

# THE U.S. HEALTH WORKFORCE CHARTBOOK

## PART I: CLINICIANS

**September 2018**

**U.S. Department of Health and Human Services  
Health Resources and Services Administration  
Bureau of Health Workforce  
National Center for Health Workforce Analysis**



*The U.S. Health Workforce Chartbook* is not copyrighted. Readers are free to duplicate and use all or part of the information contained in this publication.

Pursuant to 42 U.S.C. § 1320b-10, this publication may not be reproduced, reprinted, or redistributed for a fee without specific written authorization from the U.S. Department of Health and Human Services.

U.S. Department of Health and Human Services, Health Resources and Services Administration, The U.S. Health Workforce Chartbook. Rockville, Maryland: U.S. Department of Health and Human Services, 2018.



# Contents

Introduction.....	6
Data Sources .....	7
1.0 Physicians.....	10
2.0 Physician Assistants.....	13
3.0 Nurses .....	16
3.1 Registered Nurses .....	16
3.2 Advanced Practice Registered Nurse.....	19
3.2.1 Certified Registered Nurse Anesthetists .....	19
3.2.2 Nurse-Midwives and Nurse Practitioners .....	22
3.3 Licensed Practical and Licensed Vocational Nurses .....	25
4.0 Oral Health.....	29
4.1 Dentists .....	29
4.2 Dental Hygienists.....	32
4.3 Dental Assistants.....	35
5.0 Pharmacists .....	38

# Figures

Figure 1: Physicians per 100,000 Working-Age Population, by State.....	10
Figure 2: Number of Physicians, by State.....	11
Figure 3: Distribution of Physicians, by Work Setting .....	11
Figure 4: Distribution of Physicians, by Sex and Age.....	12
Figure 5: Distribution of Physicians, by Race/Ethnicity, Relative to the Working-Age Population .....	12
Figure 6: Physician Assistants per 100,000 Working-Age Population, by State.....	13
Figure 7: Number of Physician Assistants, by State .....	14
Figure 8: Distribution of Physician Assistants, by Work Setting .....	14
Figure 9: Distribution of Physician Assistants, by Sex and Age .....	15
Figure 10: Distribution of Physician Assistants, by Race/Ethnicity, Relative to the Working-Age Population .....	15
Figure 11: Registered Nurses per 100,000 Working-Age Population, by State .....	16
Figure 12: Number of Registered Nurses, by State.....	17
Figure 13: Distribution of Registered Nurses, by Work Setting .....	17
Figure 14: Distribution of Registered Nurses, by Sex and Age.....	18
Figure 15: Distribution of Registered Nurses, by Race/Ethnicity, Relative to the Working-Age Population .....	18
Figure 16: Nurse Anesthetists per 100,000 Working-Age Population, by State.....	19
Figure 17: Number of Nurse Anesthetists, by State.....	20

Figure 18: Distribution of Nurse Anesthetists, by Work Setting .....	20
Figure 19: Distribution of Nurse Anesthetists, by Sex and Age .....	21
Figure 20: Distribution of Nurse Anesthetists, by Race/Ethnicity, Relative to the Working-Age Population .....	21
Figure 21: Nurse-Midwives and NPs per 100,000 Working-Age Population, by State .....	22
Figure 22: Number of Nurse-Midwives and NPs, by State .....	23
Figure 23: Distribution of Nurse-Midwives and NPs, by Work Setting.....	23
Figure 24: Distribution of Nurse-Midwives and NPs, by Sex and Age.....	24
Figure 25: Distribution of Nurse-Midwives and NPs, by Race/Ethnicity, Relative to the Working-Age Population .....	24
Figure 26: LPNs per 100,000 Working-Age Population, by State .....	25
Figure 27: Number of LPNs, by State.....	26
Figure 28: Distribution of LPNs, by Work Setting .....	26
Figure 29: Distribution of LPNs, by Sex and Age .....	27
Figure 30: Distribution of LPNs, by Race/Ethnicity, Relative to the Working-Age Population .....	27
Figure 31: Dentists per 100,000 Working-Age Population, by State.....	29
Figure 32: Number of Dentists, by State.....	30
Figure 33: Distribution of Dentists, by Work Setting .....	30
Figure 34: Distribution of Dentists, by Sex and Age .....	31
Figure 35: Distribution of Dentists, by Race/Ethnicity, Relative to the Working-Age Population .....	31
Figure 36: Dental Hygienists per 100,000 Working-Age Population, by State .....	32
Figure 37: Number of Dental Hygienists, by State .....	33
Figure 38: Distribution of Dental Hygienists, by Work Setting .....	33
Figure 39: Distribution of Dental Hygienists, by Sex and Age .....	34
Figure 40: Distribution of Dental Hygienists, by Race/Ethnicity, Relative to the Working-Age Population .....	34
Figure 41: Dental Assistants per 100,000 Working-Age Population, by State.....	35
Figure 42: Number of Dental Assistants, by State .....	36
Figure 43: Distribution of Dental Assistants, by Work Setting .....	36
Figure 44: Distribution of Dental Assistants, by Sex and Age .....	37
Figure 45: Distribution of Dental Assistants, by Race/Ethnicity, Relative to the Working-Age Population .....	37
Figure 46: Pharmacists per 100,000 Working-Age Population, by State .....	38
Figure 47: Number of Pharmacists, by State .....	39
Figure 48: Distribution of Pharmacists, by Work Setting.....	39
Figure 49: Distribution of Pharmacists, by Sex and Age.....	40
Figure 50: Distribution of Pharmacists, by Race/Ethnicity, Relative to the Working-Age Population.....	40

## GENERAL LIST OF ACRONYMS

ACRONYM	DEFINITION
AAPA	American Academy of Physician Assistants
ACNM	American College of Nurse-Midwives
ACS	American Community Survey
APRN	Advanced Practice Registered Nurse
BHW	Bureau of Health Workforce
BLS	Bureau of Labor Statistics
BSN	Bachelor of Science in Nursing
CDC	Centers for Disease Control and Prevention
CMS	Centers for Medicare & Medicaid Services
CRNA	Certified Registered Nurse Anesthetist
EMT	Emergency Medical Technician
HHS	U.S. Department of Health and Human Services
HRSA	Health Resources and Services Administration
IPEDS	Integrated Postsecondary Education Data System
LPN	Licensed Practical and Licensed Vocational Nurse
NAICS	North American Industry Classification System
NCHWA	National Center for Health Workforce Analysis
NP	Nurse Practitioner
NPI	National Provider Identification
OT	Occupational therapy
PA	Physician Assistant
PA-C	Certified Physician Assistant
PUMS	Public Use Microdata Sample
RN	Registered Nurse
RSE	Relative standard error
SOC	Standard Occupational Classification

## Introduction

The Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS), provides national leadership in the development, distribution, and retention of a diverse, culturally competent health workforce that can adapt to the population's changing health care needs and provide the highest-quality care for all. The agency administers a wide range of training grants, scholarships, loans, and loan repayment programs that strengthen the health care workforce and respond to the evolving needs of the health care system.

The National Center for Health Workforce Analysis (the National Center) informs public and private sector decision-making on the U.S. health workforce by expanding and improving health workforce data and its dissemination to the public, and by improving and updating projections of supply and demand for health workers.

For more information about the National Center, please visit our website at <https://bhw.hrsa.gov/national-center-health-workforce-analysis>.

*The U.S. Health Workforce Chartbook* provides extensive data on 34 health occupations and is part of the Health Resources and Services Administration's (HRSA's) effort to assist states, policymakers, local workforce planners, researchers, and the public in understanding the U.S. health workforce. The Chartbook may also be used as a baseline to track changes in the health workforce. While this Chartbook includes extensive data on supply, including comparative data by state, it does not include data on demand and, as such, does not address the adequacy of the supply.

The purpose of this Chartbook is to provide an update to the HRSA 2013 Chartbook. The five-year 2011 to 2015 American Community Survey (ACS) Public Use Microdata Sample (PUMS) file was analyzed to provide the estimated number of individuals nation-wide within selected health occupations, along with information pertaining to workforce settings (industry), and the demographic makeup of the occupation (i.e., sex, age, race, and ethnicity).<sup>1</sup> The 2011 to 2015 ACS data file included more than 15 million individuals and these individuals represent approximately 10 percent of the nation's workforce.<sup>2</sup> The 34 health occupations included in this Chartbook are classified based on the U.S. government's 2010 Standard Occupational Classification (SOC) system. The occupations also represent those with the largest current employment and those that are expected to grow substantially in the future.

The vast majority of workers are employed in what the U.S. Office of Management and Budget defines as the "health sector," which includes health settings such as hospitals, clinics, physician's offices, and nursing homes. The health sector also includes many workers in occupations that are not considered health occupations. For example, workers such as accountants or food service workers employed in hospitals are working *in* the health sector, even

---

<sup>1</sup> HRSA Analysis of the U.S. Census Bureau, American Community Survey (ACS) Public Microdata Sample (PUMS), 2011-2015.

<sup>2</sup> HRSA Analysis of the U.S. Bureau of Labor Statistics (BLS), Employment Projections, 2014-2015. Note: The "workforce" is defined as individuals employed in the occupation and individuals whose last job was in the occupation and who are still seeking employment.

though they are not working in a health occupation. Individuals in health occupations may also work outside the health sector in settings such as local governments, schools, or insurance companies. The information provided in this Chartbook includes individuals in health occupations that are both within and outside the health sector.

For most occupations, the Chartbook relies on the U.S. Census Bureau's ACS to estimate the total number of individuals in each occupation, their geographic distribution, the settings in which they work, and their demographic characteristics. The ACS, which uses self-reported data, is the most comprehensive source available for the broad range of occupations included in this report.<sup>3</sup> This report also draws from the U.S. Department of Education's Integrated Postsecondary Education System (IPEDS) to include information on the number of graduates from educational programs leading to entry into specific occupations. No graduate data are presented for occupations in which formal educational requirements are completed in institutions not reporting to IPEDS or vary substantially by state.

Some health occupations are not included or fully represented in the Chartbook because of data limitations. Only occupations that have 2010 Standard Occupational Classification (SOC) codes are included in this Chartbook. The report also does not include other health occupations because of the small size of the occupation, such as epidemiologists and other public health-oriented disciplines like laboratory workers (laboratorians) and environmental health professionals. In addition, some occupations in the Chartbook are limited by ACS occupational groupings because of the methods by which the ACS collects and reports SOC data. For example, although the SOC has two separate groupings for "medical and clinical laboratory technologists" and "medical and clinical laboratory technicians," the ACS only reports on "medical and clinical laboratory technologists and technicians" as a single occupational grouping and does not report the two occupations separately. Finally, some health occupations in this Chartbook are not comparable to those reported in the 2013 Chartbook because the SOC codes changed. More detailed information is available in the *U.S. Health Workforce Chartbook: Technical Documentation* which can be found at <https://bhw.hrsa.gov/health-workforce-analysis/research>.

The Chartbook is divided into four main parts for ease of reporting. Part I comprises clinicians. Part II presents additional clinician categories and occupations concerned with health care administration duties. Part III discusses health-related technologists and technicians as well as aides and assistants. Part IV describes behavioral and allied health occupations.

## Data Sources

Data for this Chartbook come primarily from two federal agencies: the U.S. Census Bureau and the U.S. Department of Education.

***The U.S. Census Bureau's American Community Survey (ACS):*** The ACS, a household survey, provides detailed self-reported data including demographic information (e.g., age, race,

---

<sup>3</sup> Note: Self-reported data have limitations. Some individuals may report the occupation for which they are trained or licensed even when they are not currently working the majority of their time in the occupation. For example, a physician who is spending a majority of his/her time as an administrator may self-report as either a physician or an administrator. The ACS does not collect data on licensure or professional certification. See the Technical documentation for additional details on ACS reporting limitations.

and sex data) on individuals working in the health occupations and is the major source of data for this report.

***The U.S. Department of Education’s Integrated Postsecondary Education System (IPEDS):*** IPEDS data are used to measure the educational pipeline into the health occupations. IPEDS provides enrollment and graduation data on an annual basis for all institutions that receive or apply for federal funds. The number of graduates, by degree type, is presented for occupations for which there is a specific educational pathway into the occupation. No data are reported for those occupations without a distinct educational pathway.

Descriptions of the educational and training requirements for the various occupations have been obtained from the BLS, ***Occupational Outlook Handbook***, 2015 Edition.

Details on the data sources, definitions and analysis, and other information provided in the Chartbook are available in the *U.S. Health Workforce Chartbook: Technical Documentation*. Also, more detailed information on the work settings used in this report can be found on the U.S. Census Bureau website at [www.census.gov/eos/www/naics](http://www.census.gov/eos/www/naics).

The following table lists each of the selected occupations in Part I of *The U.S. Health Workforce Chartbook* along with the associated total workforce estimates from the ACS (unless noted otherwise).

## Part I: Clinicians

<u>Occupation</u>		<u>Total Workforce<sup>4</sup></u>
<b>1.0</b>	<b>Physicians</b>	961,098
<b>2.0</b>	<b>Physician Assistants</b>	125,771
<b>3.0</b>	<b>Nurses</b>	
3.1	Registered Nurses	3,067,256
3.2.1	Certified Registered Nurse Anesthetists	29,771
3.2.2	Nurse-Midwives and Nurse Practitioners	122,858
3.3	Licensed Practical and Licensed Vocational Nurses	852,420
<b>4.0</b>	<b>Oral Health</b>	
4.1	Dentists	182,012
4.2	Dental Hygienists	187,444
4.3	Dental Assistants	347,689
<b>5.0</b>	<b>Pharmacists</b>	316,183

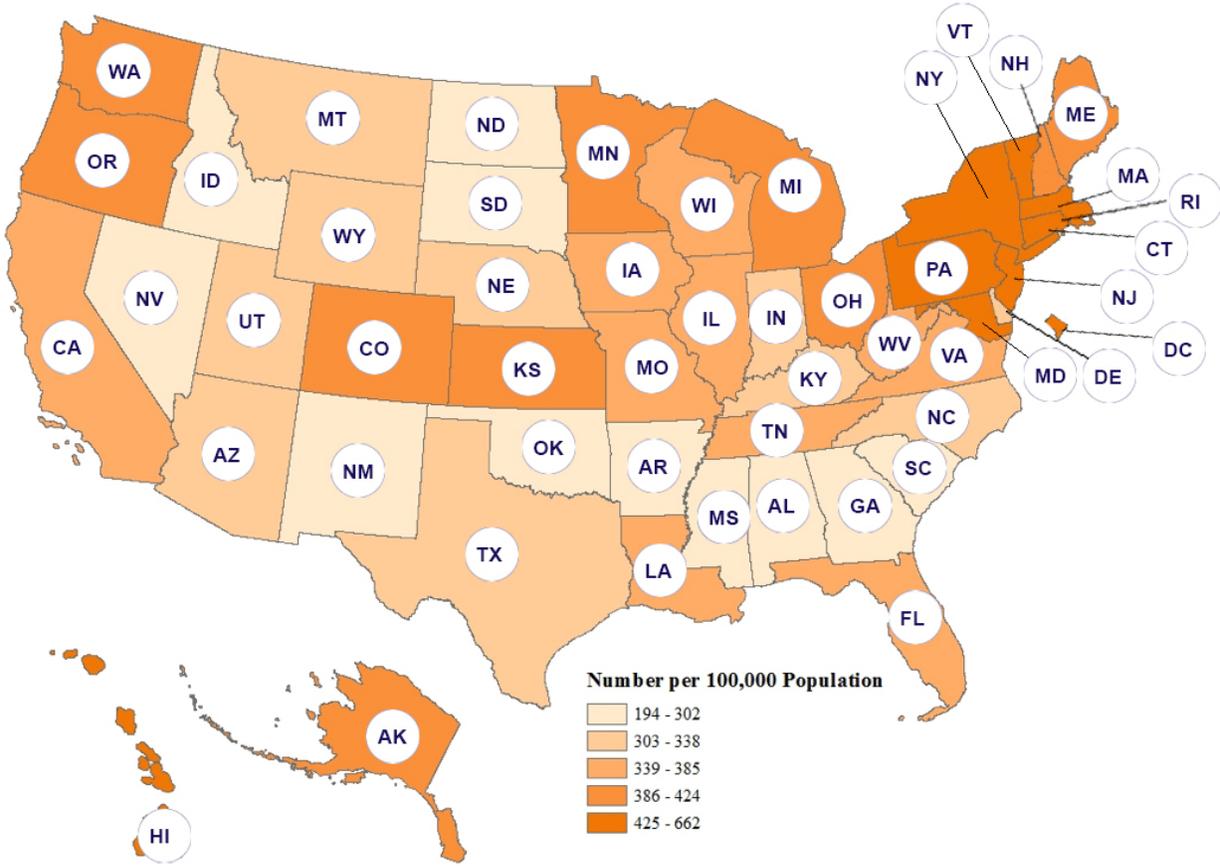
---

<sup>4</sup> Total Workforce from HRSA analysis of the ACS PUMS, 2011-2015.

# 1.0 Physicians

- An estimated 961,098 individuals in the U.S. workforce reported their occupation as physician.<sup>5</sup>
- To become a licensed physician, an individual must obtain an allopathic (medical) or osteopathic degree and complete additional graduate training (internship/residency) and meet certain additional requirements.<sup>6</sup>

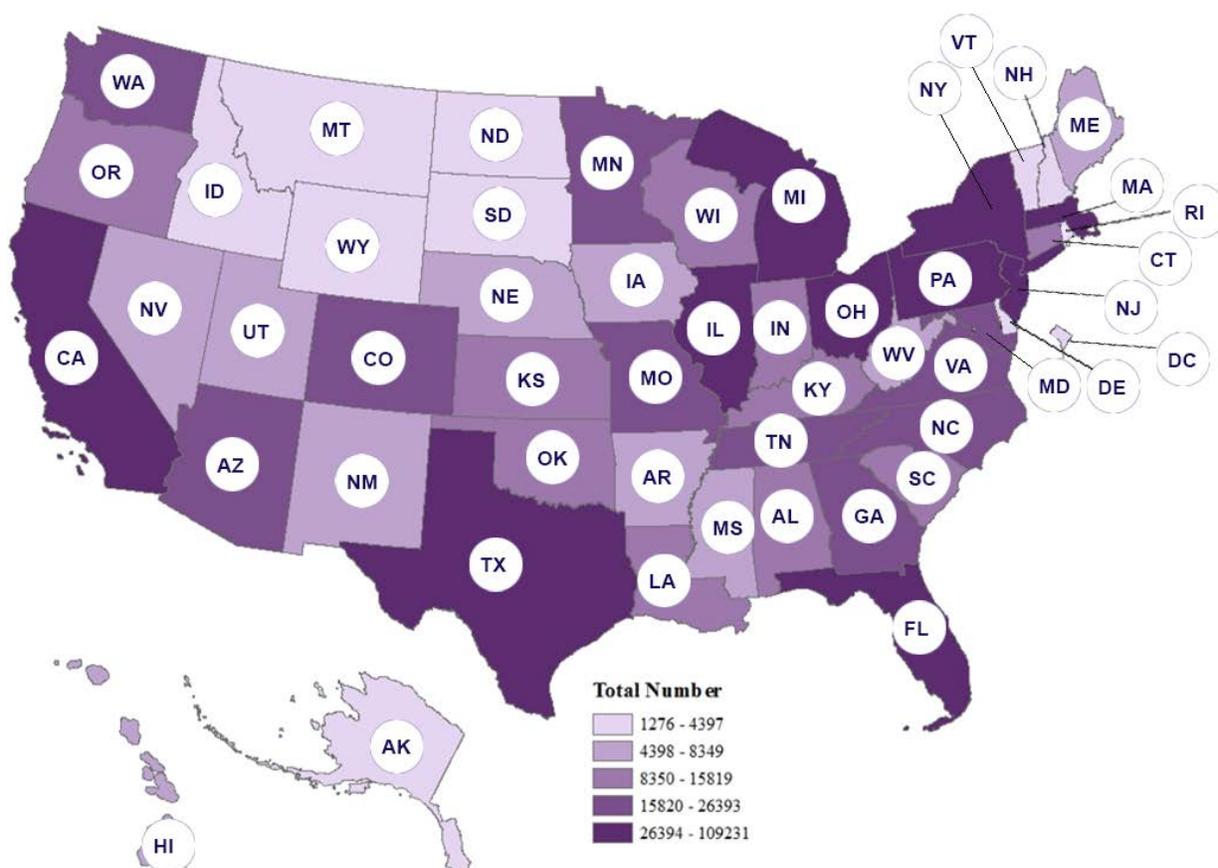
**FIGURE 1: PHYSICIANS PER 100,000 WORKING-AGE POPULATION, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

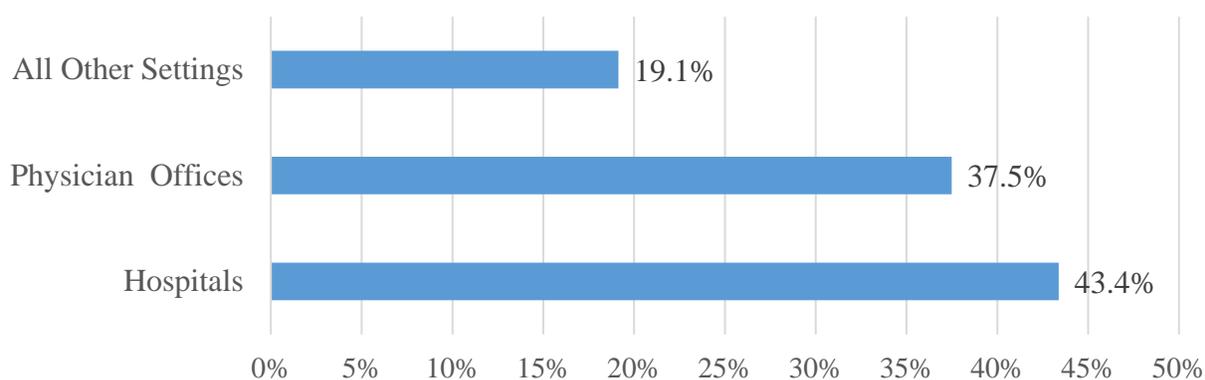
<sup>5</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The ACS estimate for physicians includes patient care physicians, those in residency training, and physicians not providing patient care a majority of the time.  
<sup>6</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

**FIGURE 2: NUMBER OF PHYSICIANS, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

**FIGURE 3: DISTRIBUTION OF PHYSICIANS, BY WORK SETTING<sup>7</sup>**

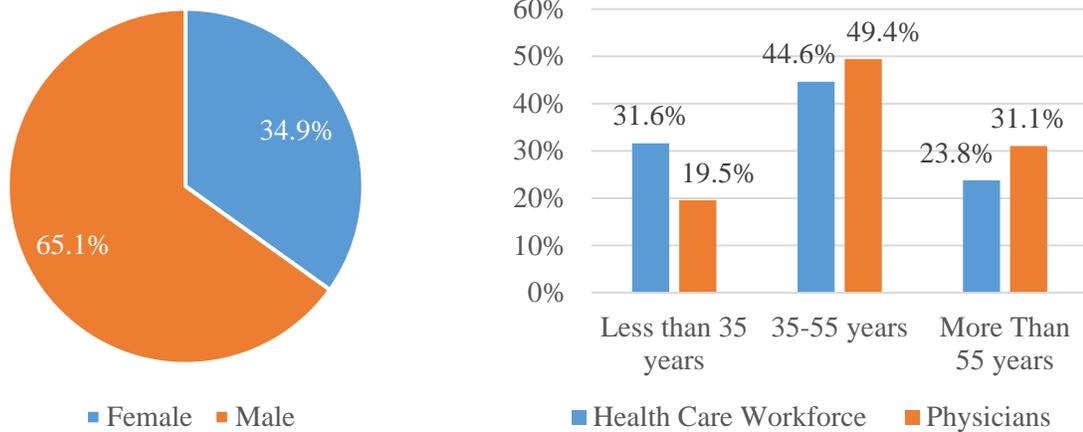


Data Source: HRSA analysis of the ACS PUM, 2011-2015.

Note: Percentages may not total 100, because of rounding.

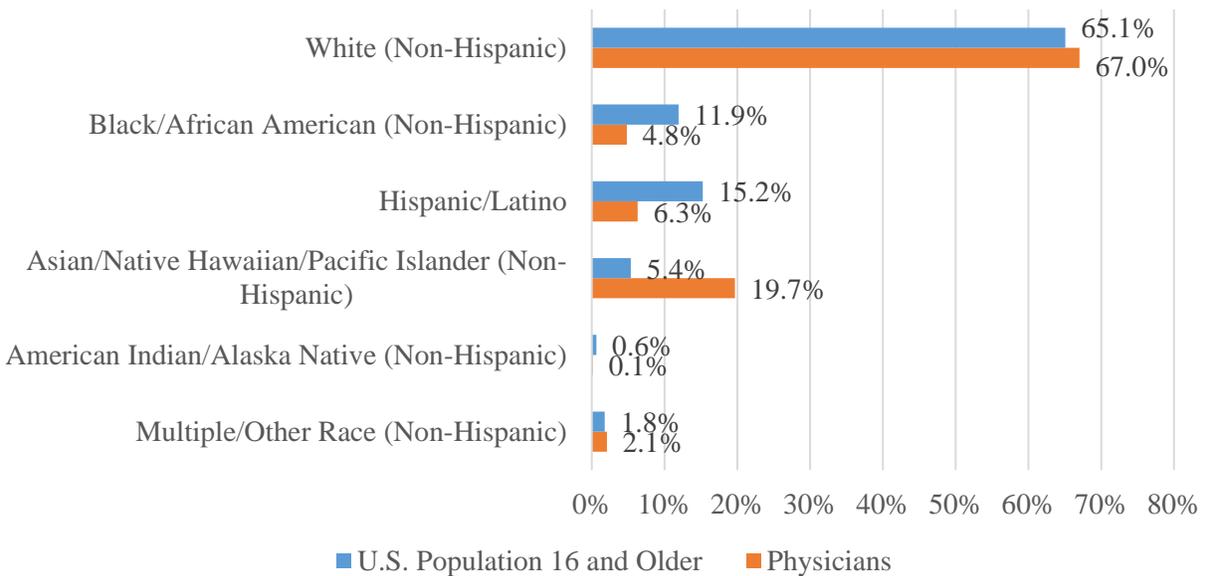
<sup>7</sup> Note: The ACS appears to overcount the number of physicians working in the hospital setting. The 2015 American Medical Association Physician Masterfile reports that around 25 percent of physicians practice at the hospital. This percentage includes hospital administration staff and residents. The discrepancy may reflect the fact that the ACS is self-reported and that the actual ACS questionnaire lists “hospital” as the first example of a work location (only one setting is coded per ACS respondent). Some physicians who see patients in the hospital and others who may be in hospital-affiliated service sites may have responded that they work in a hospital.

**FIGURE 4: DISTRIBUTION OF PHYSICIANS, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The “Health Care Workforce” in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 5: DISTRIBUTION OF PHYSICIANS, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: Percentages may not total 100, because of rounding.

### Graduates

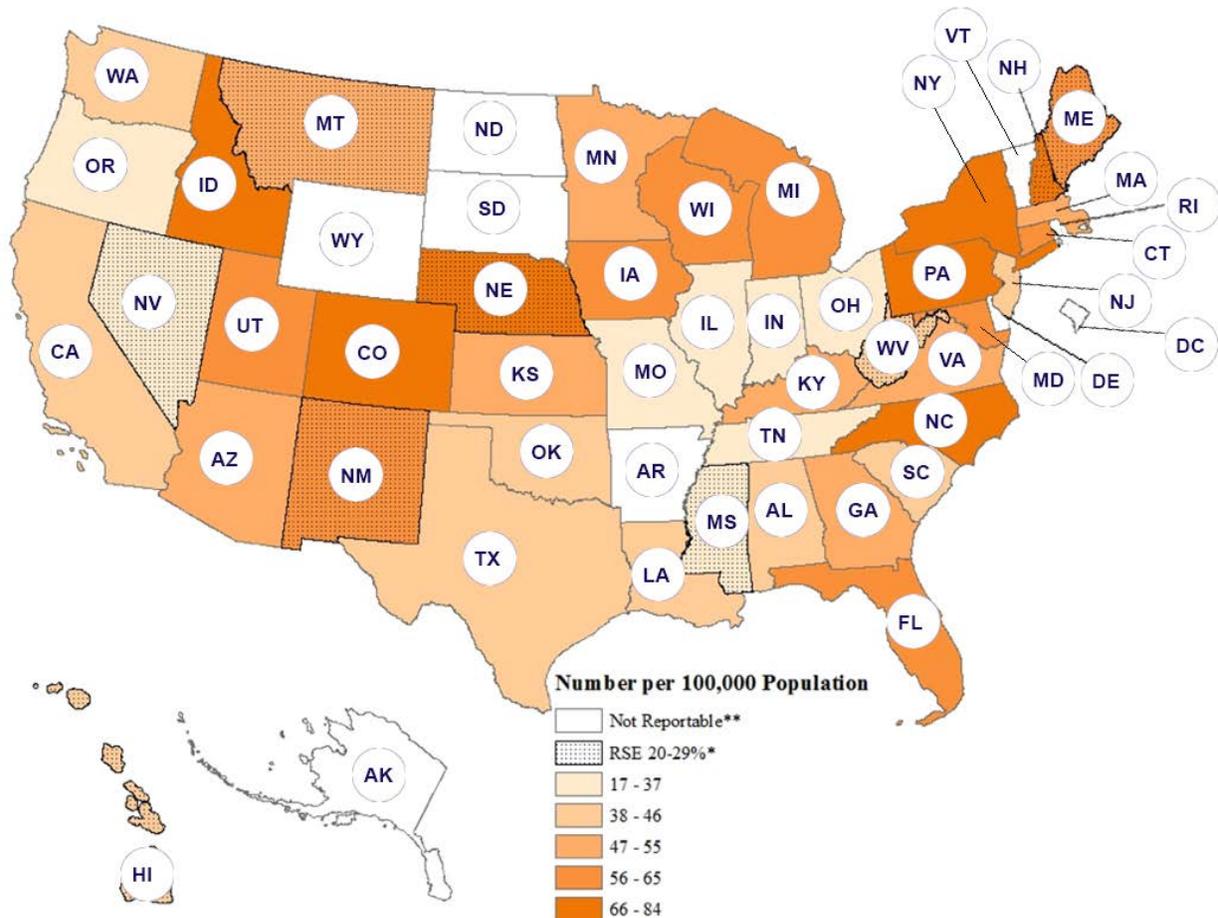
The total number of allopathic (medical) and osteopathic school graduates for the 2014 to 2015 academic year was 23,657.<sup>8</sup> These totals do not include graduates of foreign medical schools who enter the physician pipeline at the graduate medical education level, also known as residency training.

<sup>8</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

## 2.0 Physician Assistants

- An estimated 125,771 individuals in the U.S. workforce reported their occupation as physician assistant (PA).<sup>9</sup>
- To become a licensed PA, a master's degree from an accredited educational institution is typically required.<sup>10</sup>

**FIGURE 6: PHYSICIAN ASSISTANTS PER 100,000 WORKING-AGE POPULATION, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

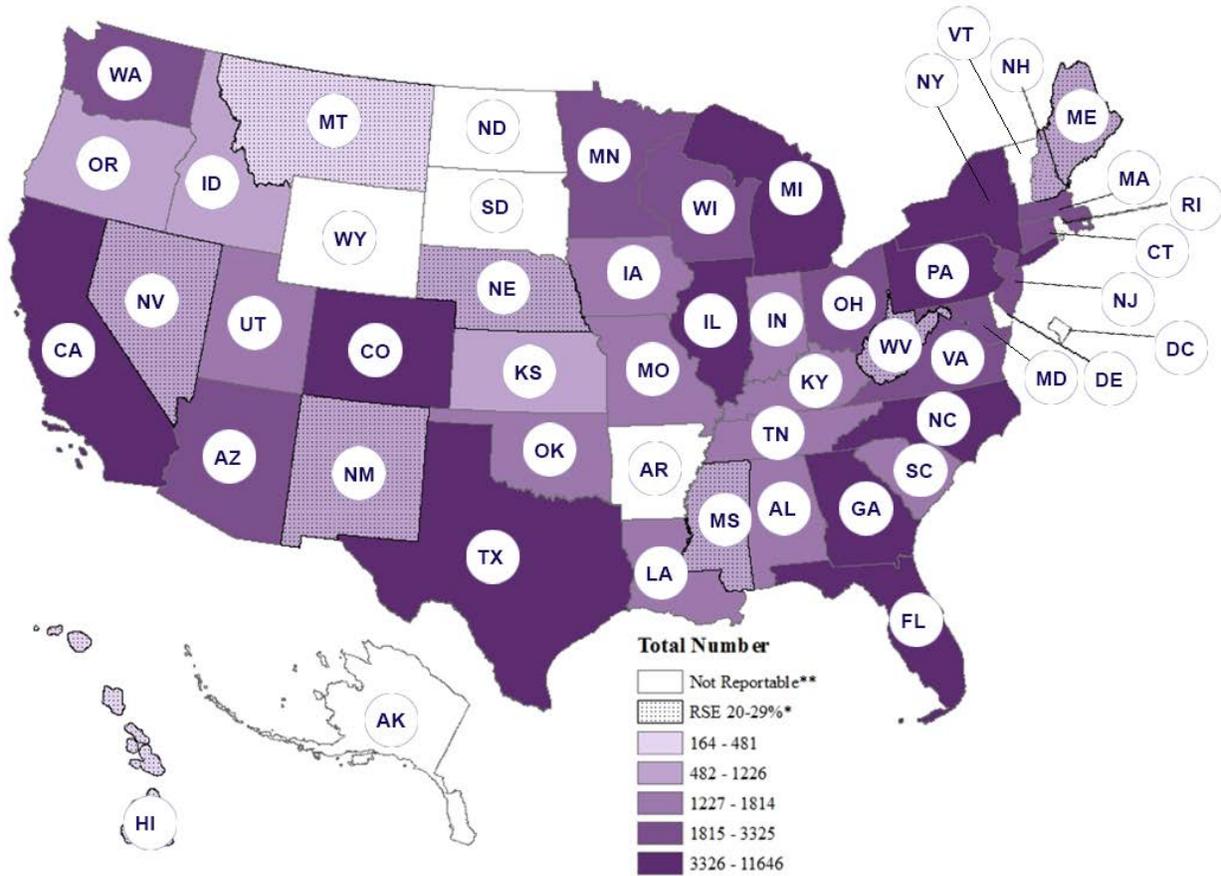
\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

<sup>9</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015.

Note: According to the American Academy of Physician Assistants (AAPA), there were approximately 93,098 PAs in clinical practice in 2013. Since the ACS relies on self-reported data, the difference in the ACS and AAPA estimates may reflect individual responses on the ACS from persons who may assist physicians, but are not certified physician assistants (PA-Cs).

<sup>10</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

**FIGURE 7: NUMBER OF PHYSICIAN ASSISTANTS, BY STATE**

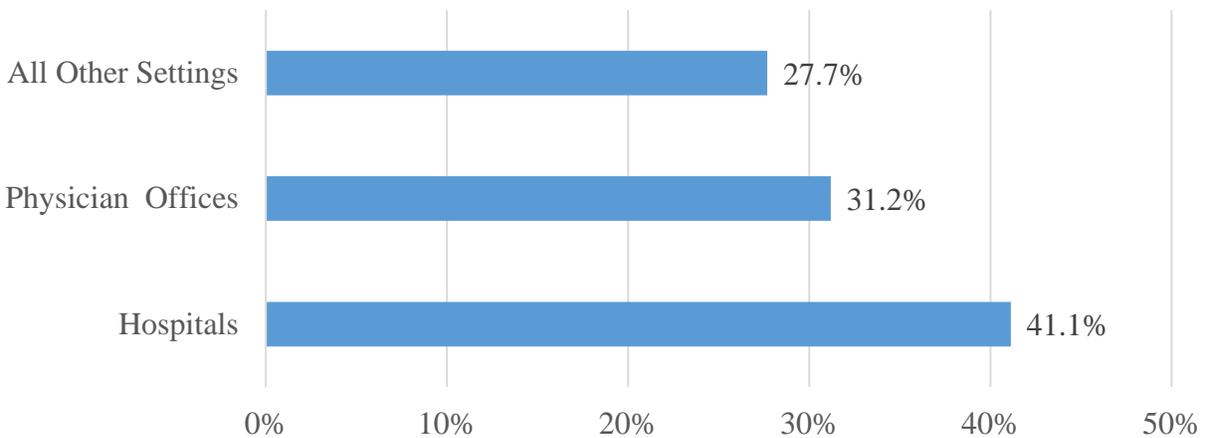


Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

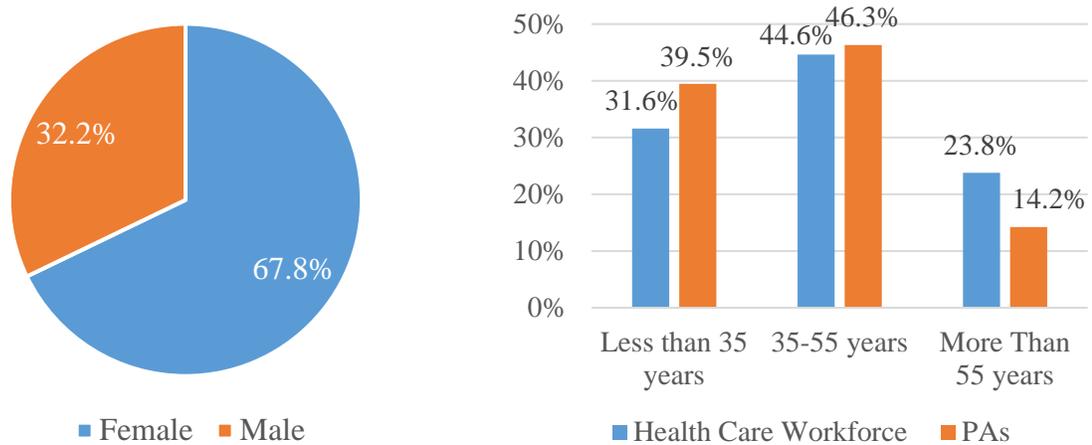
**FIGURE 8: DISTRIBUTION OF PHYSICIAN ASSISTANTS, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

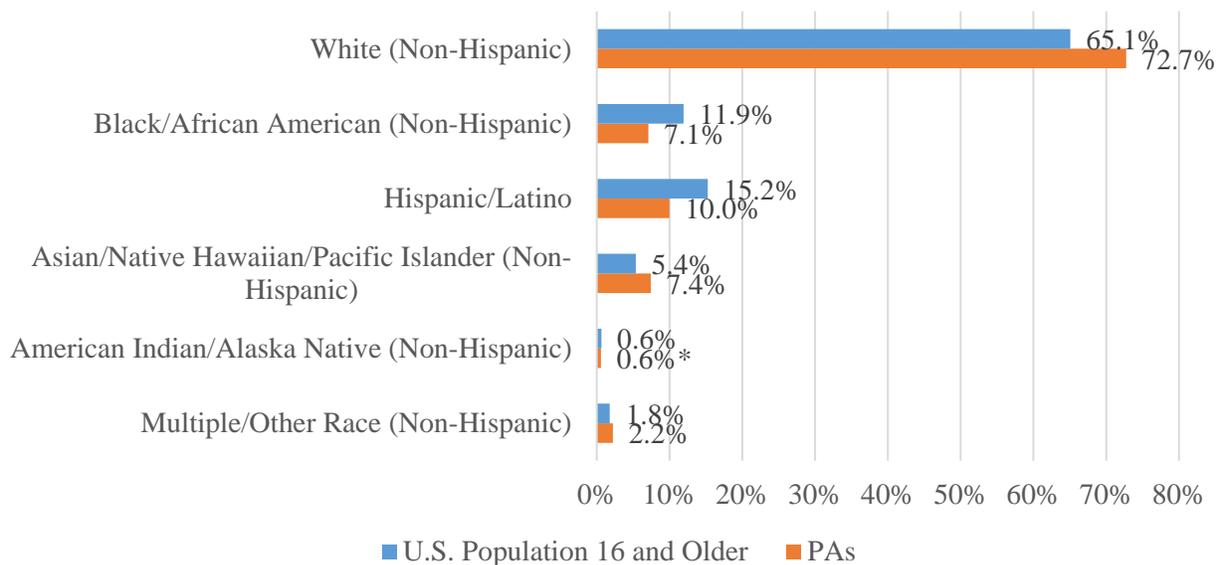
Note: Percentages may not total 100, because of rounding.

**FIGURE 9: DISTRIBUTION OF PHYSICIAN ASSISTANTS, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The "Health Care Workforce" in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 10: DISTRIBUTION OF PHYSICIAN ASSISTANTS, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: Percentages may not total 100, because of rounding.  
 \*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

## Graduates

The total number of post-secondary PA graduates in the 2014 to 2015 academic year was 8,106.<sup>11</sup>

<sup>11</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

## 3.0 Nurses

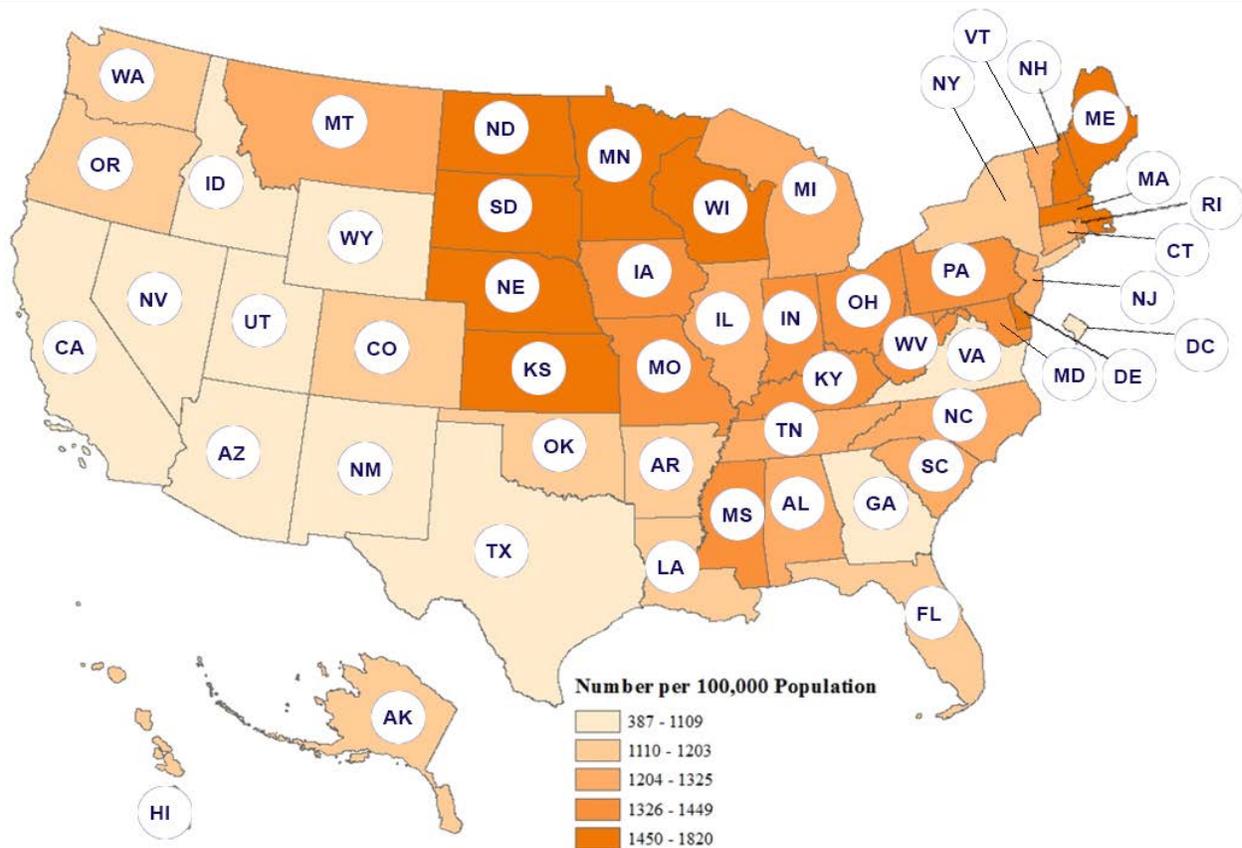
Nursing occupations described in this section include:

- 3.1 Registered Nurses;
- 3.2 Advanced Practice Registered Nurses, including:
  - 3.2.1 Certified Registered Nurse Anesthetists
  - 3.2.2 Certified Nurse-Midwives, and Nurse Practitioners; and
- 3.3 Licensed Practical and Licensed Vocational Nurses.

### 3.1 Registered Nurses

- An estimated 3,067,256 individuals in the U.S. workforce reported their occupations as registered nurse (RN).<sup>12</sup>
- To become an RN, an individual must obtain a Bachelor's or Associate's degree and licensure.<sup>13</sup>

**FIGURE 11: REGISTERED NURSES PER 100,000 WORKING-AGE POPULATION, BY STATE**



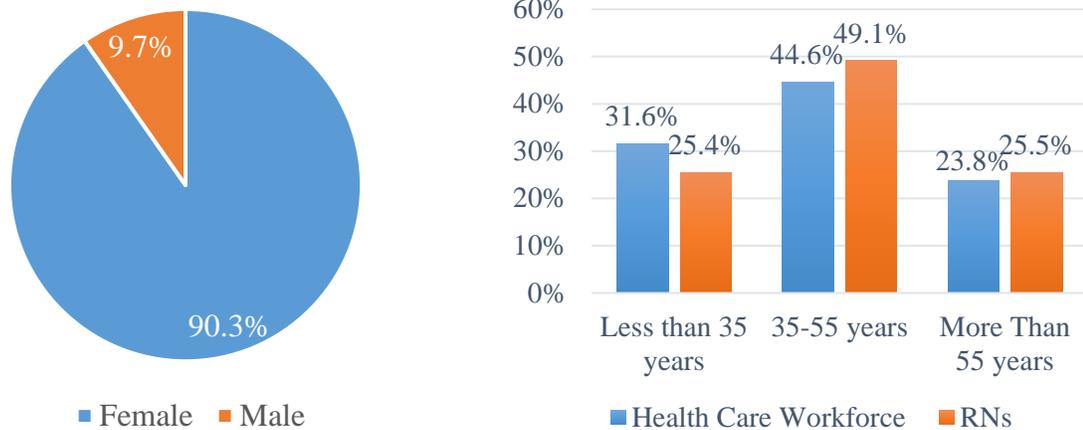
Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

<sup>12</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015. RNs who have an associate's, a bachelor's, or a graduate degree are counted.

<sup>13</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.



**FIGURE 14: DISTRIBUTION OF REGISTERED NURSES, BY SEX AND AGE**

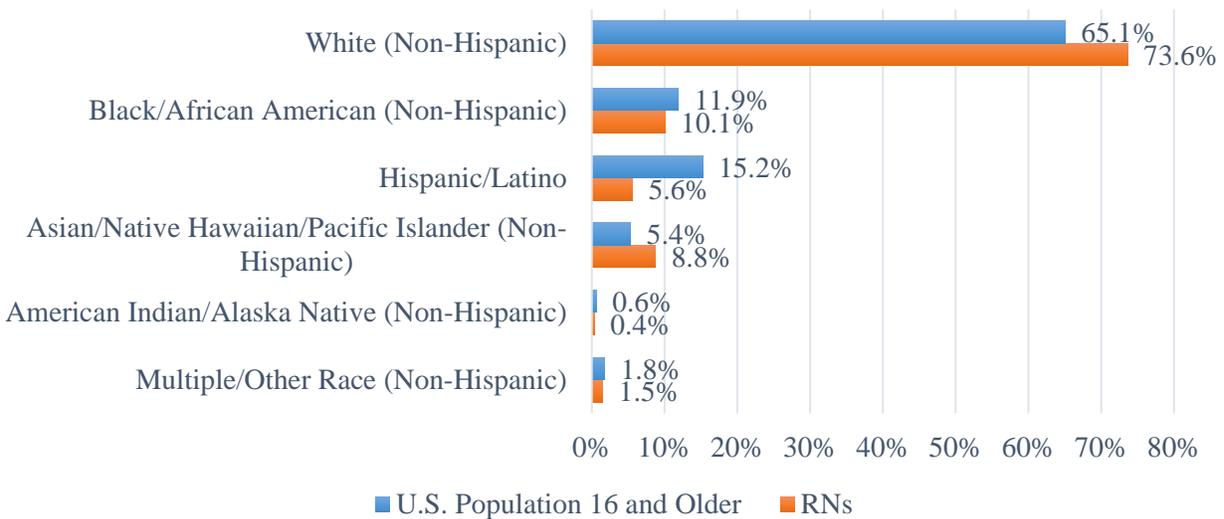


Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

Note: The "Health Care Workforce" in this figure refers to the health occupations in this report.

Note: Percentages may not total 100, because of rounding.

**FIGURE 15: DISTRIBUTION OF REGISTERED NURSES, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

Note: Percentages may not total 100, because of rounding.

## Graduates

The total number of post-secondary RN graduates in the 2014-2015 academic year was 223,369.<sup>14</sup>

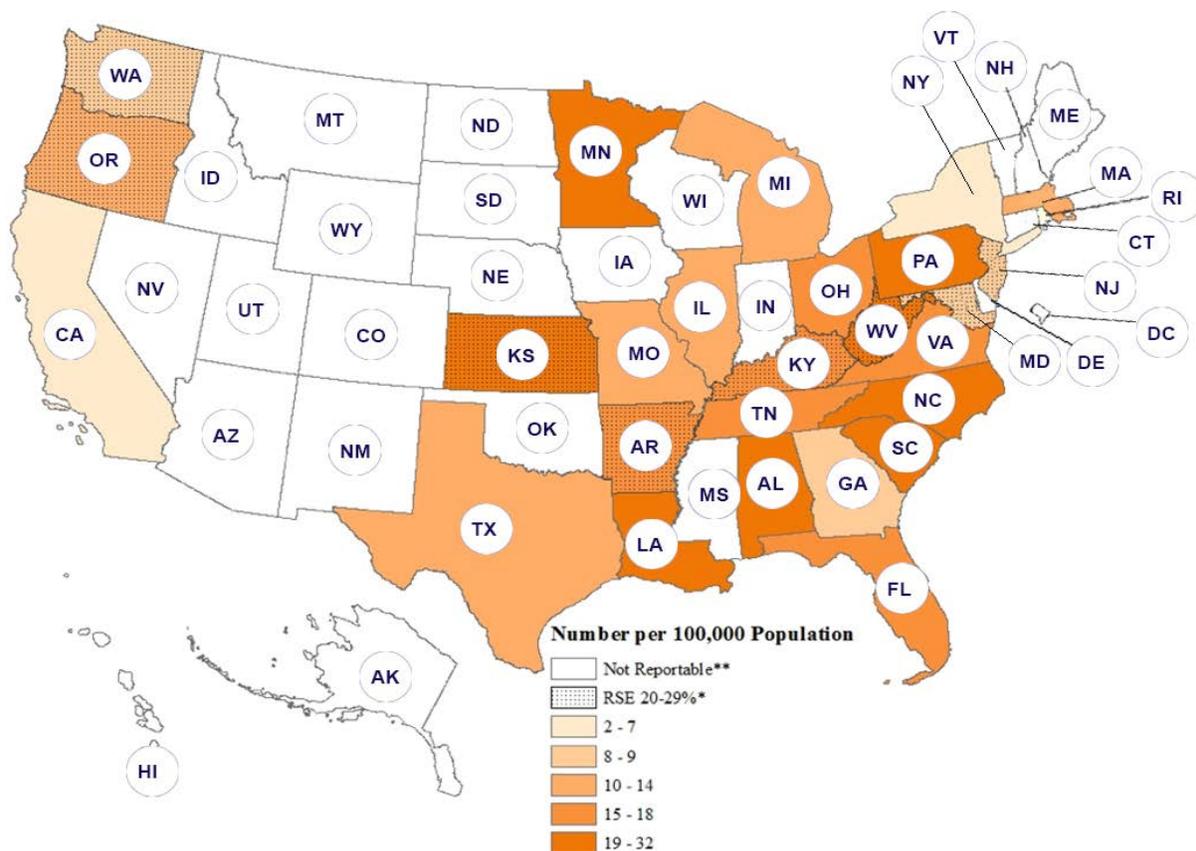
<sup>14</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

## 3.2 Advanced Practice Registered Nurse

### 3.2.1 Certified Registered Nurse Anesthetists

- An estimated 29,771 individuals in the U.S. workforce reported their occupation as Certified Registered Nurse Anesthetist.<sup>15</sup>
- To become a Certified Registered Nurse Anesthetist, an individual must obtain a Master's or Doctoral degree in this Advanced Practice Nursing occupation and obtain licensure.<sup>16</sup>

**FIGURE 16: NURSE ANESTHETISTS PER 100,000 WORKING-AGE POPULATION, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015

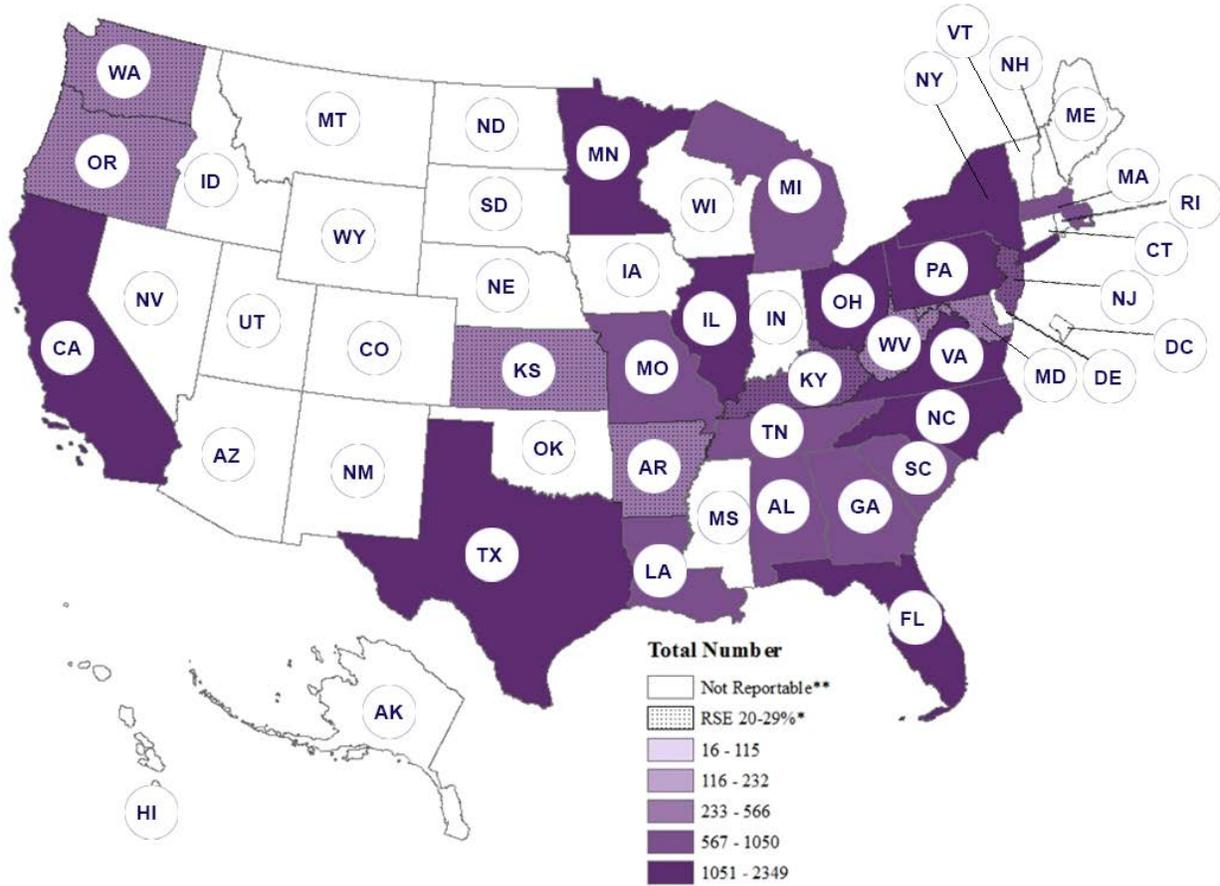
\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

<sup>15</sup> Data Source: ACS PUMS, 2011-2015

<sup>16</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

**FIGURE 17: NUMBER OF NURSE ANESTHETISTS, BY STATE**

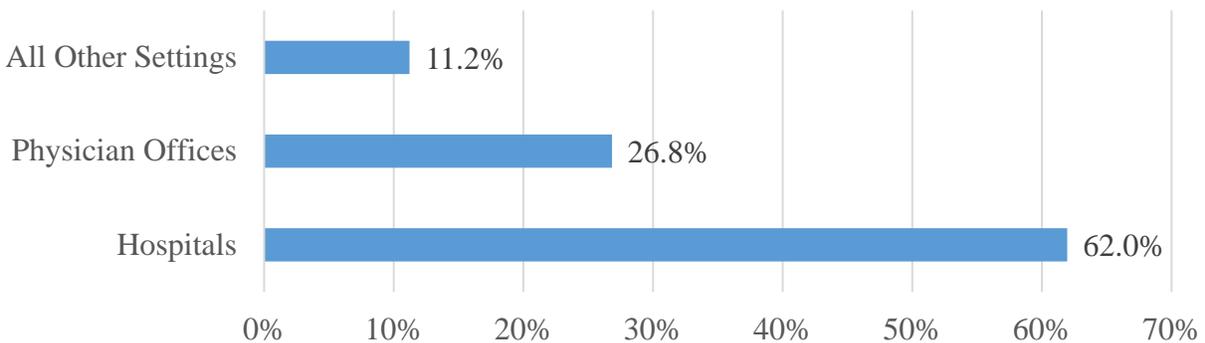


Data Source: HRSA analysis of ACS PUMS, 2011-2015

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

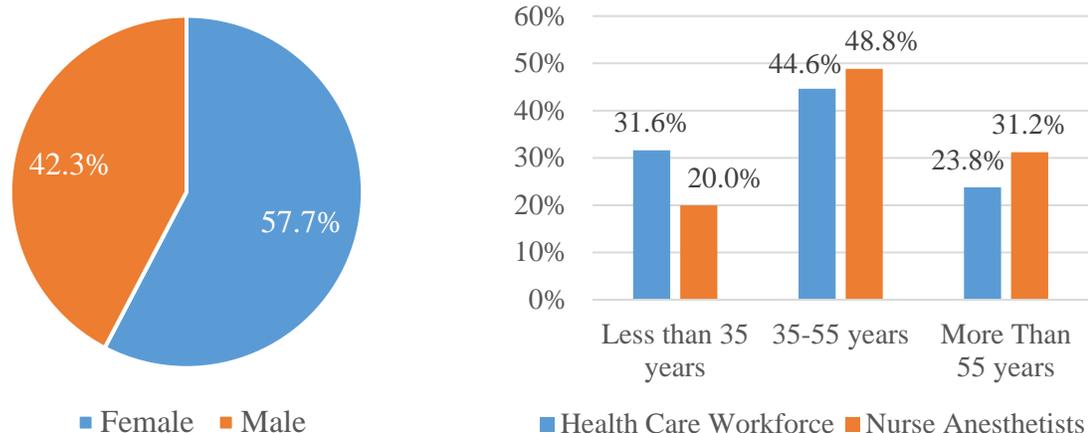
**FIGURE 18: DISTRIBUTION OF NURSE ANESTHETISTS, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

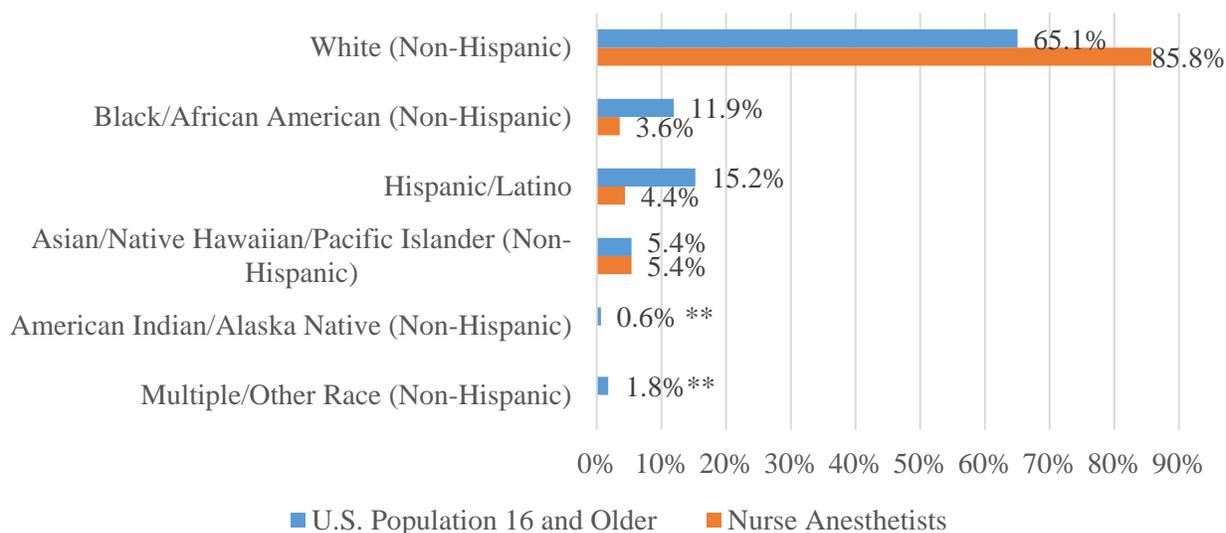
Note: Percentages may not total 100, because of rounding.

**FIGURE 19: DISTRIBUTION OF NURSE ANESTHETISTS, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The “Health Care Workforce” in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 20: DISTRIBUTION OF NURSE ANESTHETISTS, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: Percentages may not total 100, because of rounding.  
 \*\*RSE ≥ 30%; estimate does not meet standards of reliability.

## Graduates

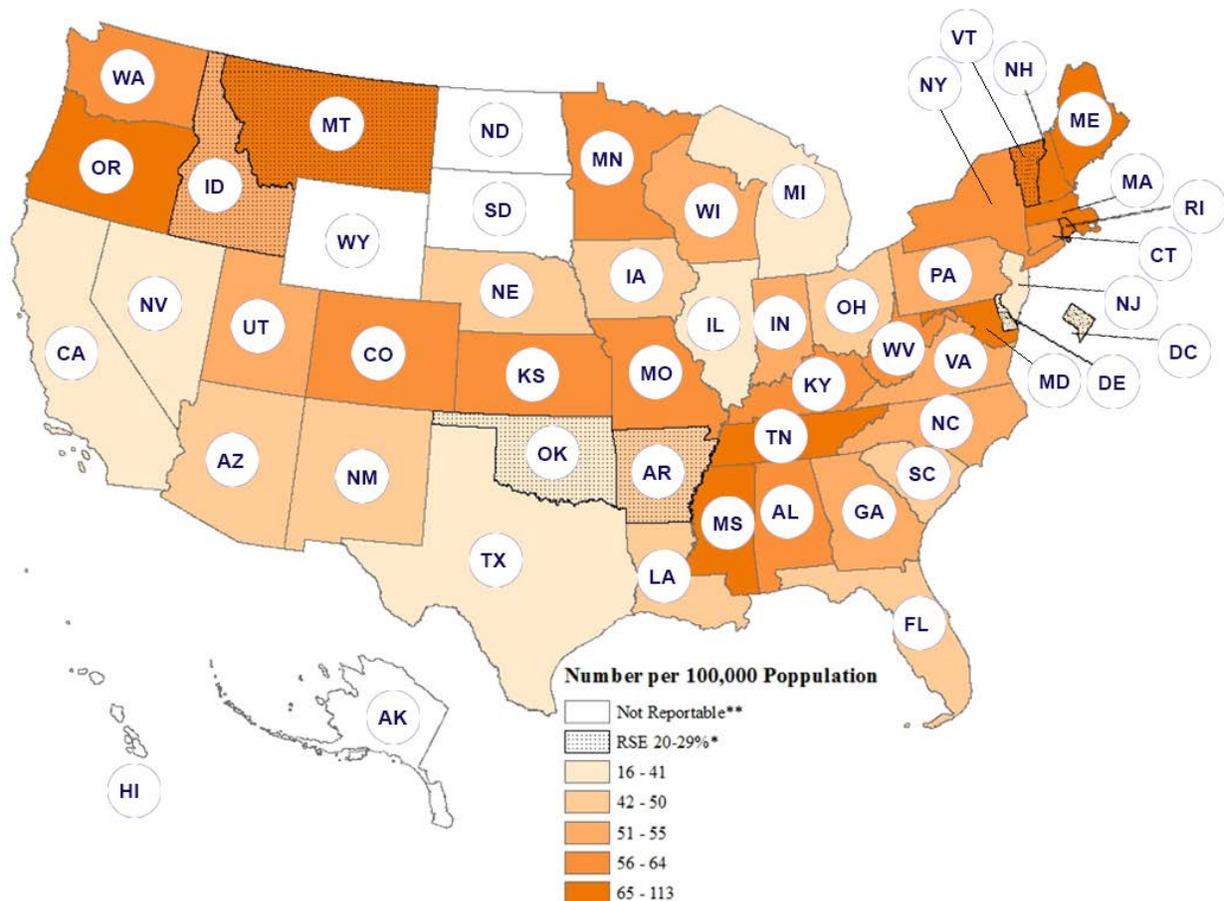
The total number of Certified Registered Nurse Anesthetist (CRNA) graduates in the 2014-2015 academic year was 1,819.<sup>17</sup>

<sup>17</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

### 3.2.2 Nurse-Midwives and Nurse Practitioners

- An estimated 122,858 individuals in the U.S. workforce reported their occupation as Certified Nurse-Midwife or Nurse Practitioner.<sup>18</sup>
- To become a Certified Nurse-Midwife or Nurse Practitioner, an individual must obtain a Master's or Doctoral degree in the respective Advanced Practice Nursing occupation and obtain licensure.<sup>19</sup>

**FIGURE 21: NURSE-MIDWIVES AND NPs PER 100,000 WORKING-AGE POPULATION, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

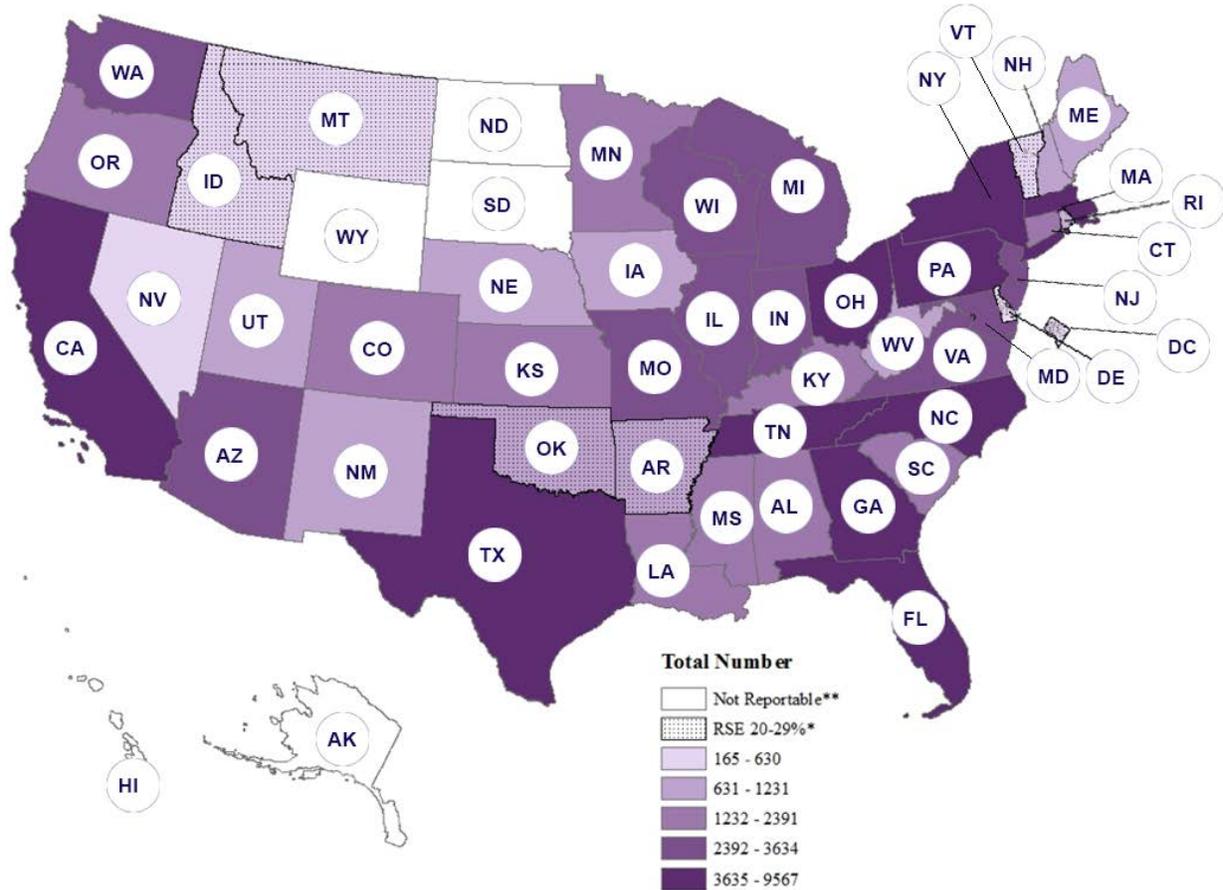
\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

<sup>18</sup> Data Source: ACS PUMS, 2011-2015. Note: 2011-2015 ACS PUMS provides a combined SOC (29-11XX) for nurse-midwives and nurse practitioners.

<sup>19</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

**FIGURE 22: NUMBER OF NURSE-MIDWIVES AND NPs, BY STATE**

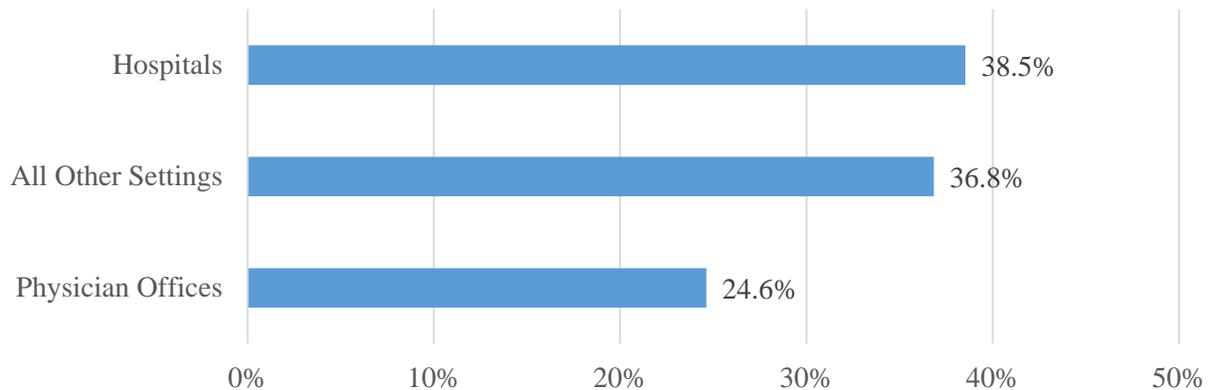


Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

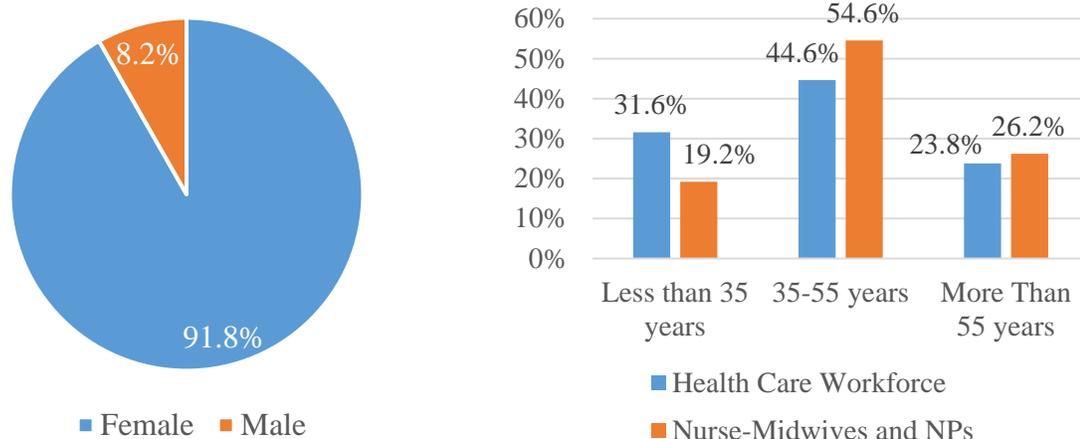
**FIGURE 23: DISTRIBUTION OF NURSE-MIDWIVES AND NPs, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

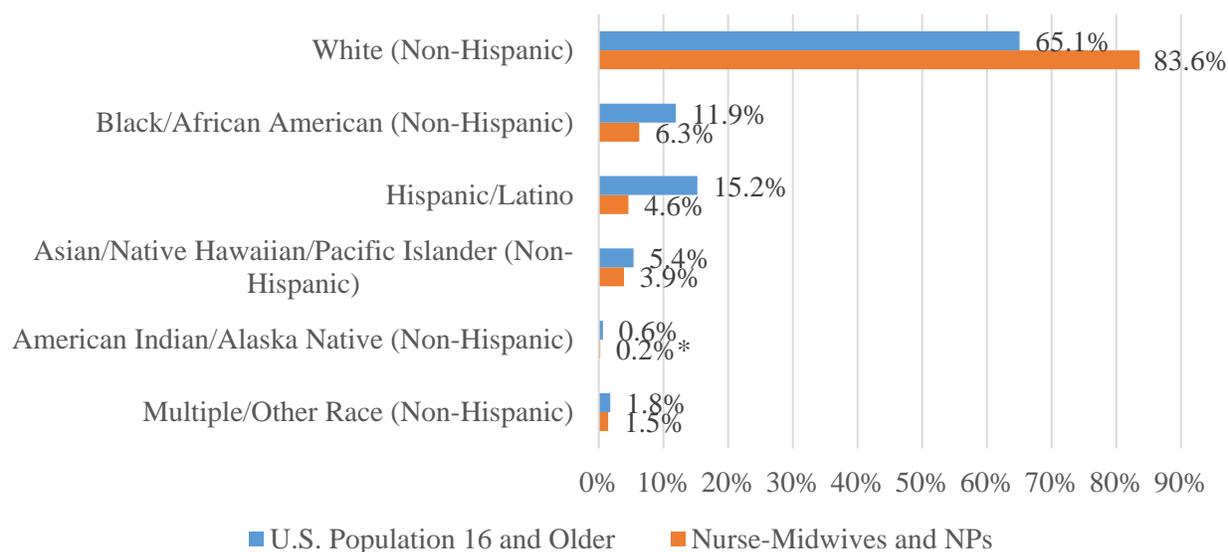
Note: Percentages may not total 100, because of rounding.

**FIGURE 24: DISTRIBUTION OF NURSE-MIDWIVES AND NPs, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The “Health Care Workforce” in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 25: DISTRIBUTION OF NURSE-MIDWIVES AND NPs, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015. Note: Percentages may not total 100, because of rounding.  
 \*Note: Estimates with an RSE = 20% - 29% should be considered with caution because of large sampling error.

## Graduates

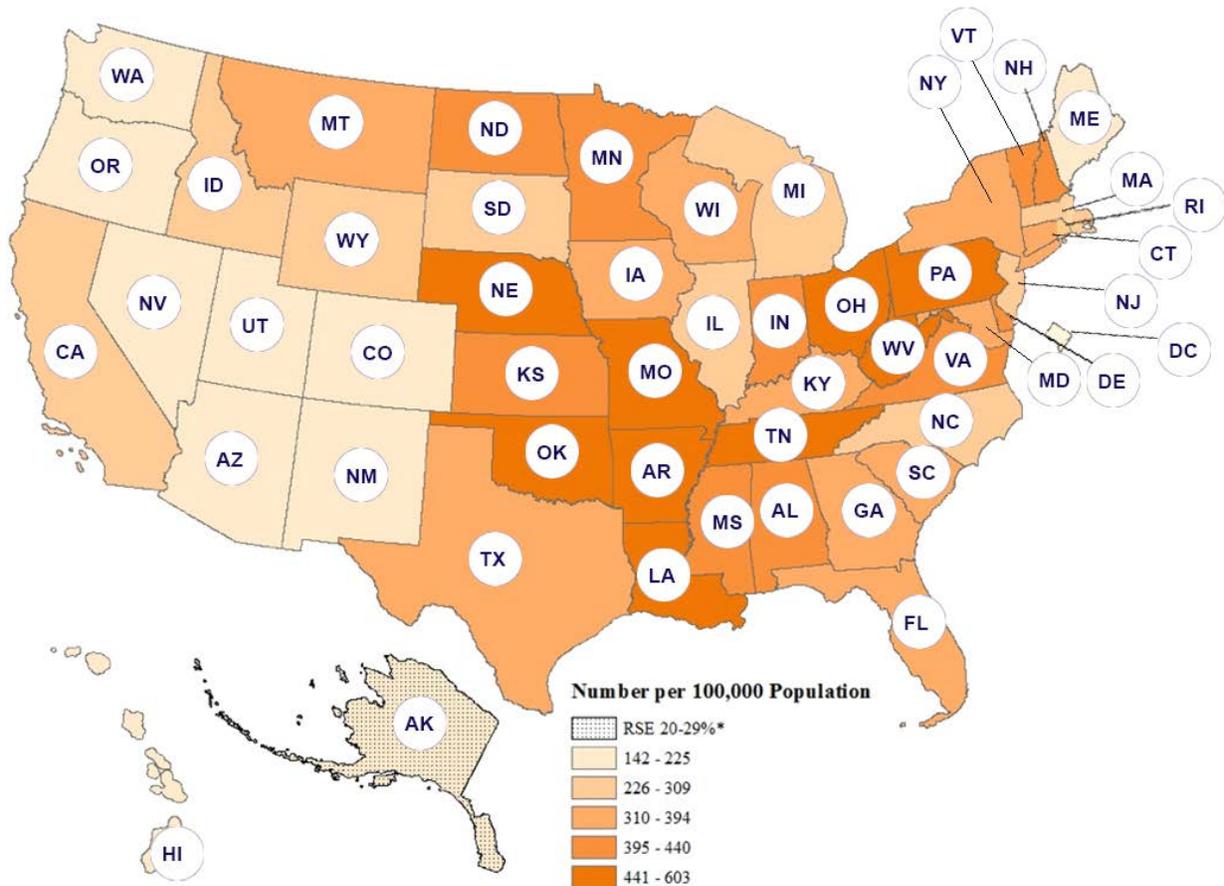
The total number of CNM and NP graduates in the 2014-2015 academic year was 15,933 (326 CNMs and 15,607 NPs).<sup>20</sup>

<sup>20</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

### 3.3 Licensed Practical and Licensed Vocational Nurses

- An estimated 852,420 individuals in the U.S. workforce reported their occupation as Licensed Practical Nurse (LPN) and Licensed Vocational Nurse (LVN).<sup>21</sup>
- To become a Licensed Practical Nurse or Licensed Vocational Nurse, an individual must complete a state-approved, post-secondary educational program and obtain licensure.<sup>22</sup>

**FIGURE 26: LPNs/LVNs PER 100,000 WORKING-AGE POPULATION, BY STATE**



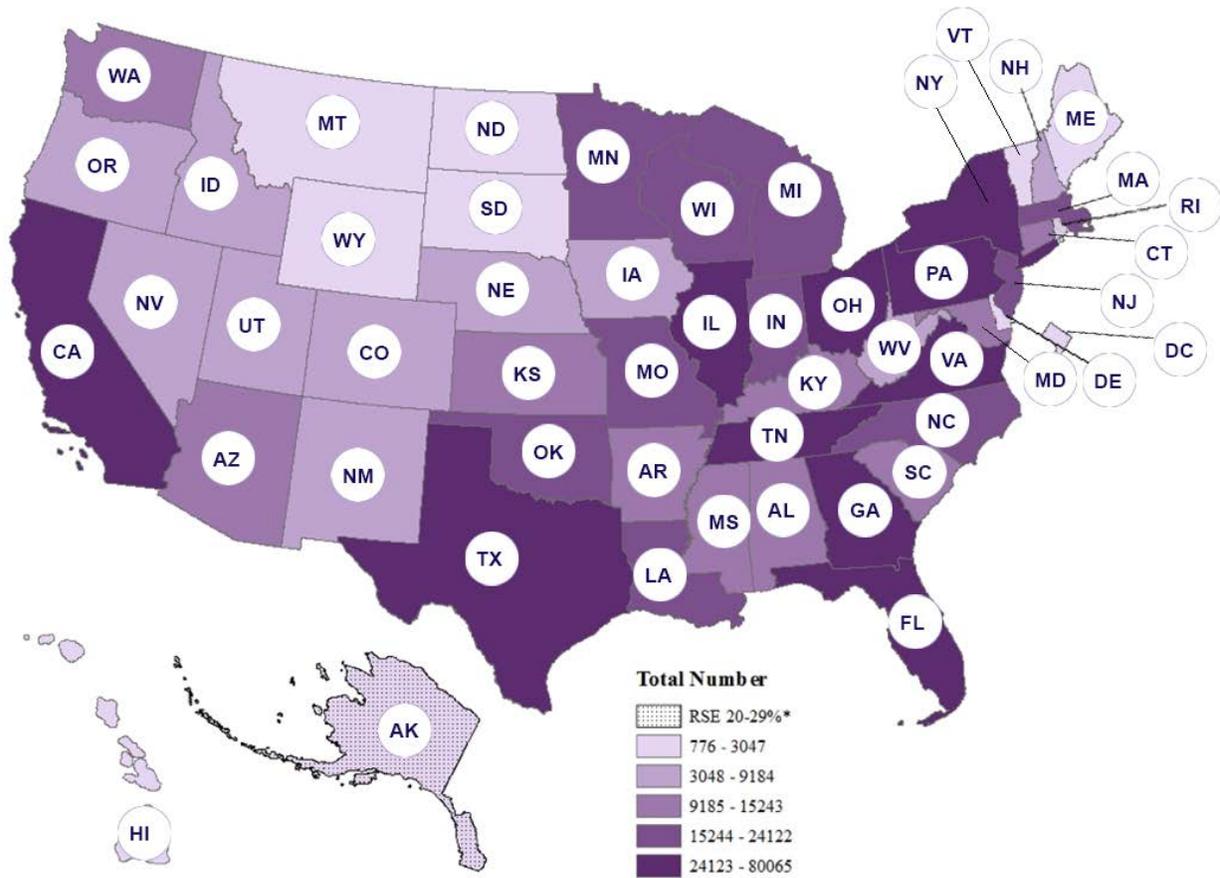
Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be used with caution because of large sampling error.

<sup>21</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015.

<sup>22</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

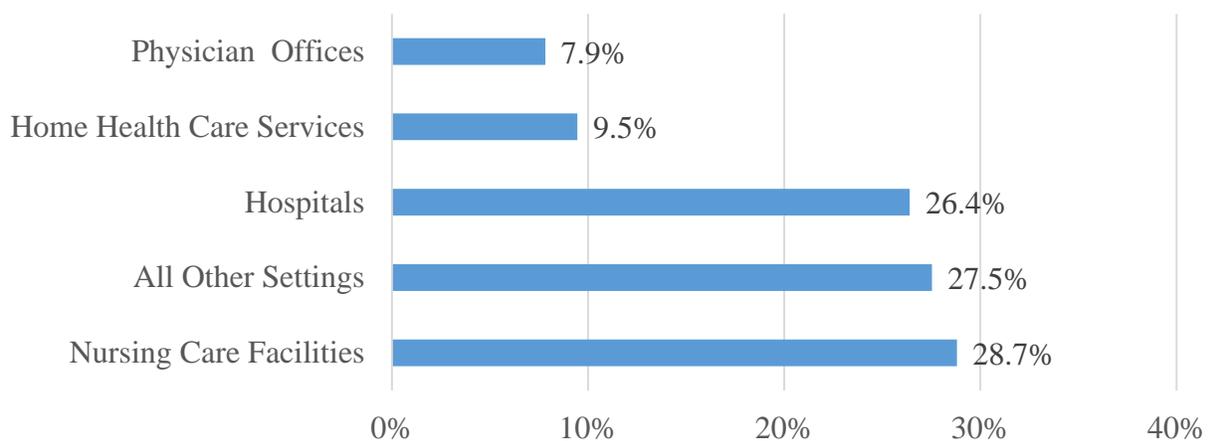
**FIGURE 27: NUMBER OF LPNs/LVNs, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

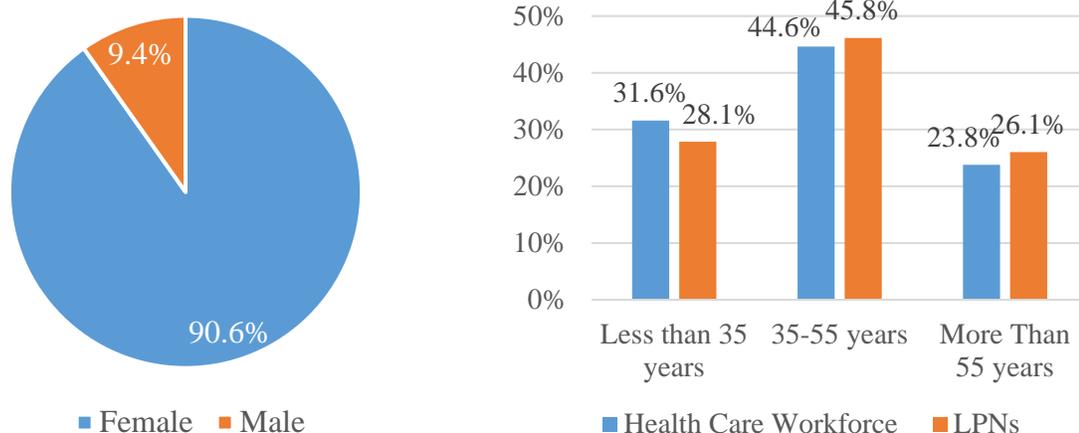
**FIGURE 28: DISTRIBUTION OF LPNs/LVNs, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

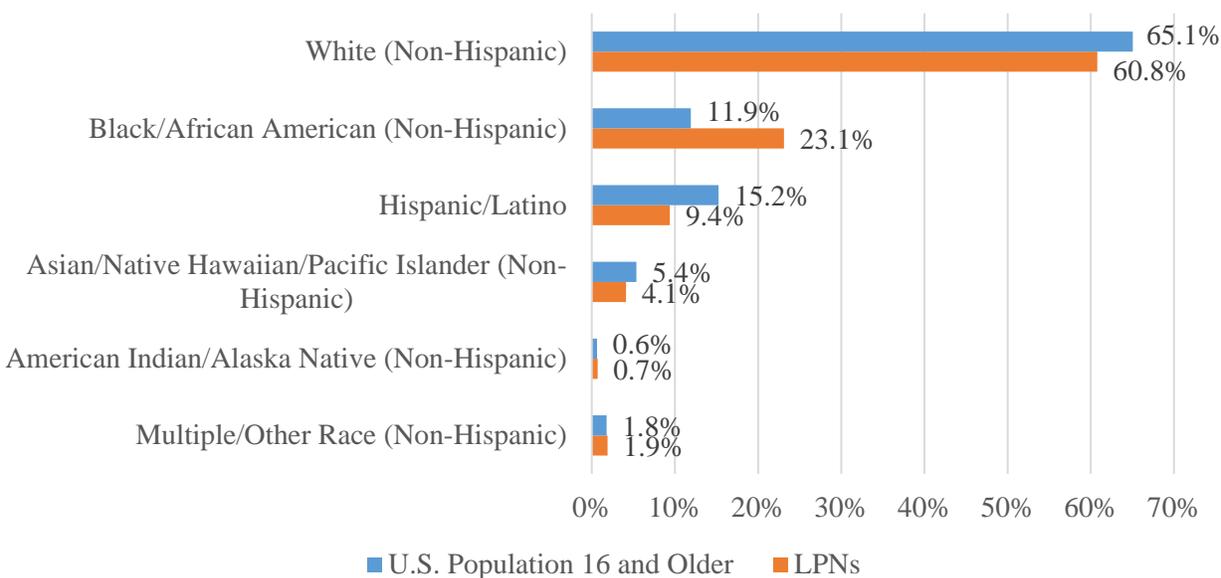
Note: Percentages may not total 100, because of rounding.

**FIGURE 29: DISTRIBUTION OF LPNs/LVNs, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The “Health Care Workforce” in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 30: DISTRIBUTION OF LPNs/LVNs, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: Percentages may not total 100, because of rounding.

## Graduates

The total number of post-secondary LPN/LVN graduates at the respective levels in the 2014 to 2015 academic year was 49,152.<sup>23</sup> It is important to note that LPNs/LVNs may also be educated outside of post-secondary institutions included in IPEDS; as a result, the IPEDS estimates for LPN graduates may undercount new LPNs/LVNs for a given year. Data from the National

<sup>23</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

Council of State Boards of Nursing show that almost 51,000 individuals became newly licensed LPNs/LVNs after passing licensing examinations in 2014.<sup>24</sup> The difference from IPEDS estimates may be a result of the large number of small, private institutions offering LPN/LVN education that would not be required to report to IPEDS.

---

<sup>24</sup> The National Council of State Boards of Nursing, Nurse Licensure and NCLEX Examination Statistics Publication, 2015.

## 4.0 Oral Health

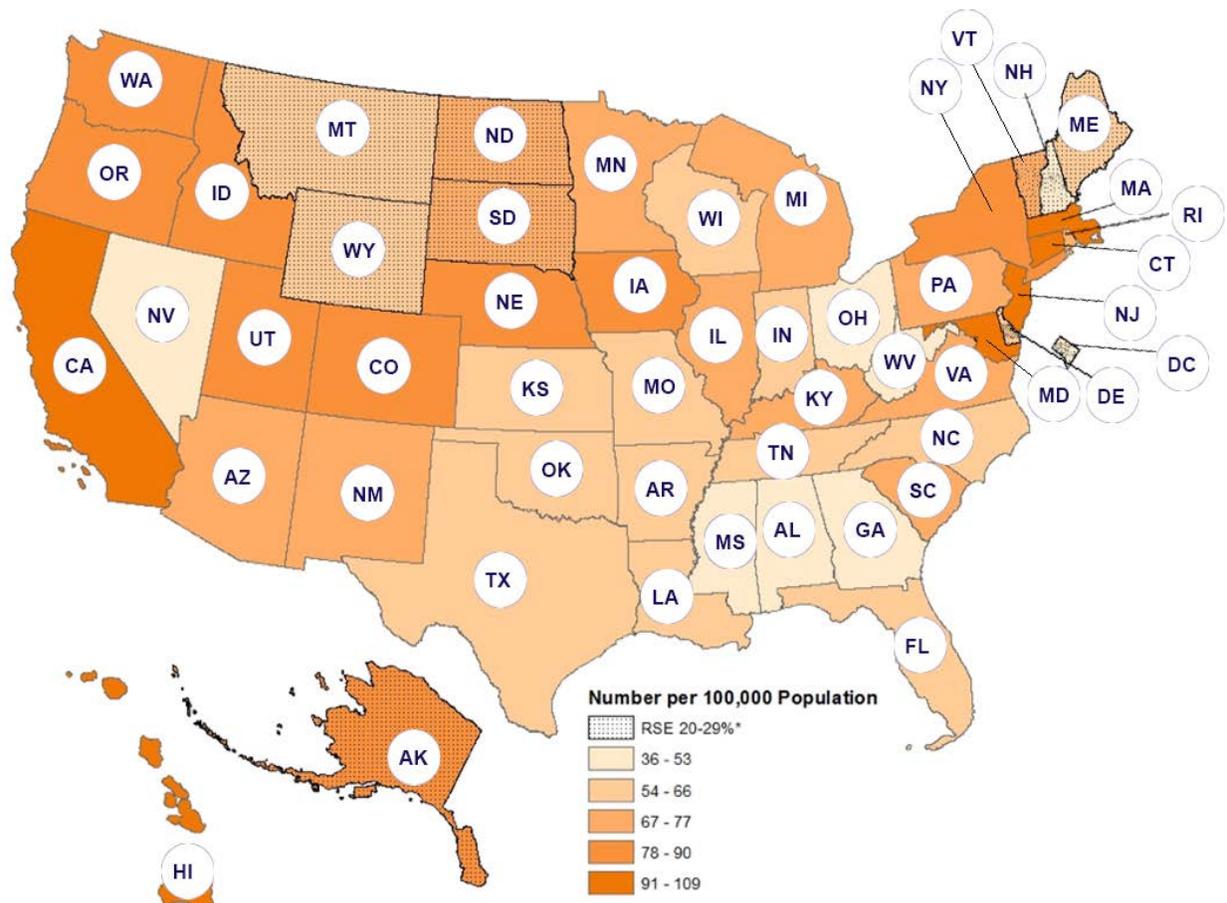
Dentistry occupations described in this section include:

- 4.1 Dentists;
- 4.2 Dental Hygienists; and
- 4.3 Dental Assistants.

### 4.1 Dentists

- An estimated 182,012 individuals in the U.S. workforce reported their occupation as Dentist.<sup>25</sup>
- To become a Dentist, an individual must obtain a doctoral –level degree from an accredited dental school, obtain licensure, and meet certain additional requirements.<sup>26</sup>

**FIGURE 31: DENTISTS PER 100,000 WORKING-AGE POPULATION, BY STATE**



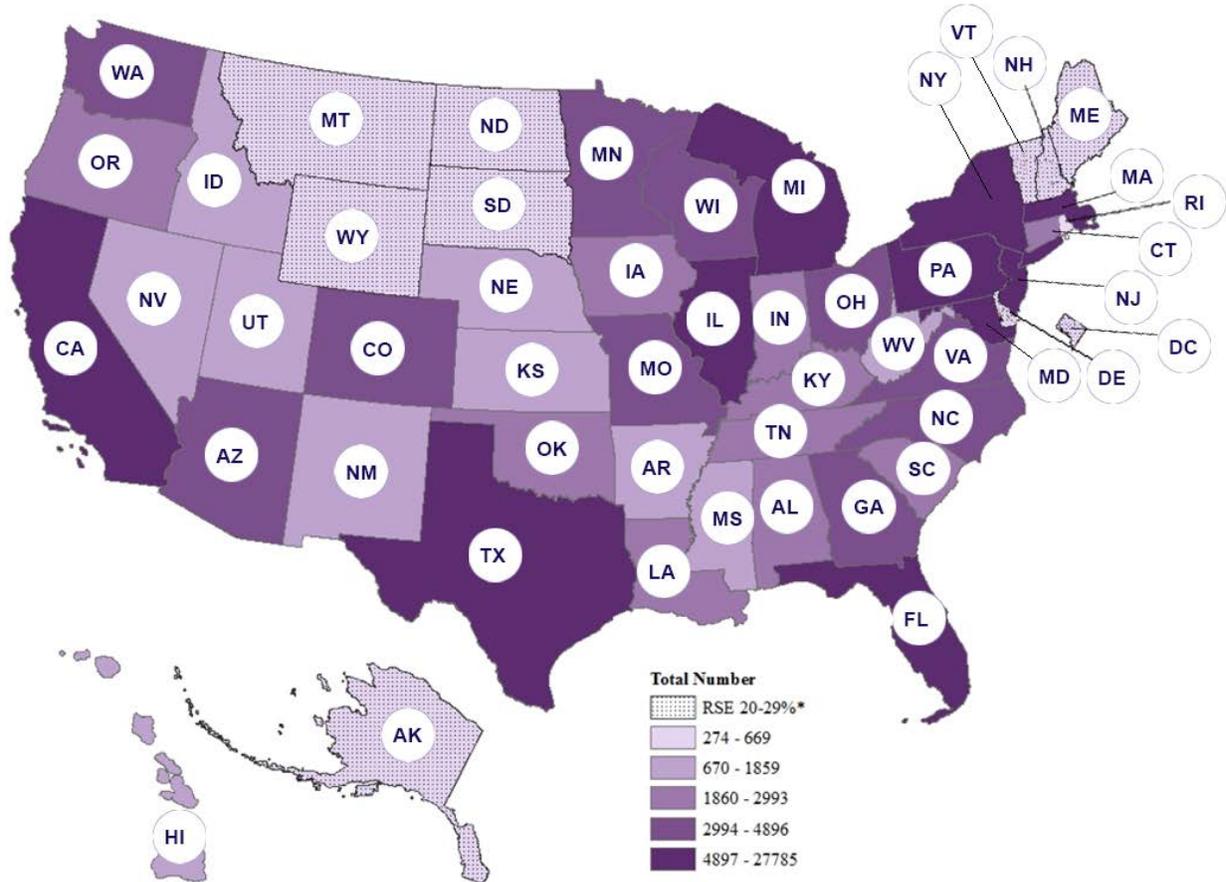
Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

<sup>25</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015.

<sup>26</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

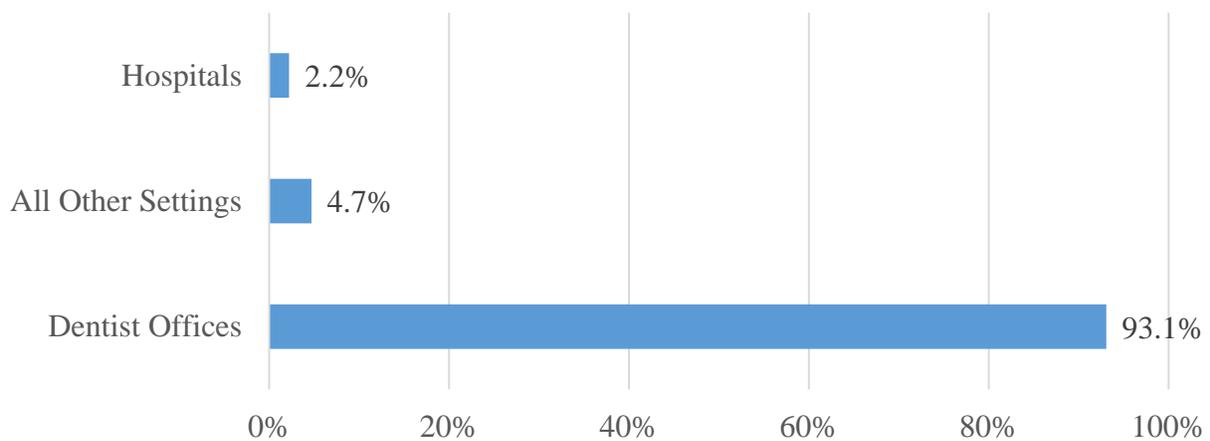
**FIGURE 32: NUMBER OF DENTISTS, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

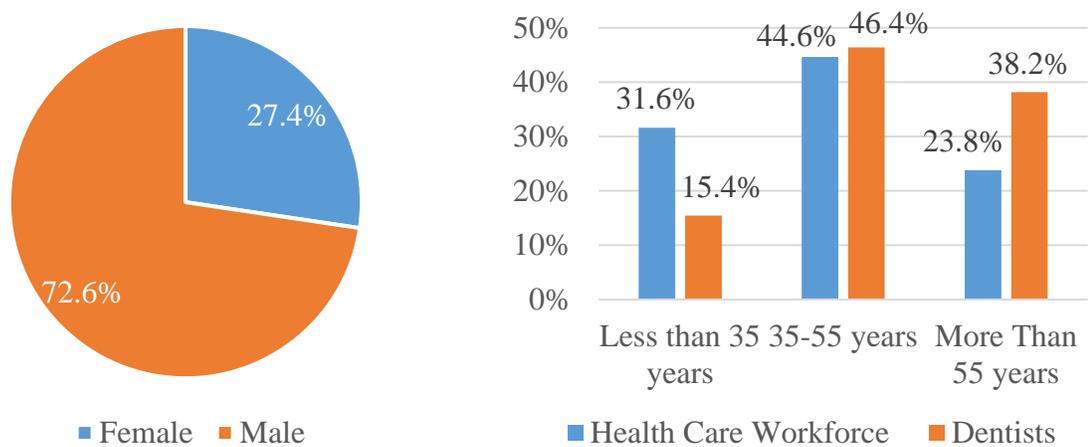
**FIGURE 33: DISTRIBUTION OF DENTISTS, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

Note: Percentages may not total 100, because of rounding.

**FIGURE 34: DISTRIBUTION OF DENTISTS, BY SEX AND AGE**

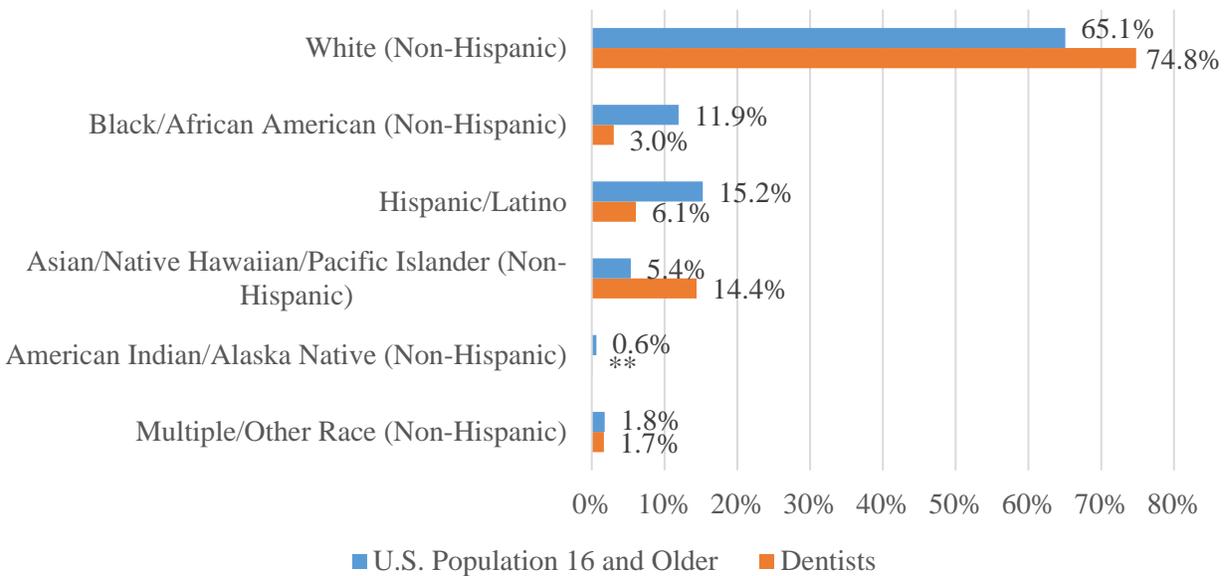


Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

Note: The “Health Care Workforce” in this figure refers to the health occupations in this report.

Note: Percentages may not total 100, because of rounding.

**FIGURE 35: DISTRIBUTION OF DENTISTS, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

Note: Percentages may not total 100, because of rounding.

\*\*RSE ≥ 30%; estimate does not meet standards of reliability.

## Graduates

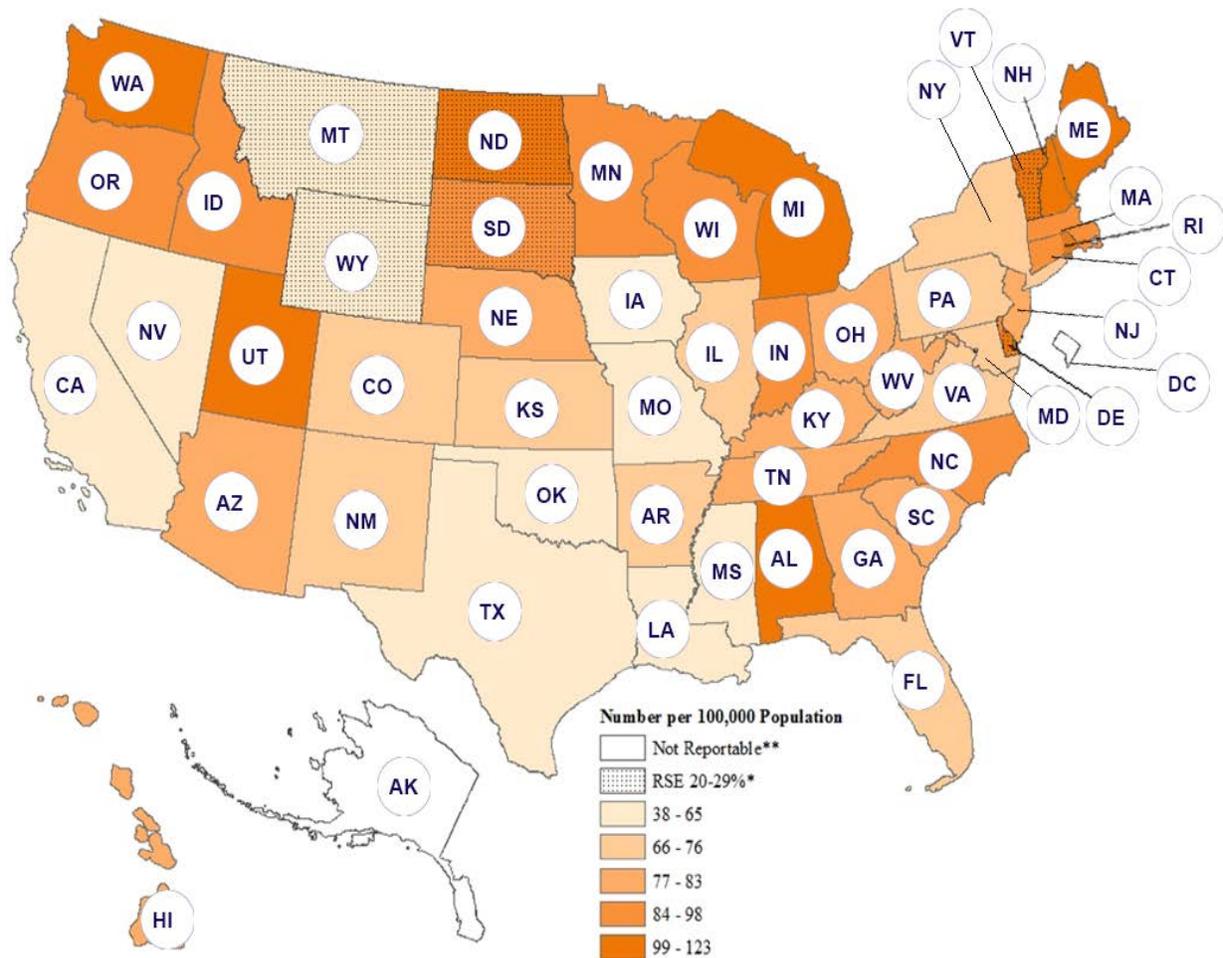
The total number of dental graduates in the 2014 to 2015 academic year was 5,883.<sup>27</sup>

<sup>27</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

## 4.2 Dental Hygienists

- An estimated 187,444 individuals in the U.S. workforce reported their occupation as Dental Hygienist.<sup>28</sup>
- To become a Dental Hygienist, an individual must complete an Associate's Degree in this occupation and obtain licensure.<sup>29</sup>

**FIGURE 36: DENTAL HYGIENISTS PER 100,000 WORKING-AGE POPULATION, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

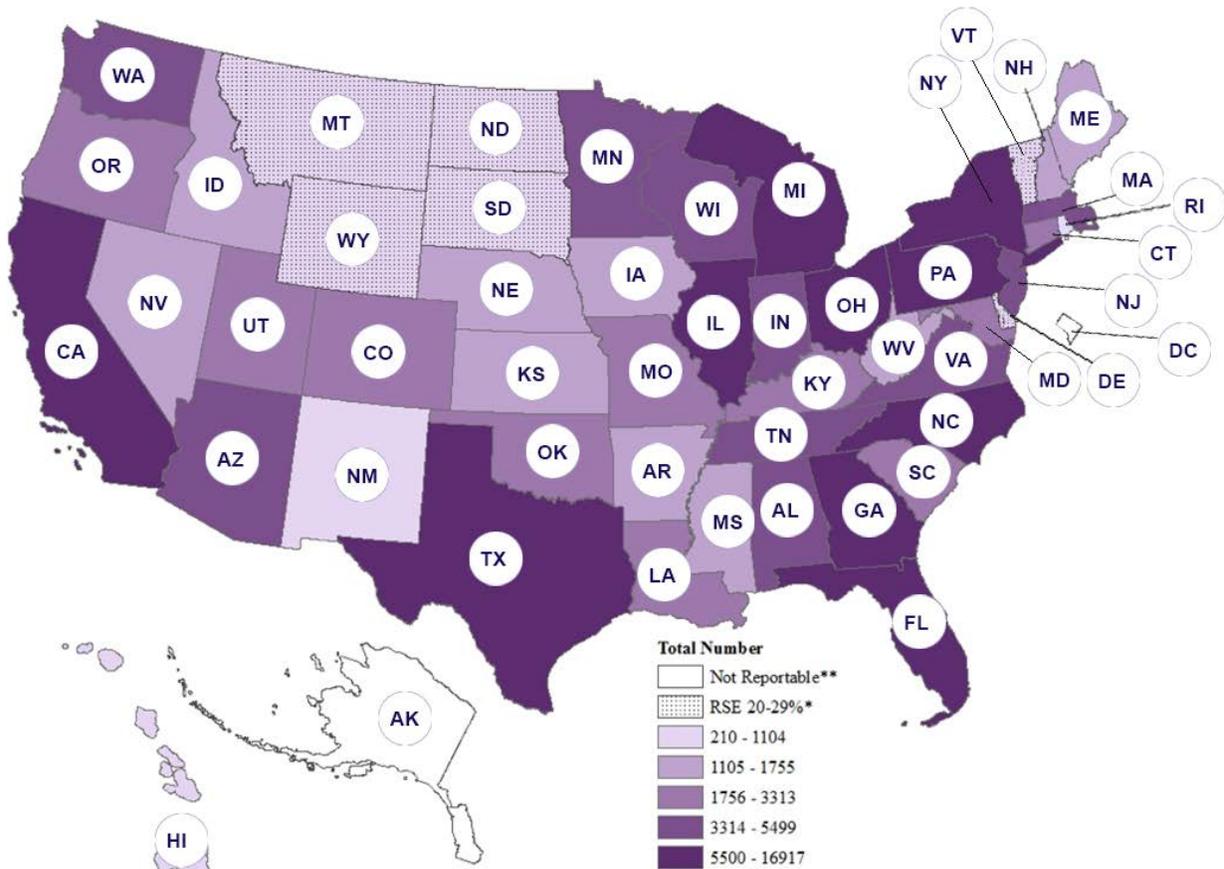
\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30% estimate does not meet standards of reliability.

<sup>28</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015.

<sup>29</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

**FIGURE 37: NUMBER OF DENTAL HYGIENISTS, BY STATE**

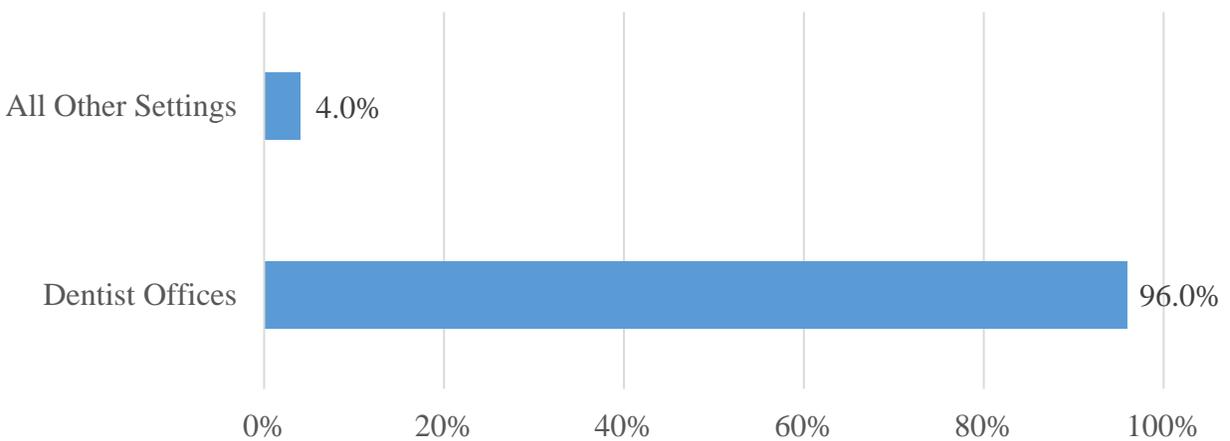


Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

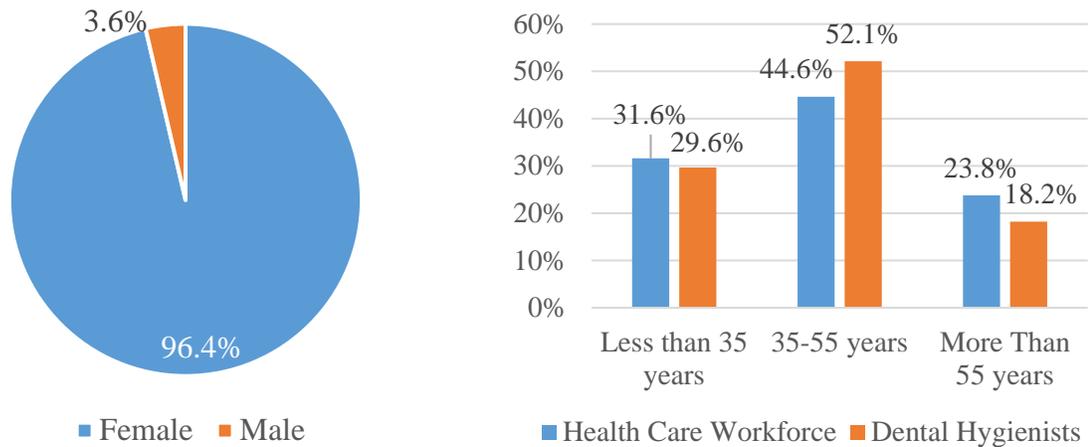
**FIGURE 38: DISTRIBUTION OF DENTAL HYGIENISTS, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

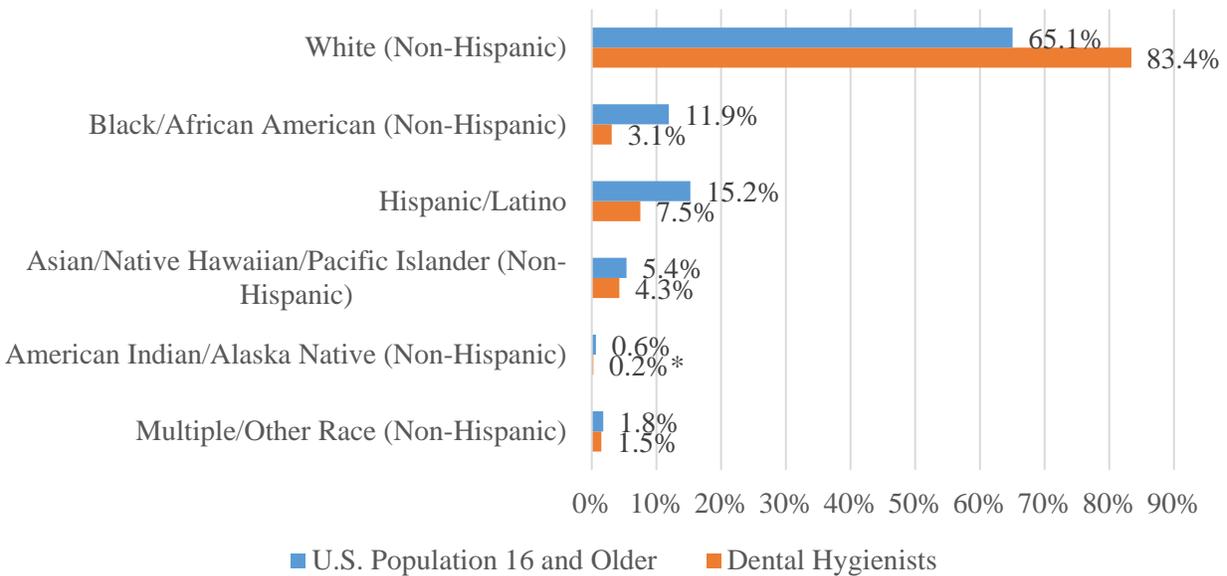
Note: Percentages may not total 100, because of rounding.

**FIGURE 39: DISTRIBUTION OF DENTAL HYGIENISTS, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The “Health Care Workforce” in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 40: DISTRIBUTION OF DENTAL HYGIENISTS, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015. Note: Percentages may not total 100, because of rounding.  
 \*Note: Estimates with an RSE = 20% - 29% should be considered with caution because of large sampling error.

### Graduates

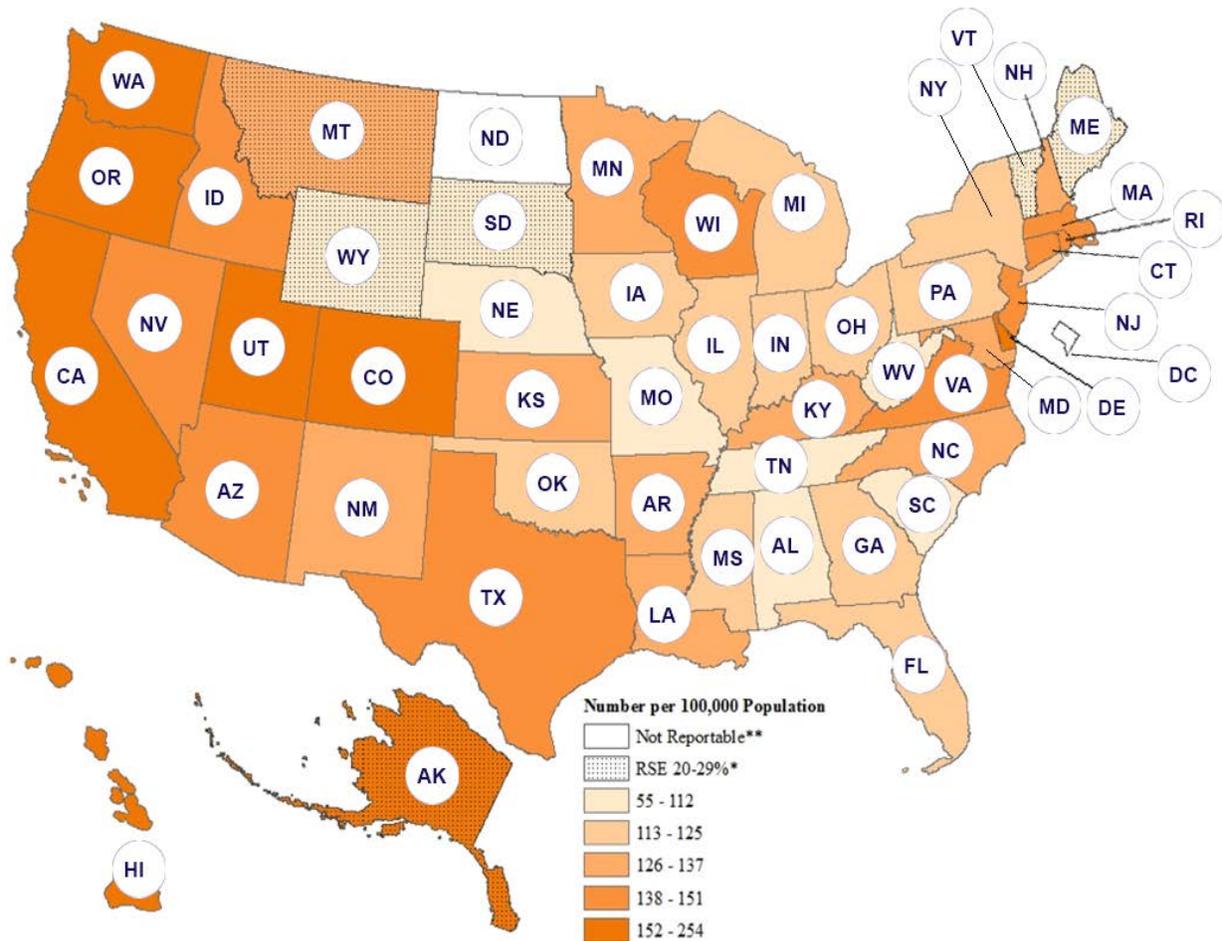
The total number of Dental Hygiene graduates in the 2014 to 2015 academic year was 8,354.<sup>30</sup>

<sup>30</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

## 4.3 Dental Assistants

- An estimated 347,689 individuals in the U.S. workforce reported their occupation as Dental Assistant.<sup>31</sup>
- To become a Dental Assistant, in some states an individual must complete an accredited program and pass a state-exam; in other states, an individual can become a Dental Assistant through on-the-job training.<sup>32</sup>

**FIGURE 41: DENTAL ASSISTANTS PER 100,000 WORKING-AGE POPULATION, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

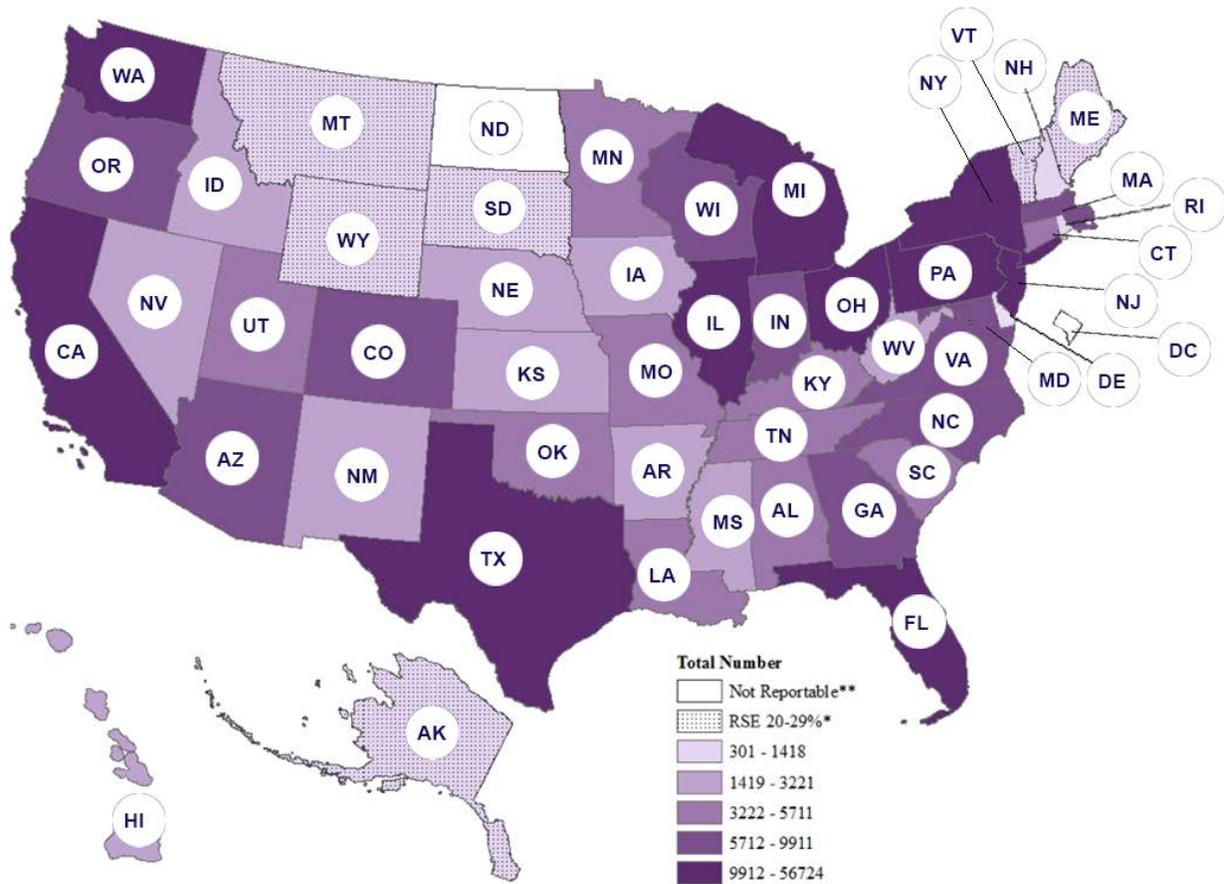
\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

<sup>31</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015.

<sup>32</sup> BLS, Occupational Outlook Handbook, 2015 edition.

**FIGURE 42: NUMBER OF DENTAL ASSISTANTS, BY STATE**

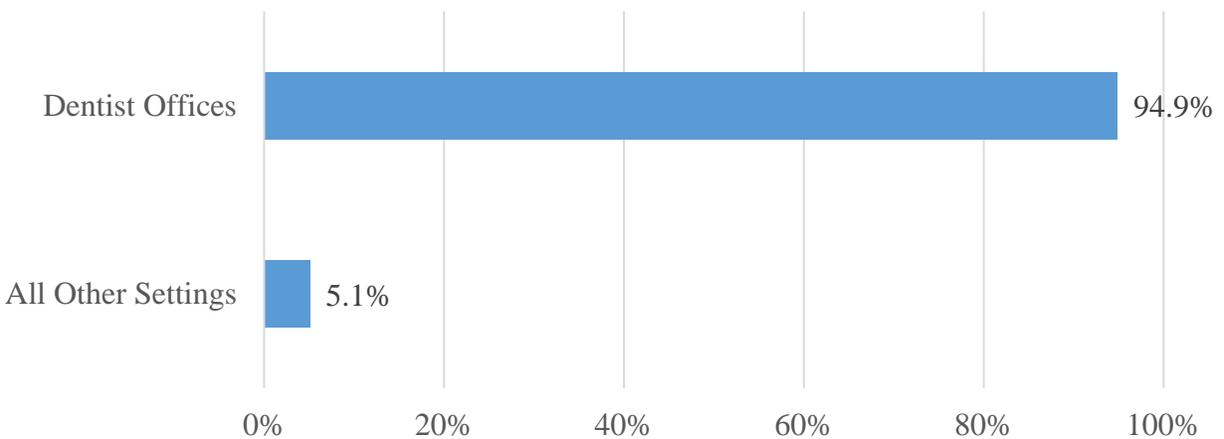


Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

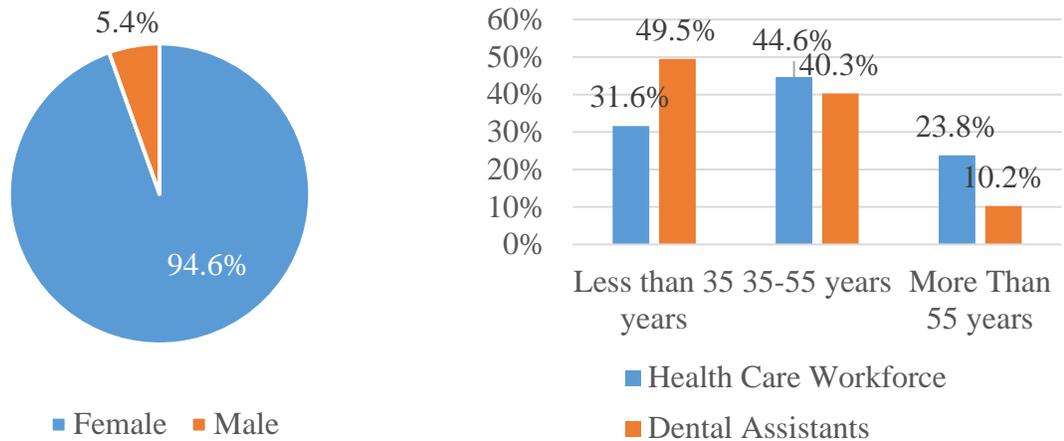
**FIGURE 43: DISTRIBUTION OF DENTAL ASSISTANTS, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

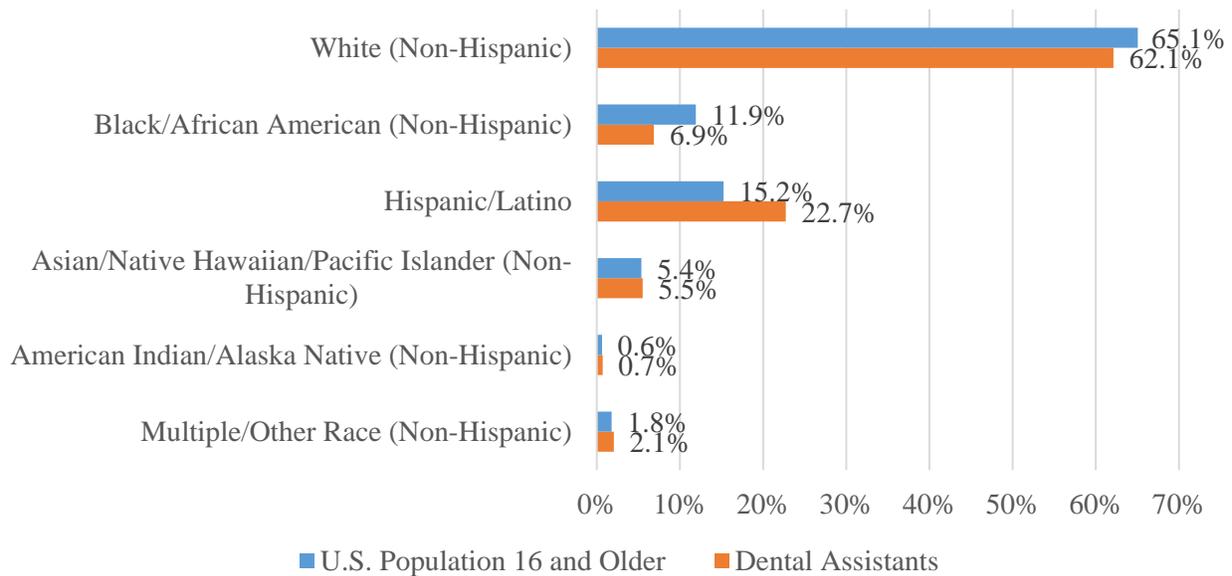
Note: Percentages may not total 100, because of rounding.

**FIGURE 44: DISTRIBUTION OF DENTAL ASSISTANTS, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The "Health Care Workforce" in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 45: DISTRIBUTION OF DENTAL ASSISTANTS, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: Percentages may not total 100, because of rounding.

### Graduates

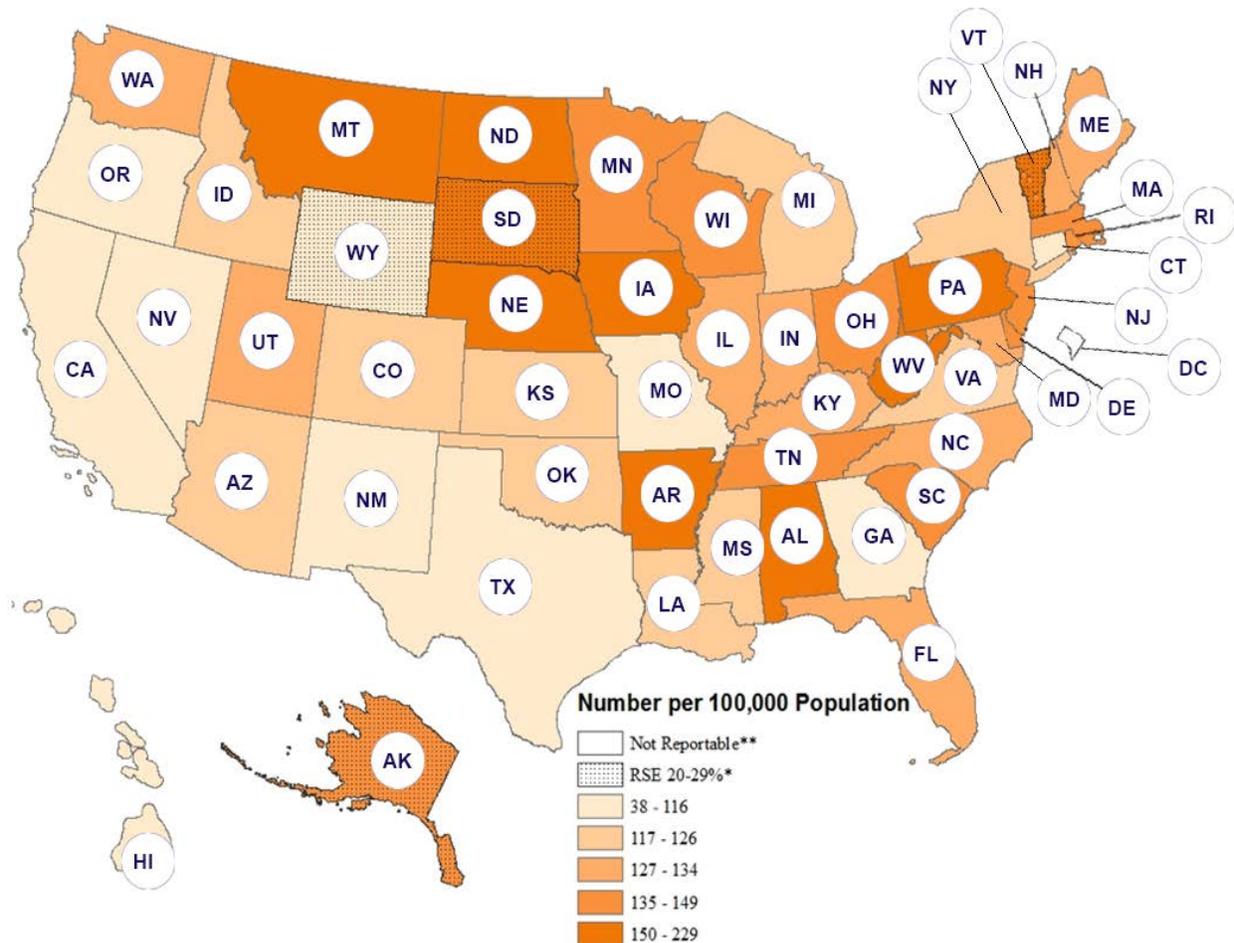
The total number of Dental Assistant graduates in the 2014 to 2015 academic year was 22,974.<sup>33</sup>

<sup>33</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.

## 5.0 Pharmacists

- An estimated 316,183 individuals in the U.S. workforce reported their occupation as Pharmacist.<sup>34</sup>
- To become a Pharmacist, an individual must complete a Doctor of Pharmacy degree, obtain licensure, and meet certain additional requirements.<sup>35,36</sup>

**FIGURE 46: PHARMACISTS PER 100,000 WORKING-AGE POPULATION, BY STATE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

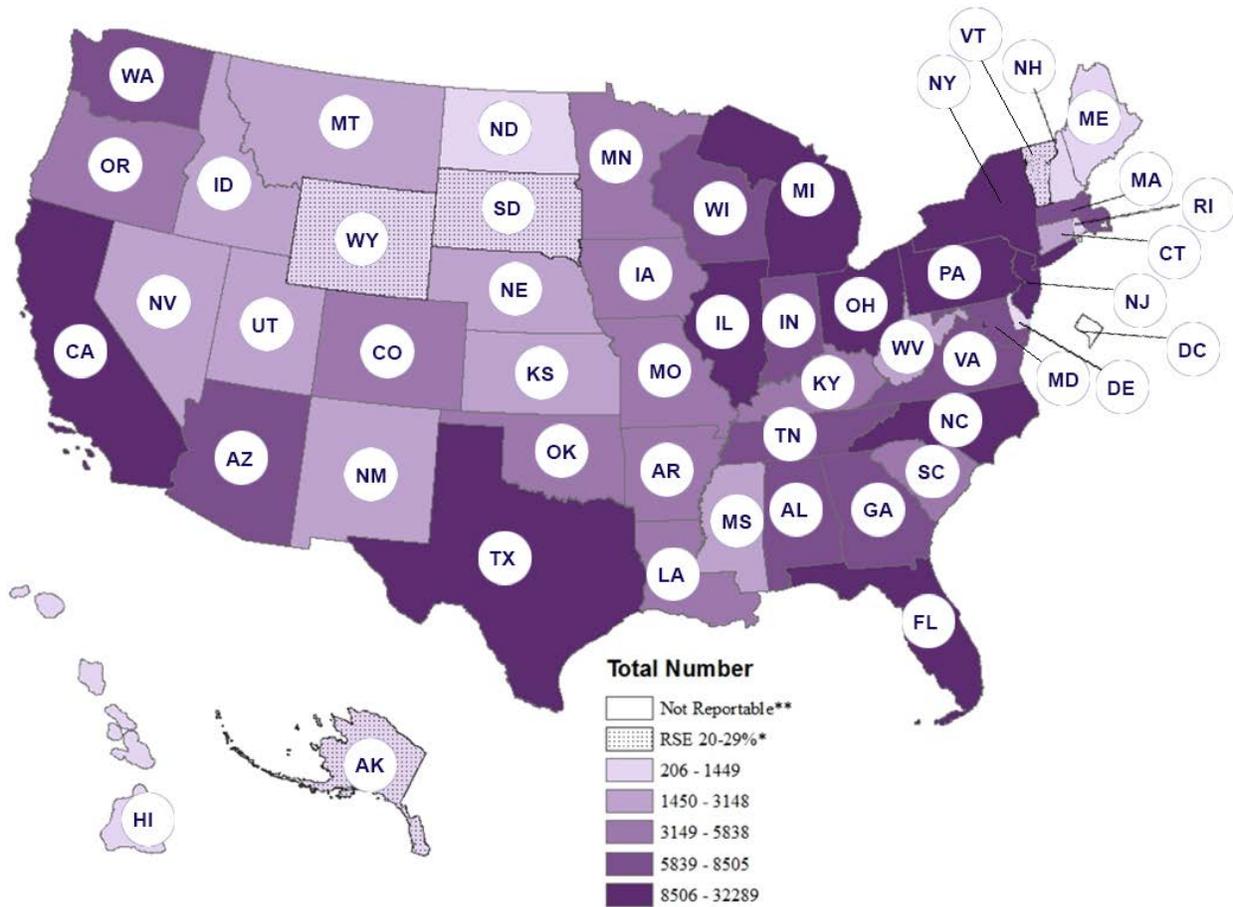
\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

<sup>34</sup> Total workforce from HRSA analysis of the ACS PUMS, 2011-2015.

<sup>35</sup> BLS, *Occupational Outlook Handbook*, 2015 Edition.

<sup>36</sup> To become a Pharmacist (since 1997), an individual must complete a Doctor of Pharmacy degree, and obtain licensure, and meet certain additional requirements; many pharmacists providing care in underserved areas were trained prior to 1997 and do not hold a Doctor of Pharmacy degree.

**FIGURE 47: NUMBER OF PHARMACISTS, BY STATE**

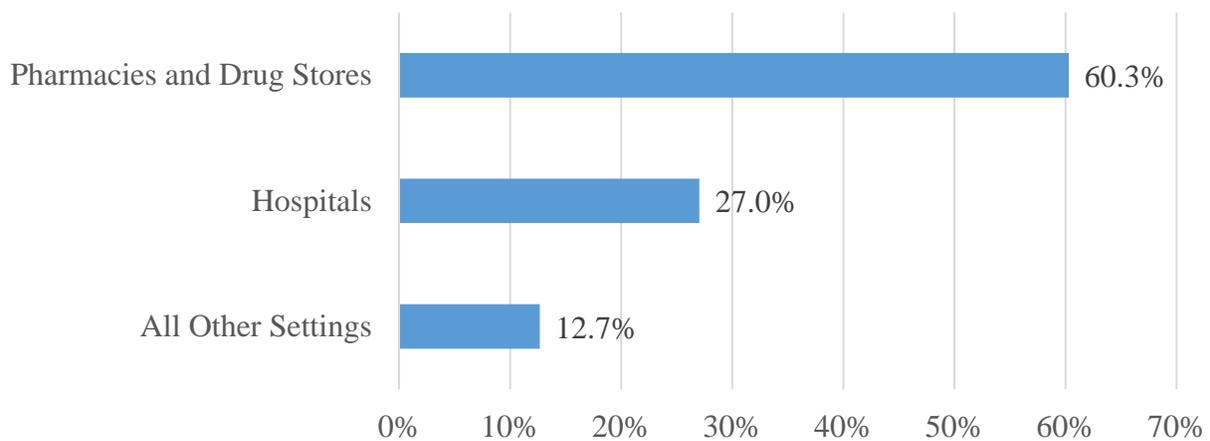


Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

\*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

\*\*Data are not reported at the state level, because the RSE  $\geq$  30%; estimate does not meet standards of reliability.

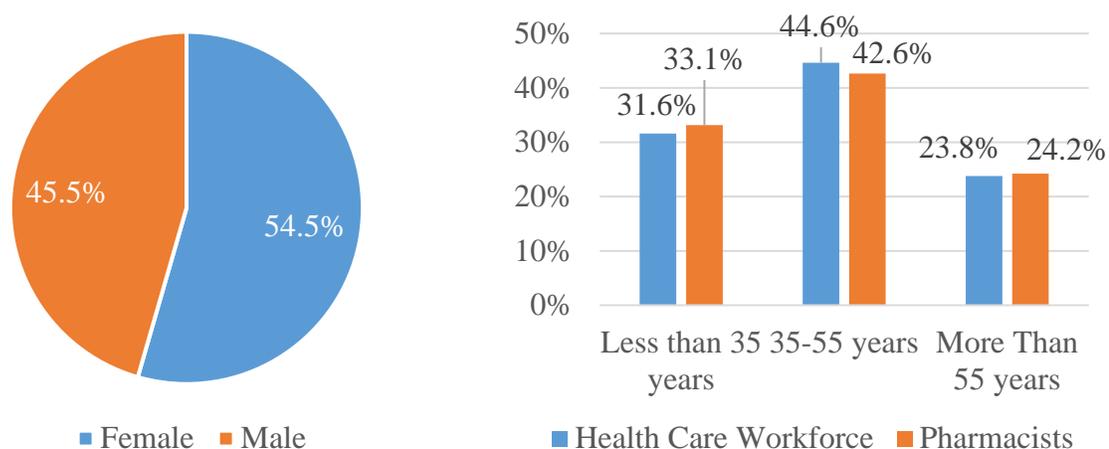
**FIGURE 48: DISTRIBUTION OF PHARMACISTS, BY WORK SETTING**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.

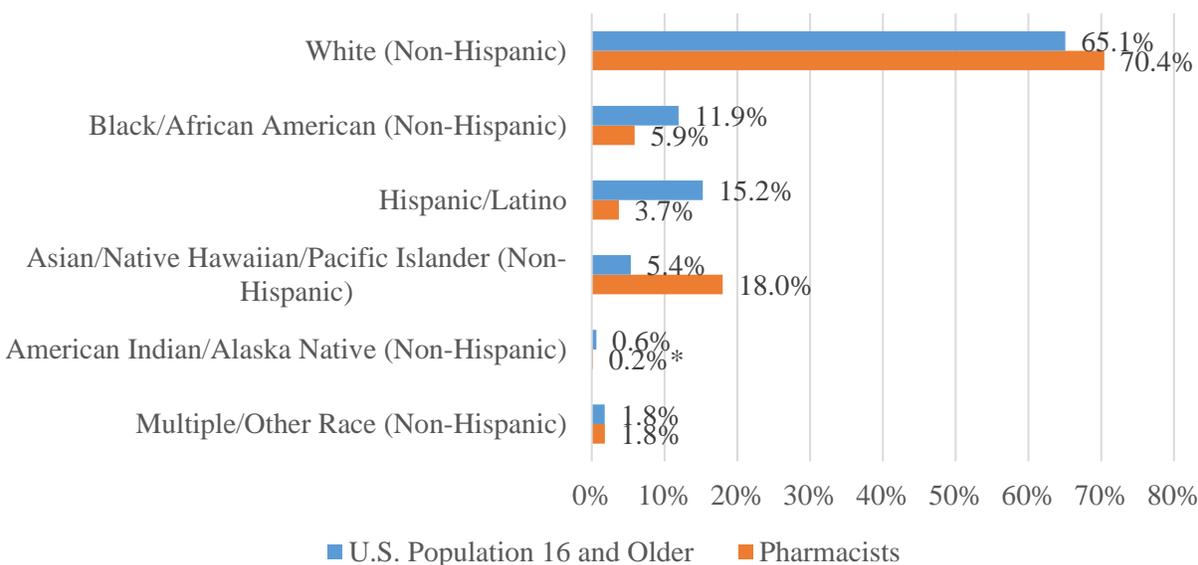
Note: Percentages may not total 100, because of rounding.

**FIGURE 49: DISTRIBUTION OF PHARMACISTS, BY SEX AND AGE**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: The “Health Care Workforce” in this figure refers to the health occupations in this report.  
 Note: Percentages may not total 100, because of rounding.

**FIGURE 50: DISTRIBUTION OF PHARMACISTS, BY RACE/ETHNICITY, RELATIVE TO THE WORKING-AGE POPULATION**



Data Source: HRSA analysis of the ACS PUMS, 2011-2015.  
 Note: Percentages may not total 100, because of rounding.  
 \*Note: Estimates in states with an RSE = 20% - 29% should be considered with caution because of large sampling error.

## Graduates

The total number of pharmacy school graduates in the 2014 to 2015 academic year was 15,301.<sup>37</sup>

<sup>37</sup> HRSA analysis of the National Center for Education Statistics IPEDS, 2014-2015.