout the health care arena as studies are made assessing the number and characteristics of the registered nurse supply.

The questionnaire has been divided into five sections. These sections are designed to gather information on (a) your educational background as a registered nurse, (b) your employment status in nursing, (c) your employment status if you are not currently employed in nursing, (d) prior nursing employment status, and (e) general information.

Please read and follow all instructions carefully and answer all questions unless otherwise instructed. It should take about 20 minutes of your time to complete. Return the completed questionnaire in the postage-paid envelope enclosed in this package at your earliest convenience. All RNs who have received the questionnaire are requested to complete it regardless of their retirement or working status. If possible, we suggest you complete it now.

Thank you for your cooperation. Your efforts are greatly appreciated.

Sincerely,

Maria E. Salmon, ScD, RN, FAAN  
Director, Division of Nursing

**IF YOU HAVE RECEIVED MORE THAN ONE COPY OF THE QUESTIONNAIRE,  
PLEASE RETURN THE EXTRA COPY(IES) ALONG WITH THE COMPLETED QUESTIONNAIRE.**

## NATIONAL SAMPLE SURVEY OF REGISTERED NURSES

### Instructions

Everyone receiving this questionnaire is requested to complete it. This includes persons who are:

- Retired
- Not presently working
- Employed but not as an RN
- Employed as an RN

If you receive more than one questionnaire, please complete only one copy and return it and all extra copies of the questionnaire to the Research Triangle Institute. Do not give extra questionnaires to another nurse to complete.

Please read and carefully follow all instructions and answer all questions unless otherwise instructed.

Many questions request you to "Circle only one number." Please circle the number in front of the correct response and not the response.

#### EXAMPLE:

The correct way to answer a question is to *(Circle only one number)*:

1.  Circle the number in front of the response.
2.  Circle the response.

Please return your completed questionnaire in the enclosed postage-paid envelope at your earliest convenience.

### PUBLIC BURDEN STATEMENT

Public reporting burden for this collection of information is estimated to average 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to PHS Reports Clearance Officer; ATTN: PRA; Hubert H. Humphrey Bldg., Room 721-B; 200 Independence Ave., SW; Washington, DC 20201, and to the Office of Management and Budget; Paperwork Reduction Project (0915-0153); Washington, DC 20503.

## SECTION A: EDUCATION

CIRCLE THE APPROPRIATE NUMBER CORRESPONDING TO YOUR ANSWER IN EACH QUESTION OR SUPPLY REQUESTED INFORMATION

1a. In what type of basic nursing education program were you prepared to become a registered nurse? (Circle only one number)

1. Diploma
2. Associate Degree
3. Baccalaureate Degree
4. Master's Degree
5. Doctorate (N.D.)

1b. In what month and year did you graduate from this program?

\_\_\_\_ Month      \_\_\_\_ Year

1c. In which State or foreign country was this basic nursing education program located?

\_\_\_\_\_

For office  
use

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2a. IMMEDIATELY PRIOR TO STARTING THE BASIC NURSING EDUCATION PROGRAM described in Question 1, were you employed in a health occupation?

1. Yes
2. No → (Skip to 3a)

2b. Were you a (Circle only one number)

1. Nursing Aide
2. Licensed Practical/Vocational Nurse
3. Other (Specify) \_\_\_\_\_

3a. BEFORE STARTING THE BASIC NURSING EDUCATION PROGRAM described in Question 1, were you ever licensed to practice as a licensed practical or vocational nurse?

1. Yes
2. No

3b. BEFORE STARTING THE BASIC NURSING EDUCATION PROGRAM described in Question 1, did you receive a degree from any other formal post-secondary education program?

1. Yes
2. No → (Skip to 4a)

3c. What was the highest degree you received before starting your basic nursing education program? (Circle only one number)

1. Associate Degree
2. Baccalaureate Degree
3. Master's Degree
4. Doctoral Degree

3d. Was this degree in a health-related field?

1. Yes → (Skip to 4a)
2. No

3e. What was your major field of study? (Circle only one number)

1. Biological or Physical Science
2. Business or Management
3. Education
4. Liberal Arts
5. Social Science
6. Other (Specify) \_\_\_\_\_



4a. SINCE GRADUATING FROM THE BASIC NURSING EDUCATION PROGRAM YOU DESCRIBED IN QUESTION 1, have you earned any additional degrees?

1. Yes  
 2. No → (Skip to 6)

4b. For each academic degree you have received since graduation from your basic nursing education program, please indicate (i) the type of degree; (ii) whether or not the degree is related to your nursing career; and (iii) the year the degree was received.

Type of Degree	(i)	(ii)		(iii)
	Received degree (CHECK ALL THAT APPLY)	Related to nursing career (CIRCLE Y OR N)		Year in which you received the degree
		YES	NO	
Associate degree in nursing	1 <input type="checkbox"/>			19 ____
Associate degree in another field	2 <input type="checkbox"/>	Y	N	19 ____
Baccalaureate in nursing	3 <input type="checkbox"/>			19 ____
Baccalaureate in another field	4 <input type="checkbox"/>	Y	N	19 ____
Master's in nursing	5 <input type="checkbox"/>			19 ____
Master's in another field	6 <input type="checkbox"/>	Y	N	19 ____
Doctorate in nursing	7 <input type="checkbox"/>			19 ____
Doctorate in another field	8 <input type="checkbox"/>	Y	N	19 ____

IF YOU HAVE LISTED A MASTER'S OR DOCTORAL DEGREE IN QUESTION 4b, CONTINUE WITH QUESTION 5, OTHERWISE SKIP TO QUESTION 6.

5. What was the one primary focus of your master's and/or doctoral degree(s)? (Circle only one number for each relevant degree)

5a. Master's

1. Clinical Practice
2. Education
3. Supervision/Administration
4. Other (Specify) \_\_\_\_\_

5b. Doctoral

1. Clinical Practice
2. Education
3. Supervision/Administration
4. Research
5. Other (Specify) \_\_\_\_\_

6. SINCE GRADUATING FROM THE BASIC NURSING EDUCATION PROGRAM you described in Question 1, have you completed a formal educational program preparing you for advanced practice as a clinical nurse specialist, nurse anesthetist, nurse-midwife, or nurse practitioner?

- 1. Yes
- 2. No → (Skip to 7)

6a. What type of formal educational program? (Circle appropriate number)

- 1. Clinical Nurse Specialist
- 2. Nurse Anesthetist
- 3. Nurse-Midwife
- 4. Nurse Practitioner

6b. What was the length in months of this program?

- 1. Less than 3 months
- 2. 3 through 8 months
- 3. 9 months or more

6c. When you completed the program, did you receive a: (Circle appropriate number)

- 1. Certificate
  - 2. Master's Degree
  - 3. Other (Specify)
- 

6d. What was the type of specialty studied in this program? (Circle appropriate number)

- 1. Adult health/medical surgical
- 2. Anesthesia
- 3. Community health/public health
- 4. Critical care
- 5. Family
- 6. Geriatric/gerontology
- 7. Maternal-child/parent-child
- 8. Neonatal
- 9. Nurse-midwifery
- 10. Obstetric/gynecology
- 11. Occupational health
- 12. Oncology
- 13. Pediatric
- 14. Psychiatric/mental health
- 15. Rehabilitation
- 16. School health
- 17. Women's health
- 18. Other (Specify)

6e. Are you currently certified by a national accrediting body for this advanced practice?

- 1. Yes
- 2. No → (Skip to 7)

6f. Are you certified as a: (Circle appropriate number)

- 1. Certified registered nurse anesthetist
  - 2. Certified nurse-midwife
  - 3. Clinical specialist in adult psychiatric/mental health
  - 4. Clinical specialist in child, adolescent psychiatric/mental health
  - 5. Clinical specialist in community health nursing
  - 6. Clinical specialist in gerontological nursing
  - 7. Clinical specialist in medical-surgical nursing
  - 8. Neonatal nurse clinician practitioner
  - 9. Adult nurse practitioner
  - 10. Family nurse practitioner
  - 11. Gerontological nurse practitioner
  - 12. Ob-Gyn nurse practitioner
  - 13. Pediatric nurse practitioner
  - 14. School nurse practitioner
  - 15. Other (Specify)
- 

6g. What is the name of the national accrediting body?

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7a. Are you currently enrolled in a formal education program leading to an academic degree with a nursing or nursing-related major?

- 1. Yes
- 2. No → (Skip to 8)

7b. Are you considered a full-time or part-time student?

- 1. Full-time student
- 2. Part-time student

7c. What degree are you currently working toward in this program? (Circle only one number)

1. Associate Degree
  2. Baccalaureate
  3. Master's
  4. Doctorate
  5. Other (Specify)
- 

7d. How are your tuition and fees being financed? (Circle all that apply)

1. Personal and family resources
  2. Employer tuition reimbursement plan (including Veterans Administration employer tuition plan)
  3. Federal traineeship, scholarship, or grant
  4. Federally assisted loan
  5. State or local government loan or scholarship
  6. Non-government scholarship, loan, or grant
  7. University teaching or research fellowship
  8. Other sources (Specify)
- 

## SECTION B: EMPLOYMENT STATUS

8. Were you employed in nursing as of March 25, 1992? (SEE NOTE BELOW)

NOTE: EMPLOYMENT ALSO INCLUDES: BEING ON A TEMPORARY LEAVE OF ABSENCE FROM YOUR NURSING POSITION; ON VACATION; ON SICK LEAVE; OR A NURSE DOING PRIVATE DUTY OR WORKING THROUGH A TEMPORARY EMPLOYMENT SERVICE AND NOT ON A CASE AT THE MOMENT.

1. Yes  
2. No → (Skip to 20)

The following questions 9-18 refer to your principal employment setting and nursing position as of March 25, 1992. If you held more than one position in nursing, provide your answers in terms of what you consider your principal nursing position during your regular work year. For example, if you hold more than one nursing position (e.g., day/night or winter/summer), consider the principal nursing position as the one at which you spend the greater amount of time.

9. What was the location of employment on March 25, 1992? (SEE NOTE BELOW)

NOTE: If you were not employed in a fixed location (e.g., you were a private duty nurse or worked through a temporary employment service); consider the area where you spend most of your working time as your location of employment.

City: \_\_\_\_\_

County: \_\_\_\_\_

State (or country if not U.S.A.): \_\_\_\_\_

ZIP Code:

10. In your principal nursing position are you: (Circle only one number)

1. An employee of the facility for which you are working
2. Employed through a temporary employment service agency
3. Self Employed

11. Which one of the following settings best describes the TYPE OF SETTING in which you were working on March 25, 1992 in your principal nursing position? (If your employment is that of a private duty nurse or you work through a temporary employment service, circle the one setting in which you spend most of your working time.)

**Hospital** (Exclude nursing home units in hospitals but include all clinics and other services of the hospital)

- 110 Non-federal, short-term hospital, except psychiatric (for example acute care hospital)  
 120 Non-federal, long-term hospital, except psychiatric  
 130 Non-federal psychiatric hospital  
 140 Federal Government Hospital  
 150 Other type of hospital (specify) \_\_\_\_\_

**Nursing Home/Extended Care Facility**

- 210 Nursing home unit in hospital  
 220 Other nursing home  
 230 Facility for mentally retarded  
 240 Other type of extended care facility (specify) \_\_\_\_\_

**Nursing Education**

- 310 LPN/LVN program  
 320 Diploma program (RN)  
 330 Associate degree program (RN)  
 340 Baccalaureate and/or higher degree nursing  
 350 Other (specify) \_\_\_\_\_

**Public Health/Community Health Setting**

- 400 Official state health department  
 405 Official state mental health agency  
 410 Official city or county health department  
 415 Combination (official/voluntary) nursing service  
 420 Visiting nurse service (VNS/NA)  
 425 Other home health agency (non-hospital based)  
 430 Community mental health facility (including freestanding psychiatric outpatient clinics)  
 435 Community/neighborhood health center  
 440 Planned Parenthood/family planning center  
 445 Day care center  
 450 Rural health care center  
 455 Retirement community center  
 460 Hospice  
 465 Other (specify) \_\_\_\_\_

**School Health Service**

- 510 Public school system  
 520 Private or parochial elementary or secondary school  
 530 College or university  
 540 Other (specify) \_\_\_\_\_

**Occupational Health (Employee Health Service)**

- 610 Private Industry  
 620 Government  
 630 Other (specify) \_\_\_\_\_

**Ambulatory Care Setting**

- 710 Solo practice (physician)  
 715 Solo practice (nurse)  
 720 Partnership (physicians)  
 725 Partnership (nurses)  
 730 Group practice (physicians)  
 735 Group practice (nurses)  
 740 Partnership or group practice (mixed group of professionals)  
 750 Freestanding clinic (physicians)  
 755 Freestanding clinic (nurses)  
 760 Ambulatory surgical center (non-hospital based)  
 770 Dental practice  
 780 Health Maintenance Organization (HMO)  
 790 Other (specify) \_\_\_\_\_

**Other**

- 910 Central or regional Federal agency  
 920 State Board of Nursing  
 930 Nursing or health professional membership association  
 940 Health planning agency  
 950 Prison or jail  
 960 Insurance company (review/claims)  
 970 Other (specify) \_\_\_\_\_

12. Which one of the following titles best corresponds to the position title for your principal nursing position? (Circle only one number)

- 01 Administrator or assistant administrator
- 02 Certified nurse anesthetist (CRNA)
- 03 Charge nurse
- 04 Clinical nurse specialist
- 05 Consultant
- 06 Dean, director, or assistant/associate director of nursing education
- 07 Director or assistant/associate director of nursing service
- 08 Discharge planner
- 09 General duty nurse
- 10 Head nurse or assistant head nurse
- 11 Infection control nurse
- 12 In-service education director or instructor
- 13 Instructor
- 14 Insurance reviewer
- 15 Nurse clinician
- 16 Nurse coordinator
- 17 Nurse-midwife
- 18 Nurse practitioner
- 19 Patient care coordinator
- 20 Private duty nurse
- 21 Professor or assistant/associate professor
- 22 Public health nurse
- 23 Quality assurance nurse
- 24 Researcher
- 25 School nurse
- 26 Staff nurse
- 27 Supervisor or assistant supervisor
- 28 Team leader
- 29 No position title
- 30 Other (Specify)

13a. For your principal nursing position, approximately what percentage of your time is spent in the following areas during a usual work week? Please make sure the total equals 100%.

	Percent
A. Administration .....	_____ %
B. Consultation with agencies and/or professionals .....	_____ %
C. Direct patient care, not including staff supervision .....	_____ %
D. Research .....	_____ %
E. Supervision .....	_____ %
F. Teaching nursing or other students in health care occupations (include all class preparation time) .....	_____ %
G. Other (Specify) .....	_____ %
_____	
TOTAL MUST EQUAL ..... <u>100</u> %	

13b. Does your principal nursing position involve direct patient care in a hospital setting during a usual work week?

- 1. Yes
- 2. No → (Skip to 15)

14a. In what type of unit do you work more than half of your patient care time during a usual work week? (Circle only one number)

- 1. Intensive care bed unit
- 2. Step-down, transitional bed unit
- 3. General/specialty (other than intensive care or step down) bed unit → (Go to 14b)
- 4. Outpatient department
- 5. Operating room
- 6. Post operative recovery room
- 7. Labor/delivery room
- 8. Emergency room
- 9. Home health care → (Skip to 15)
- 10. Hospice unit
- 11. Other specific area (Specify)
- \_\_\_\_\_
- 12. No specific assigned type of area

14b. What type of patients are primarily treated in the hospital unit in which you work? (Circle only one number)

1. Chronic care
2. Coronary care
3. Neurological
4. Newborn
5. Obstetrics/gynecologic
6. Orthopedic
7. Pediatric
8. Psychiatric
9. Rehabilitation
10. Basic medical/surgical (or specialty areas not specified above)
11. Work in multiple units not specifically specialized

15. If you were EMPLOYED BY AN INSTITUTION OR AGENCY and were scheduled to work for the normal "full" work week throughout the normal work year, as defined by the agency, circle category "1". If you worked less than the normal "full" work week and/or less than the normal work year, circle either "2" or "3", whichever is applicable.

If you were SELF-EMPLOYED and are generally available for work throughout the year during what would constitute a normal "full" work week, circle category "1". If you restrict yourself to work only a segment of the work week and/or year, circle either "2" or "3", whichever is applicable.

Do you:

1. Work an entire calendar year or school or academic year on a full-time basis?
2. Work an entire calendar year or school or academic year on a part-time basis?
3. Work only part of the normal work year on either a full or part-time basis?

16a. Approximately how many hours are you usually scheduled to work during a normal work week (as defined by the agency) at your principal nursing position? If you do not work on a routine schedule, how many hours do you usually work during a week at your principal nursing position?

\_\_\_\_\_ Hours

16b. How many hours did you actually work during the week beginning on March 23, 1992? (Include overtime but exclude holidays, sick leave, vacation time not worked.)

\_\_\_\_\_ Hours

17. Approximately how many weeks are there in your normal work year for your principal nursing position (include in your work year paid vacation, etc.) Note: If you are self-employed or do not work a routine schedule, report the estimated number of weeks you expect to work in 1992.

\_\_\_\_\_ Weeks

18. PLEASE SPECIFY THE ANNUAL EARNINGS FOR YOUR PRINCIPAL POSITION ONLY.

What is your gross annual salary before deductions for taxes, social security, etc? If you do not have a set annual salary (for example, you are part-time, private duty, or self-employed), provide an estimate of your annual earnings for 1992.

Annual earnings: \$ \_\_\_\_\_

19a. Do you hold more than one position in nursing for pay?

1. Yes
2. No → (Skip to 23a)

19b. In your other nursing position(s) for pay, do you:

1. Work as an employee of the facility
2. Work through a temporary employment service agency
3. Work in a self-employed capacity?

19c. What type of work do you do in your other nursing position(s) for pay? (Circle all that apply)

1. Home health
2. Hospital staff
3. Nursing home staff
4. Private duty nursing
5. Teaching
6. Patient consultation
7. Consultation
8. Research
9. Other (Specify)

19d. What is the average number of hours per week you spend in your other nursing position(s)? Please also provide an estimate of the total number of weeks in 1992 that you will spend in this other nursing position(s). Note: If you are self-employed or do not work a routine schedule, report the estimated number of weeks you expect to work in 1992.

Average hours per week \_\_\_\_\_

Weeks in 1992 \_\_\_\_\_

19e. How many hours did you actually work in your other nursing position during the week beginning on March 23, 1992? If you did not work in your other nursing position(s) during that week, please enter "0".

\_\_\_\_\_ hours

19f. For your other nursing position(s), please provide an estimate of the total annual earnings for 1992. Note: If you are self-employed or do not work a routine schedule, report the estimated amount you expect to earn in 1992.

Estimated annual earnings \$ \_\_\_\_\_

**SKIP TO QUESTION 23a**

**SECTION C: EMPLOYMENT STATUS OF  
RNS NOT EMPLOYED IN NURSING**

20. How long has it been since you last worked for pay as a registered nurse?

1. Never worked as a registered nurse
2. Less than a year
3. One year or more

Indicate number of years \_\_\_\_\_

21a. Are you employed in an occupation other than nursing?

1. Yes
2. No → (Skip to 22a)

21b. Are you considered a full-time or part-time employee?

1. Full-time
2. Part-time

21c. Are you employed in a health-related agency or position?

1. Yes
2. No

21d. What is the reason(s) you are not working in a nursing position? (Circle all that apply)

1. Difficult to find a nursing position
  2. Hours more convenient in other position
  3. Better salaries available in current type of position
  4. Concern about safety in health care environment
  5. Inability to practice nursing on a professional level
  6. Find current position more rewarding professionally
  7. My nursing skills are out-of-date
  8. Other (please specify)
- \_\_\_\_\_

22a. Are you actively seeking employment as a registered nurse (e.g., making inquiries as to availability of employment, answering advertisements, having interviews)?

1. Yes
2. No → (Skip to 23a)

22b. How many weeks have you been actively seeking a nursing position?

1. Less than a week
  2. One week or more
- Indicate number of weeks \_\_\_\_\_

22c. Are you looking for a full-time or part-time nursing position?

1. Full-time
2. Part-time
3. Either

## SECTION D: PRIOR NURSING EMPLOYMENT STATUS

23a. Were you employed in nursing one year ago on March 25, 1991?

1. Yes
2. No → (Skip to 24)

23b. In your principal nursing position at that time, if you were EMPLOYED BY AN INSTITUTION OR AGENCY and were scheduled to work for the normal "full" work week throughout the normal work year, as defined by the agency, circle category "1". If you worked less than normal "full" work week and/or less than the normal work year, circle either "2" or "3", whichever is applicable.

If you were SELF-EMPLOYED and were generally available for work throughout the year during what would constitute a normal "full" work week, circle category "1". If you restricted yourself to work only a segment of the work week and/or year, circle either "2" or "3", whichever is applicable.

In your nursing position of one year ago did you:

1. Work an entire calendar year or school or academic year on a full-time basis?
2. Work an entire calendar year or school or academic year on a part-time basis?
3. Work only part of the normal work year on either a full- or part-time basis?

23c. What was the location of your principal position on March 25, 1991? If you were not employed in a fixed location (e.g., you were a private duty nurse), consider the area where you spent most of your working time as your location of employment.

City: \_\_\_\_\_

County: \_\_\_\_\_

State (or country if not U.S.A.): \_\_\_\_\_

ZIP Code:



23d. Which one of the following settings best describes the type of employment setting of your principal position in which you worked on March 25, 1991?

**Hospital** (Exclude nursing home units in hospitals but include all clinics and other services of the hospital)

- 110 Non-federal, short-term hospital, except psychiatric (for example acute care hospital)
- 120 Non-federal, long-term hospital, except psychiatric
- 130 Non-federal psychiatric hospital
- 140 Federal Government Hospital
- 150 Other type of hospital (specify) \_\_\_\_\_

**Nursing Home/Extended Care Facility**

- 210 Nursing home unit in hospital
- 220 Other nursing home
- 230 Facility for mentally retarded
- 240 Other type of extended care facility (specify) \_\_\_\_\_

**Nursing Education**

- 310 LPN/LVN program
- 320 Diploma program (RN)
- 330 Associate degree program (RN)
- 340 Baccalaureate and/or higher degree nursing
- 350 Other (specify) \_\_\_\_\_

**Public Health/Community Health Setting**

- 400 Official state health department
- 405 Official state mental health agency
- 410 Official city or county health department
- 415 Combination (official/voluntary) nursing service
- 420 Visiting nurse service (VNS/NA)
- 425 Other home health agency (non-hospital based)
- 430 Community mental health facility (including freestanding psychiatric outpatient clinics)
- 435 Community/neighborhood health center
- 440 Planned Parenthood/family planning center
- 445 Day care center
- 450 Rural health care center
- 455 Retirement community center
- 460 Hospice
- 465 Other (specify) \_\_\_\_\_

**School Health Service**

- 510 Public school system
- 520 Private or parochial elementary or secondary school
- 530 College or university
- 540 Other (specify) \_\_\_\_\_

**Occupational Health (Employee Health Service)**

- 610 Private Industry
- 620 Government
- 630 Other (specify) \_\_\_\_\_

**Ambulatory Care Setting**

- 710 Solo practice (physician)
- 715 Solo practice (nurse)
- 720 Partnership (physicians)
- 725 Partnership (nurses)
- 730 Group practice (physicians)
- 735 Group practice (nurses)
- 740 Partnership or group practice (mixed group of professionals)
- 750 Freestanding clinic (physicians)
- 755 Freestanding clinic (nurses)
- 760 Ambulatory surgical center (non-hospital based)
- 770 Dental practice
- 780 Health Maintenance Organization (HMO)
- 790 Other (specify) \_\_\_\_\_

**Other**

- 910 Central or regional Federal agency
- 920 State Board of Nursing
- 930 Nursing or health professional membership association
- 940 Health planning agency
- 950 Prison or jail
- 960 Insurance company (review/claims)
- 970 Other (specify) \_\_\_\_\_

## SECTION E: GENERAL INFORMATION

We would like you to answer some additional questions for use in the statistical interpretation of your responses.

24. What is your sex?

1. Female
2. Male

25. What is your year of birth?

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26. What is your racial/ethnic background? (Circle only one number)

1. Hispanic
2. American Indian or Alaskan Native
3. Asian or Pacific Islander
4. Black, not of Hispanic origin
5. White, not of Hispanic origin

27. What is your current marital status?

1. Now married
2. Widowed, divorced, separated
3. Never married

28. How old are the children who live at home with you? (include all children who live with you 6 months of the year or more) (Circle only one number)

1. No children at home
2. All less than 6 years old
3. All 6 years old or older
4. Some less than 6 and some 6 or over

29. Which category best describes how much income you, or if you are currently married, you and your spouse together anticipate earning during 1992? (Include your annual employment earnings before deductions, your spouse's annual employment earnings before deductions, if married; and all other income, including alimony, child support, dividends, royalties, interest, social security, retirement, etc.)

1. \$15,000 or less
2. 15,001 to 25,000
3. 25,001 to 35,000
4. 35,001 to 50,000
5. 50,001 to 75,000
6. 75,001 to 100,000
7. 100,001 to 150,000
8. More than \$150,000

30. Where were you living on March 25, 1992?

City: \_\_\_\_\_

County: \_\_\_\_\_

State (or country, if not U.S.)

ZIP Code: 

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31a. Did you reside in the same city on March 25, 1992, and on March 25, 1991?

1. Yes → (Skip to 32)

2. No

31b. Where were you living on March 25, 1991?

City: \_\_\_\_\_

County: \_\_\_\_\_

State (or country, if not U.S.)

ZIP Code: 

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32. When were you issued your first U.S. license (by one of the 50 States or the District of Columbia) to practice as a registered nurse and what State issued this license to you:

32a. In what year did you receive your first U.S. license?

- |         |          |                   |
|---------|----------|-------------------|
| 1. 1991 | 6. 1986  | 11. 1981          |
| 2. 1990 | 7. 1985  | 12. 1980          |
| 3. 1989 | 8. 1984  | 13. Prior to 1980 |
| 4. 1988 | 9. 1983  |                   |
| 5. 1987 | 10. 1982 |                   |

32b. Which State issued you your first license?

\_\_\_\_\_

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use

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Please note that the following question (Q.33) is very important in order to determine how many nurses in the country your answers may represent. As soon as this determination is calculated and the proper statistical code assigned, your name(s) and registration number(s) will no longer be associated with the other information in this questionnaire.

**33. In the space provided below, please provide the following information:**

Column A-List all states in which you are now actively licensed.

Column B-List the permanent number of your certificate of registration or license for each state you listed.

Column C-List your complete name as it appears on each license, or circle "same" if it is the same as on questionnaire label.

A.  State of Licensure	B. Permanent number on certificate of registration or license	C.  Name as it appears on the registration or license, or <u>circle "same"</u> at right of name line if same as on front of questionnaire			FOR OFFICE USE	
					D.	E.
1.		Last	First	MI (same)		
2.		Last	First	MI (same)		
3.		Last	First	MI (same)		
4.		Last	First	MI (same)		
5.		Last	First	MI (same)		
6.		Last	First	MI (same)		
7.		Last	First	MI (same)		
8.		Last	First	MI (same)		
9.		Last	First	MI (same)		
10.		Last	First	MI (same)		

