# The <br> Registered Nurse Population 

National Sample Survey of Registered Nurses - March 2000

Preliminary Findings
February 2001

## Preliminary Findings from the National Sample Survey of Registered Nurses 2000

The National Sample Survey of Registered Nurses (NSSRN) is the nation's most extensive and comprehensive source of statistics on all those with current licenses to practice in the United States whether or not they are employed in nursing. It provides information on the estimated number of registered nurses (RNs); their educational background and specialty areas; their employment status including type of employment setting, position level, and salaries; their geographic distribution; and their personal characteristics including gender, racial/ethnic background, age, and family status.

The development of a design for collecting data through sample surveys of RNs was initiated in July 1975 under a contract with Westat, Inc. Subsequently, the Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, DHHS conducted seven sample surveys. Reports for six studies, those conducted in September 1977, November 1980 and 1984, and March 1988, 1992 and I996, have been published and made available to those involved in health care planning and evaluation as well as to the public. This report provides preliminary findings from the seventh survey. The complete report is expected to be released in spring 2001.

## The Registered Nurse Population

As of March 2000, the total number of licensed RNs in the United States was estimated to be $2,696,540$, an increase of 137,666 over the $2,558,874$ licensed RNs reported in 1996. Although this was a 5.4 percent increase in the total RN population, it was the lowest increase reported in the previous national surveys. By comparison, the highest increase in the RN population was experienced between 1992 and 1996 when the total number of RNs increased by an estimated 14.2 percent or 319,058 (from $2,239,816$ to $2,558,874$ ).

Of the total licensed RN population in March 2000, an estimated 58.5 percent of RNs reported working full-time, 23.2 percent reported working part-time, and 18.3 percent reported not being employed in nursing (see Chart 1).


## The Registered Nurse Workforce

In March 2000, an estimated 81.7 percent, or $2,201,813$ of the total licensed RN population reported being employed in nursing. This reflects an increase of 85,998 RNs working in nursing over the estimated $2,115,815$ in 1996.

An estimated 71.6 percent of RNs in the workforce reported working full-time in nursing and 28.4 percent of RNs reported working on a part-time basis in 2000. Between 1996 and 2000 the percentage of RNs working either full-time or part-time remained unchanged.

## Educational Preparation

During the past 20 years there has been a shift in graduations from basic nursing education programs away from diploma programs to either associate degree or baccalaureate programs. In 1980, 63 percent of licensed RNs (about 1 million of the estimated 1.6 million in 1980) had received their basic nursing education in diploma programs; in 2000, this fell to 29.6 percent (about 800,000 of the estimated 2.7 million licensed RNs). Corresponding figures for RNs who reported completing an associate degree program increased from 19 percent (about 308,000 ) in 1980 to 40.3 percent (about 1.1 million) in 2000. For RNs who reported completing their initial preparation in a baccalaureate degree program, the figures increased from 17.3 percent (about 288,000) in 1980 to 29.3 percent (about 792,000) in 2000 (see Chart $2)$.

Chart 2. Basic Nursing Education of the Registered Nurse Population, 1980-2000


In March 2000 the distribution of the RN population according to the highest nursing education level, which incorporates any post-RN degree received, revealed that 22.3 percent (about 609,000) reported having a diploma, 34.3 percent (about 925,000 ) reported having an associate degree, 32.7 percent (about 881,000 ) reported having a baccalaureate degree, 10.2 percent (about 275,000 ) reported having a master's or doctoral degree. Chart 3 displays the trend from 1980 to 2000.

Chart 3. Highest Educational Preparation of Registered Nurses 1980-2000


The average age of the RN population in March 2000 was estimated to be 45.2 years, nearly one year older than in 1996 when the average age was 44.5 . The average age of RNs working in nursing increased from 42.3 years in 1996 to 43.3 in 2000.

In 1980, 52.9 percent of all RNs were estimated to be under the age of 40, compared to 2000 when only 31.7 percent reported being under the age of 40 . The most significant drop in numbers was seen among those RNs under the age of 35 . In 1980, 40.5 percent of $R N$ s were under the age of 35 , compared to 18.3 percent in 2000. The RN population under 30 dropped from an estimated 25.1 percent in 1980 to only 9.1 percent in 2000 (see Chart 4).

Chart 4. Age Distribution of the Registered Nurse Population, 1980-2000


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## Gender

Although still a small percent of the RN population, more men are entering nursing. Between 1996 and 2000 the percent of men in the RN population increased from 4.9 percent to 5.4 percent. The percent men employed in nursing increased from 5.4 percent in 1996 to 5.9 percent in 2000.

## Racial/ Ethnic Background

In March 2000, an estimated 86.6 percent of the RN population reported being white (non-Hispanic), while 12.3 percent reported being in one or more of the identified racial and ethnic minority groups (see Chart 5). An additional 1.1 percent of the respondents chose not to report their racial and ethnic background. In 1996, an estimated 10.3 percent reported being in one of the racial/ethnic minority groups identified.

## Chart 5. Distribution of Registered Nurses by Racial/Ethnic Background, March 2000



Note: In Chart 5, the breakout for the U.S. population was based on projections using the 1990 Census. This will be changed to reflect the 2000 Census data once it is released. For comparison, the RN population is shown using the same categories.

Respondents to the 2000 survey reported the following: 4.9 percent or 133,041 reported being Black/ African American (non-Hispanic); 3.5 percent or 93,415 reported being Asian; 2.0 percent or 54,861 reported being Hispanics; 0.5 percent or 13,040 reported being American Indian/Alaska Native; 0.2 percent reported being Native Hawaiian/Pacific Islander; and 1.2 percent reported being of two or more racial backgrounds.

Due to a change in definitions, comparisons of the racial/ethnic composition of the RN population should be viewed carefully. In accordance with the Office of Management and Budget (OMB), the question regarding racial and ethnic background in the March 2000 survey was changed from the previous surveys. Respondents were asked to identify their ethnic background and then asked to identify all races that could best describe them. The information was aggregated to categories similar to those reported in previous years, with one additional grouping of non-Hispanics that reported being of mixed race (two or more races). In previous surveys, respondents had to choose from one of the racial/ethnic categories presented.

## Employment Settings

Five major employment settings were identified for RNs: hospitals, nursing homes and extended care facilities, community and public health settings, nursing education, and ambulatory care settings.

In March 2000, out of estimated 2,201,813 RNs employed in nursing, 59.1 percent worked in hospital settings. Public and community health settings, including State and local health departments, visiting nursing services and other health agencies, community health centers, student health services, and occupational services continued to show the largest increase in the employment of RNs. In 2000, an estimated 18.3 percent of RNs reported being employed in public or community health settings.

In 2000, an estimated 9.5 percent RNs reported being employed in ambulatory care settings, including physician-based practices, nurse based practices, and health maintenance organizations, and an estimated 6.9 percent of RNs reported being employed in nursing homes and extended care facilities. The remaining RNs employed in nursing reported working in such settings as nursing education, federal administrative agencies, State boards of nursing or other health associations, health planning agencies, prisons/jails, or insurance companies. (See Chart 6).

Chart 6. Employment Settings of Registered Nurses, 2000
Thousands


## Average Earnings

Changes in average earnings for RNs were examined using two separate measures. The first is the actual average earnings of RNs employed full-time in the labor market, while the second is the "real" average earnings based on consumer price index (CPI) for 1982-84. The actual average annual earnings of RNs employed full-time in 2000 was $\$ 46,782$. However, when changes in the purchasing power of the dollar were taken into account utilizing the CPI, the "real" salaries of RNs employed fulltime in 2000 was $\$ 23,369$. "Real" salaries have remained relatively flat since 1992 (see Chart 7).

## Chart 7. Actual and "Real" Average Annual Salaries of Full-Time Registered Nurses, 1980-2000



Real Average Annual Salary - - Actual Average Annual Salary

## Racial/Ethnic Background and Employment Status

In March 2000, 86.4 percent of RNs from minority backgrounds were employed in nursing compared to 81 percent of white (non-Hispanic) RNs. Minority RNs were more likely than non-minority nurses to work full-time. 86 percent of Black/African American (non-Hispanics), Asian, Native Hawaiian/Other Pacific Islander, and American Indian/Alaska Native reported being employed full-time compared to 70 percent of white (non-Hispanic) RNs.

## Racial/Ethnic Background and Highest Educational Preparation

In March 2000, 54.3 percent of RNs who reported being Asian and 55.7 percent of RNs who reported being Native Hawaiian/Other Pacific Islander graduated from baccalaureate programs. However, when both the initial and the post-RN education are taken into account, Asian, Native Hawaiian/Other Pacific Islanders, and Black/African American RNs were more likely than Hispanics and white (non-Hispanic) RNs to have at least baccalaureate preparation. Among Blacks/African American, 11.1 percent reported having master's or doctoral degree compared to 10.4 percent among white (non-Hispanic), 10.2 percent among Hispanics, and 5 percent among Asian nurses (see Chart 8).

Chart 8. Distribution of Registered Nurses in Each Racial/Ethnic Group by Highest Educational Preparation, March 2000


## Age at Graduation from Basic Nursing Education Programs

The average age at graduation for RNs from all basic nursing education programs in the five years before the March 2000 survey was estimated to be 30.5 years. In comparison, the average age for RNs graduating between 1986 and 1994 was 28.7, and 24.3 years for those graduating in 1985 or earlier.

The average age at graduation from basic nursing programs varies by the type of program. Graduates of associate degree programs tend to be older, while graduates of baccalaureate programs tend to be younger. For the five-year period before the March 2000 survey, the average age of diploma graduates was 30.8 ; associate degree graduates averaged 33.2 years and baccalaureate graduates averaged 27.5 (see Chart 9).

Chart 9. Average Age at Graduation from Basic Nursing Education Programs


## Gender and Education

In March 2000, 52.7 percent of men RNs reported graduating from an associate degree program compared to 39.6 percent of women; 30.5 percent of women RNs graduated from a diploma program compared to 14.3 percent of men. The percent of women and men completing a baccalaureate or higher degree program was 29.6 percent and 32.5 respectively.

## Family Status

In March 2000, an estimated 71.5 percent of all RNs were married, 17.9 percent were widowed, divorced or separated and 9.9 percent were never married. 53.2 percent had children living at home, and 36.4 percent had children ages six years or older. Married RNs with children were more likely to work on a part-time basis. About 28.4 percent of the estimated $2,201,813$ employed RNs reported working on a part-time basis in March 2000. Of those, 25 percent were married RNs with children under the age of six.

## Additional Nursing Education Preparation

About 18.6 percent of the RN population in 2000 had completed additional academic nursing or nursing related preparation after they graduated from basic nursing education. An estimated 15.5 percent of those initially prepared in associate degree programs and 23.8 percent of those prepared in diploma programs had obtained post-RN nursing or nursing related degrees. In most instances, the highest level achieved was a baccalaureate degree.

## Advanced Practice Nurses

Advanced practice nurses include clinical nurse specialists, nurse anesthetist, nurse midwives and nurse practitioners. In March 2000, the number of RNs prepared to practice in at least one advanced practice role was estimated to be 196,279, or 7.3 percent of the total RN population, compared to an estimated 161,712, or 6.3 percent in 1996. As noted in Chart 10, the largest group among the advanced practice nurses included the nurse practitioners, followed by the clinical nurse specialists. These two groups together, including those with dual training as a nurse practitioner and clinical nurse specialists made up approximately 80 percent of all advanced practice nurses.

Chart 10. Registered Nurses Prepared for Advanced Practice, March 2000 14,643 NP CNS 7.5\%
 Nurse Practitioner 44.9\%



## Nurse Practitioners

Nurse practitioners (NPs) included all RNs prepared beyond basic nursing education in a NP program of at least three months. In March 2000, there were an estimated 88,186 NPs, an increase of 23,995 NPs from 1996. About 62 percent of NPs had completed a master degree program; 6.5 percent had attended post-RN certificate programs. An estimated 89 percent of NPs were employed in nursing, although not necessarily with the position title of nurse practitioner.

## Clinical Nurse Specialists

Clinical nurse specialists included those RNs who had formal clinical preparation resulting in a master's degree. The number of CNSs increased from 53,500 in 1996 to 54,374 in 2000 . However, this 1.6 percent increase does not take into account those CNSs with dual training as NPs.

About 86.9 percent of these CNSs were employed in nursing; however, only 24 percent were practicing with the position title of clinical nurse specialist. About 24.7 percent reported being in nursing education positions and the remaining CNSs reported a variety of position titles spanning multiple functional areas.

## Nurse Practitioner/Clinical Nurse Specialist

The number of RNs prepared as both NPs and CNSs increased nearly 88 percent from an estimated 7,802 in 1996 to 14,643 in March 2000. The 2000 survey data show that those prepared as both NPs and CNSs are more likely to function in the nurse practitioner role.

## Nurse Anesthetist

The third largest group of advanced practice nurses was the nurse anesthetists. The number of nurse anesthetist reported in March 2000 was 29,844 compared to 30,386 in 1996. In 2000, 85.7 percent of the nurse anesthetists were employed in nursing; 89.1 percent held the position title of nurse anesthetist and 93.2 percent held national certification.

## Nurse-Midwives

In March 2000, there were an estimated 9,232 RNs formally prepared as nurse-midwives compared to 6,534 in 1996. 85.7 percent of the nurse-midwives were employed in nursing in 2000 compared to 82 percent in 1996.

## Geographic Distribution of the Registered Nurse Population

In March 2000, the New England area of the country had the highest concentration of employed RNs in relation to the area's population, 1,075 employed nurses per 100,000 population. The West South Central area had one of the lowest concentrations, 650 RNs per 100,000 population. However, the Pacific area, with 596 employed RNs per 100,000 population, had a lower ratio than the West South Central. This ratio is lower than the 621 per 100,000 estimated for the 1996 study. In the West South Central area, the ratio of employed RNs per 100,000 nurses was 650 , slightly higher than the 642 per 100,000 in 1996.

Specific State data is provided in Tables A and B. Table A provides information on the registered nurse population in each State and area by activity status, March 2000. Table B provides information on the supply of registered nurses in each State and area according to whether employed on a full-time or parttime basis, March 2000.
Table A. Registered nurse population in each State and area by activity status: March 2000
Employed
nurses per
100,000
population*
782
N





 and area by activity status: March 2000

| State and area | Number in sample | Total | Employed in nursing Number Percent |  | $\begin{aligned} & \text { Not e } \\ & \text { in nurs } \\ & \text { Number } \end{aligned}$ | mployed <br> sing <br> Percent | Employed nurses per 100,000 population* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East North Central | 4,120 | 468,203 | 375,295 | 80.2 | 92,907 | 19.8 | 831 |
| Illinois | 1,169 | 126,166 | 101,660 | 80.6 | 24,507 | 19.4 | 819 |
| Indiana | 589 | 60,888 | 46,244 | 75.9 | 14,644 | 24.1 | 761 |
| Michigan | 669 | 100,769 | 79,353 | 78.7 | 21,417 | 21.3 | 798 |
| Ohio | 1,063 | 121,722 | 100,144 | 82.3 | 21,578 | 17.7 | 882 |
| Wisconsin | 630 | 58,658 | 47,895 | 81.7 | 10,763 | 18.3 | 893 |
| West North Central | 4,094 | 217,343 | 187,580 | 86.3 | 29,763 | 13.7 | 975 |
| Iowa | 620 | 35,089 | 31,020 | 88.4 | 4,069 | 11.6 | 1,060 |
| Kansas | 568 | 29,134 | 23,779 | 81.6 | 5,355 | 18.4 | 885 |
| Minnesota | 756 | 54,920 | 47,102 | 85.8 | 7,818 | 14.2 | 957 |
| Missouri | 601 | 62,403 | 53,730 | 86.1 | 8,673 | 13.9 | 960 |
| Nebraska | 477 | 18,550 | 16,399 | 88.4 | 2,151 | 11.6 | 958 |
| North Dakota | 579 | 7,661 | 7,039 | 91.9 | 622 | 8.1 | 1,096 |
| South Dakota | 493 | 9,587 | 8,511 | 88.8 | 1,075 | 11.2 | 1,128 |
| Mountain | 4,280 | 148,929 | 118,869 | 79.8 | 30,060 | 20.2 | 654 |
| Arizona | 594 | 42,658 | 32,222 | 75.5 | 10,435 | 24.5 | 628 |
| Colorado | 627 | 40,084 | 31,695 | 79.1 | 8,389 | 20.9 | 737 |
| Idaho | 504 | 10,069 | 8,230 | 81.7 | 1,839 | 18.3 | 636 |
| Montana | 532 | 9,299 | 7,327 | 78.8 | 1,973 | 21.2 | 812 |
| Nevada | 473 | 12,940 | 10,384 | 80.2 | 2,556 | 19.8 | 520 |
| New Mexico | 470 | 13,723 | 11,932 | 87.0 | 1,791 | 13.0 | 656 |
| Utah | 580 | 15,648 | 13,229 | 84.5 | 2,419 | 15.5 | 592 |
| Wyoming | 500 | 4,508 | 3,849 | 85.4 | 659 | 14.6 | 780 |
| Pacific | 4,627 | 327,620 | 268,363 | 81.9 | 59,257 | 18.1 | 596 |
| Alaska | 390 | 5,900 | 4,914 | 83.3 | 986 | 16.7 | 784 |
| California | 2,583 | 226,352 | 184,329 | 81.4 | 42,024 | 18.6 | 544 |
| Hawaii | 441 | 10,228 | 8,518 | 83.3 | 1,710 | 16.7 | 703 |
| Oregon | 528 | 30,369 | 27,121 | 89.3 | 3,249 | 10.7 | 793 |
| Washington | 685 | 54,771 | 43,482 | 79.4 | 11,289 | 20.6 | 738 |

[^0]Table B. Supply of registerd nurse in each state
 or part-time basis: March 2000

| State and area | Number <br> In sample | Total <br> Estimated |  | Employed full-time Estimated |  | Employed part-time Estimated |  | Estimated <br> Full-time <br> Equivalent* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number | Percent | Number | Percent | Number | Percent |  |
| United States | 29,394 | 2,201,813 | 100.0 | 1,576,675 | 71.6 | 625,139 | 28.4 | 1,889,244 |
| New England | 2,474 | 149,632 | 100.0 | 91,682 | 61.3 | 57,950 | 38.7 | 120,657 |
| Connecticut | 376 | 32,073 | 100.0 | 20,740 | 64.7 | 11,333 | 35.3 | 26,407 |
| Maine | 367 | 13,072 | 100.0 | 8,801 | 67.3 | 4,271 | 32.7 | 10,936 |
| Massachusetts | 704 | 75,795 | 100.0 | 43,973 | 58.0 | 31,822 | 42.0 | 59,884 |
| New Hampshire | 323 | 11,321 | 100.0 | 7,570 | 66.9 | 3,751 | 33.1 | 9,446 |
| Rhode Island | 334 | 11,542 | 100.0 | 7,236 | 62.7 | 4,306 | 37.3 | 9,389 |
| Vermont | 370 | 5,829 | 100.0 | 3,363 | 57.7 | 2,466 | 42.3 | 4,596 |
| Middle Atlantic | 3,214 | 351,286 | 100.0 | 244,558 | 69.6 | 106,728 | 30.4 | 297,922 |
| New Jersey | 730 | 67,280 | 100.0 | 46,456 | 69.0 | 20,824 | 31.0 | 56,868 |
| New York | 1,564 | 160,009 | 100.0 | 113,316 | 70.8 | 46,693 | 29.2 | 136,663 |
| Pennsylvania | 920 | 123,997 | 100.0 | 84,786 | 68.4 | 39,211 | 31.6 | 104,392 |
| South Atlantic | 4,911 | 407,728 | 100.0 | 315,095 | 77.3 | 92,634 | 22.7 | 361,411 |
| Delaware | 368 | 7,337 | 100.0 | 4,711 | 64.2 | 2,626 | 35.8 | 6,024 |
| District of Columbia | 214 | 9,583 | 100.0 | 8,171 | 85.3 | 1,413 | 14.7 | 8,877 |
| Florida | 898 | 125,439 | 100.0 | 100,032 | 79.7 | 25,407 | 20.3 | 112,735 |
| Georgia | 619 | 55,881 | 100.0 | 43,612 | 78.0 | 12,269 | 22.0 | 49,746 |
| Maryland | 627 | 45,323 | 100.0 | 31,259 | 69.0 | 14,065 | 31.0 | 38,291 |
| North Carolina | 730 | 69,057 | 100.0 | 55,798 | 80.8 | 13,259 | 19.2 | 62,427 |
| South Carolina | 528 | 29,226 | 100.0 | 22,528 | 77.1 | 6,699 | 22.9 | 25,877 |
| Virginia | 518 | 50,359 | 100.0 | 36,845 | 73.2 | 13,514 | 26.8 | 43,602 |
| West Virginia | 409 | 15,523 | 100.0 | 12,139 | 78.2 | 3,383 | 21.8 | 13,831 |
| East South Central | 1,777 | 138,692 | 100.0 | 110,230 | 79.5 | 28,462 | 20.5 | 124,461 |
| Alabama | 442 | 34,073 | 100.0 | 27,901 | 81.9 | 6,172 | 18.1 | 30,987 |
| Kentucky | 421 | 33,655 | 100.0 | 26,474 | 78.7 | 7,181 | 21.3 | 30,064 |
| Mississippi | 471 | 21,338 | 100.0 | 17,967 | 84.2 | 3,371 | 15.8 | 19,652 |
| Tennessee | 443 | 49,626 | 100.0 | 37,889 | 76.3 | 11,737 | 23.7 | 43,757 |
| West South Central | 2,753 | 204,367 | 100.0 | 170,821 | 83.6 | 33,546 | 16.4 | 187,594 |
| Arkansas | 385 | 18,752 | 100.0 | 15,543 | 82.9 | 3,208 | 17.1 | 17,147 |
| Louisiana | 397 | 37,275 | 100.0 | 31,745 | 85.2 | 5,530 | 14.8 | 34,510 |
| Oklahoma | 471 | 21,905 | 100.0 | 17,463 | 79.7 | 4,441 | 20.3 | 19,684 |
| Texas | 1,500 | 126,436 | 100.0 | 106,069 | 83.9 | 20,367 | 16.1 | 116,252 |

* Nurses working full-time plus one-half of working part-time


# U.S. DEPARTMENT OF <br> HEALTH \& HUMAN SERVICES 

Health Resources and Services Administration<br>Bureau of Health Professions<br>Division of Nursing<br>Rockville, MD 20857

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[^0]:    Population data were based on April 1, 2000 estimates of resident population of states from Census Bureau Press
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