



State of the U.S. Health Care Workforce, 2024

November 2024

High-quality health care starts with a well-trained, adequately supplied, and well-distributed health care workforce. This brief provides detailed data on the occupations within three major health care disciplines in the U.S. health care workforce: medicine, nursing, and oral health. For these critical occupations, this brief presents the most recent data on adequacy, distribution, and the educational pipelines of future health care providers within these disciplines. It also provides summary data for additional health care disciplines, including behavioral health, allied health, and health support occupations.

About the National Center for Health Workforce Analysis

The National Center for Health Workforce Analysis informs public and private sector decision makers on health workforce issues by expanding and improving health workforce data, disseminating workforce data to the public, and improving and updating projections of the supply and demand for health workers.

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Highlights

- A total of 933,788 physicians are professionally active, of which 800,355 are reported as patient care practicing physicians.¹ Internists and family medicine physicians together constitute almost a quarter of all patient care practicing physicians.
- About 38.9% of patient care practicing physicians identify as female. In medical schools, female students constitute a larger proportion of total enrollment than males.
- Across all physician specialties in the United States, there is a projected shortage of 187,130 full-time equivalent (FTE) physicians in 2037. Nonmetro areas will experience greater shortages of physicians than metro areas.
- There are over four million registered nurses (RNs), licensed practical nurses (LPNs), and advanced practice registered nurses (APRNs) as of 2023. The number of RNs increased by 5.3% between 2019 and 2023. During that period, the number of nurse practitioners (NPs) grew by 35.5%, while the number of LPNs and nurse midwives declined by 8.4% and 2.8%, respectively.
- The nation's oral health workforce, comprised of dentists, dental hygienists, and dental assistants, total 747,582 workers as of 2022, up 7.3% from 696,779 in 2018.
- A shortage of 29,740 FTEs dental hygienists and 11,860 FTEs general dentists is projected for 2037.

Describing the U.S. health care workforce

The health care industry employed over 17 million people in 2023, making it the largest employment sector in the United States.² It comprises a wide range of skilled professionals with varying levels of education and training. In 2022, the United States spent \$13,493 per person on health care, which amounts to 17.3% of its gross domestic product (GDP).³ Health care spending in the United States is higher than in any other major economy, both in absolute dollar terms and relative to GDP.

Challenges facing the U.S. health care workforce

Current shortages

As of June 14, 2024, approximately 75 million people live in a primary care Health Professional Shortage Area (HPSA), and 58 million people live in a dental health HPSA. A total of 122 million people live in a mental health HPSA.⁴ In addition, the maldistribution of the health care workforce results in severe shortages in rural communities.

Burnout and mental health

High stress and burnout have long been issues for the health care workforce.⁵ The COVID-19 pandemic further exacerbated these issues as frontline workers experienced long hours, exhaustion, increased exposure to death and suffering, and fear for their own health and safety.⁶ A survey of more than 20,000 U.S. health care workers between May and October 2020 found high levels of burnout across a range of health care professions. Overall, 49% of respondents reported feelings of burnout, while 43% felt overworked.⁷

A Mayo Clinic survey found that nearly 63% of physicians experienced burnout in 2021, a significant increase in the share of physicians experiencing burnout from 2017 (44%) and 2020 (38%).⁸ However, a 2024 survey finds that 49% of physicians report feelings of burnout and 20% indicate feelings of depression, down from 2023 rates of 53% and 23%, respectively.⁹

A 2022 survey by the National Council of State Boards of Nursing (NCSBN) finds that 45% of RNs and 45% of LPNs experience feelings of burnout at least a few times a week.¹⁰ A 2021 survey found that 71% of dentists reported an increase in feelings of burnout since the start of the pandemic, with 58% of dentists reporting they experienced feelings of burnout at least a few times a week.¹¹

Job and career satisfaction

The high levels of stress and burnout have led many health care workers to question their career choice. A Mayo Clinic survey found that physicians' satisfaction with work-life balance and professional fulfillment declined during the COVID-19 pandemic. As a result, in 2021, only 57.1% of physicians said they would become a physician again if given the chance to revisit their career choice, down from 72.2% in 2020.⁸

Physicians were not the only health professionals with declines in job or career satisfaction due to the COVID-19 pandemic. As of 2023, more than a quarter of health care workers (28.7%) and 41% of nurses indicate they intend to leave their jobs within two years.¹² A recent cohort study utilizing U.S. Census Bureau data on job-to-job flows showed that post-pandemic exit rates for U.S. health care workers remain higher than pre-pandemic rates.¹³ This attrition could further exacerbate existing shortages and maldistributions of providers and place further stress on the health care system.

Aging of the workforce and U.S. population

The trends of an aging workforce and U.S. population raise concerns of worsening shortage of the workforce. The average age of RNs in the United States is 43.4 years old,¹⁴ and less than 17% of all active physicians in 2022 are under 40 years old.¹⁵ This circumstance creates shortages as more professionals retire and many others reduce their working hours, while the demand for medical care accelerates as the population ages.

In 2022, 17% of the U.S. population (58 million) was 65 years old and older. By 2050, about 23% (82 million) of the U.S. population will be 65 years old or older.¹⁶ Providers will need to have the skills and training to serve this older population with the specific type of care they'll require.

While the U.S. health workforce faces a number of challenges, there are also encouraging signs. Medical school enrollment has increased nearly 6% between the 2019-20 and 2023-24 academic years, and the number of female medical students increased by 14% over this same period. Similarly, the number of newly licensed RNs each year increased by 36.1% between 2019 and 2023. These numbers suggest continued interest in health care careers and continued growth in the workforce.

This report provides extensive data on the current state of physicians, nurses, and dentists in the United States. The data are for 2022-2024 unless indicated otherwise.

Medicine

A total of 933,788 physicians were professionally active as of 2022, of which 800,355 were reported as providing patient care.¹ Internists and family medicine physicians together constitute almost a quarter of all patient care physicians (Tables 1a-1d).

Table 1a. Enumeration of Physician Workforce in Primary Care Specialties, 2022

Specialty	Total Professionally Active Physicians	Total Patient Care Physicians
Family medicine	107,536	100,650
General internal medicine	106,294	97,071
Geriatrics	5,611	5,035
Pediatrics	59,753	55,054
All primary care	279,194	257,810

Note. Adapted from the American Medical Association's (AMA) *Physician Professional Data*, 2022. Data includes both MDs and DOs and excludes residents. In 2022, there were 157,604 residents.

Table 1b. Enumeration of Physician Workforce in Medical Specialties, 2022

Specialty	Total Professionally Active Physicians	Total Patient Care Physicians
Allergy and immunology	5,090	4,420
Cardiology	33,225	29,461
Critical care medicine	17,033	14,232
Dermatology	12,679	11,555
Endocrinology	10,762	8,754
Gastroenterology	18,386	16,164
Hematology and oncology	20,603	16,825
Infectious diseases	11,991	9,190
Neonatology	6,548	5,500
Nephrology	13,057	11,347
Pulmonology	5,637	4,923
Rheumatology	7,041	5,908
All medical specialties	162,052	138,279

Note. Adapted from the American Medical Association's (AMA) *Physician Professional Data*, 2022. Data includes both MDs and DOs and excludes residents. In 2022, there were 157,604 residents.

Table 1c. Enumeration of Physician Workforce in Surgical Specialties, 2022

Specialty	Total Professionally Active Physicians	Total Patient Care Physicians
Colorectal surgery	2,446	2,228
General surgery	29,494	24,412
Neurological surgery	5,995	5,258
Obstetrics and gynecology	45,015	41,113
Ophthalmology	18,550	16,746
Orthopedic surgery	27,562	25,162
Otolaryngology	10,402	9,364
Plastic surgery	9,371	8,751
Thoracic surgery	4,624	4,153
Urology	10,225	9,298
Vascular surgery	5,073	4,572
All surgical specialties	168,757	151,057

Note. Adapted from the American Medical Association's (AMA) Physician Professional Data, 2022. Data includes both MDs and DOs and excludes residents. In 2022, there were 157,604 residents.

Table 1d. Enumeration of Physician Workforce in Other Specialties, 2022

Specialty	Total Professionally Active Physicians	Total Patient Care Physicians
Anesthesiology	50,712	45,874
Emergency medicine	55,844	50,095
Neurology	19,755	16,086
Other specialties	73,861	39,231
Pathology	20,239	12,617
Physical medicine and rehabilitation	10,675	9,545
Psychiatry	47,864	41,382
Radiation oncology	5,396	4,803
Radiology	39,439	33,576
All other specialties	323,785	253,209

Note. Adapted from the American Medical Association's (AMA) Physician Professional Data, 2022. Data includes both MDs and DOs and excludes residents. In 2022, there were 157,604 residents.

Approximately 39% of patient care practicing physicians identify as female. Male physicians are more likely to be age 55 and older than female physicians. While 47% of male physicians are age 55 and older, only 30% of female physicians are in that age range. Overall, the average age of physicians is 51.2 years old in 2022. Compared to the U.S. population, a greater percentage of physicians are non-Hispanic Asian (22% compared to 6%). In contrast, the share of Hispanics (7%) and non-Hispanic Black and African Americans (5%) in the physician workforce is lower than in the U.S. population. See Tables 2a, 2b, and 2c.

Table 2a. Physician Workforce by Gender, 2022

Group	Male	Female
Physician workforce	61.1%	38.9%
U.S. population	49.6%	50.4%

Note. Adapted from the American Medical Association's (AMA) *Physician Professional Data*, 2022, and the *Annual Estimates of the Resident Population by Single Year of Age and Sex for the United States: April 1, 2020 to July 1, 2023*, by the U.S. Census Bureau, 2022 (<https://www.census.gov/data/tables/time-series/demo/popest/2020s-national-detail.htm>). Data excludes residents and physicians with unknown gender.

Table 2b. Physician Workforce by Gender and Age, 2022

Gender	Less than 35 Years Old	35 to 44 Years Old	45 to 54 Years Old	55 to 64 Years Old	65 or Older
Male	6%	23%	24%	26%	21%
Female	10%	32%	28%	20%	10%

Note. Adapted from the American Medical Association's (AMA) *Physician Professional Data*, 2022. Data excludes residents and physicians with unknown gender. Numbers may not add to 100% due to rounding.

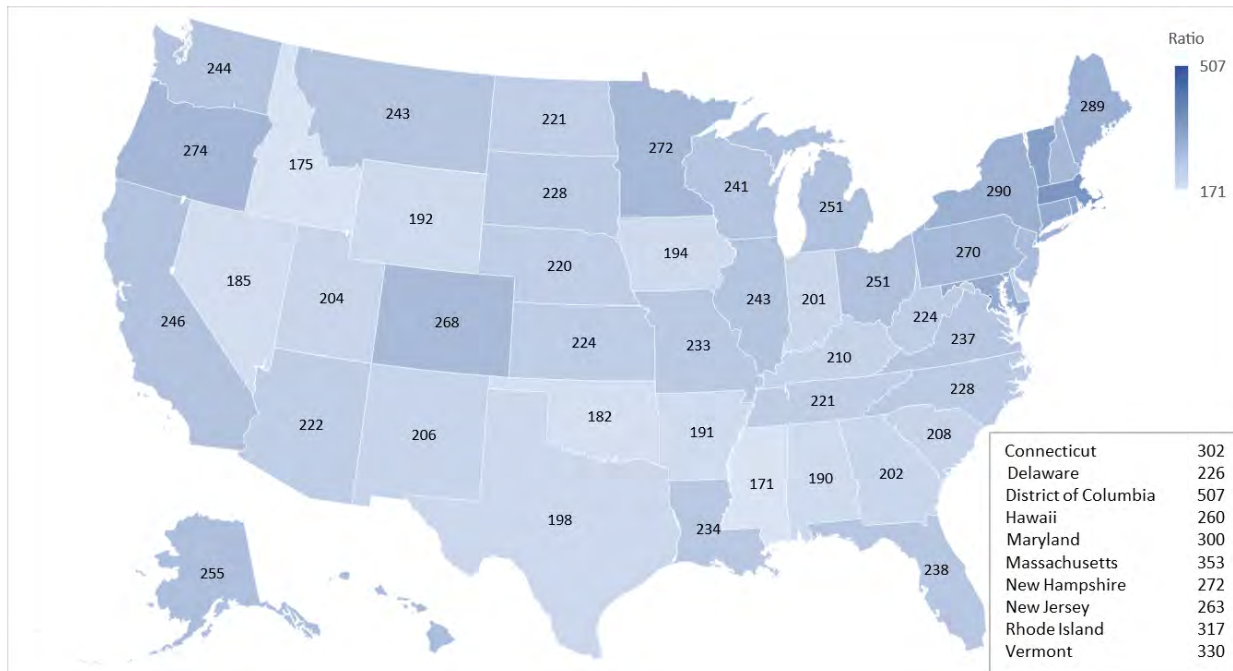
Table 2c. Physician Workforce by Race/Ethnicity

Group	Hispanic	White (Non-Hispanic)	Black or African American (Non-Hispanic)	Asian (Non-Hispanic)	Other or Multiple Races (Non-Hispanic)
Physician workforce	7%	62%	5%	22%	4%
U.S. population	19%	59%	12%	6%	5%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding. Due to limited sample sizes, American Indian or Alaska Natives and Native Hawaiian and Other Pacific Islanders are included in "Other or Multiple Races."

The supply of physicians varies significantly across states, even after adjusting for the differences in population size among the states. The highest concentration of physicians exists in Washington, DC, followed by Massachusetts and Vermont. Mississippi, Idaho, and Oklahoma have the lowest number of patient care practicing physicians per capita.

Figure 1. Distribution of Patient Care Practicing Physicians per 100,000 Population by State, 2022



Note. Adapted from the American Medical Association's (AMA) *Physician Professional Data*, 2022, and the state population estimates from the *Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2023*, by the U.S. Census Bureau, 2022 (<https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html>). Data includes both MDs and DOs and excludes residents. In 2022, there were 157,604 residents.

Approximately 71% of professionally active physicians work in office-based patient care settings, while 15% work in hospitals.¹⁷

Nationally, across all physician specialties in the United States, there is a projected shortage of 187,130 FTE physicians in 2037.¹⁸ Nonmetro areas will experience greater shortages of various types of physicians than metro areas.¹⁸

The number of medical students has increased by about 6% over the past five years. The growth varies considerably by gender (Table 3). While the number of female medical school students has grown by 14% from 2019 to 2024, the number of male medical students has decreased by over 3%. As a result, female students constitute 55% of medical school enrollment in 2023 to 2024.

Table 3. Total Enrollment in Medical School by Gender, 2019-2024

Academic Year	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2019-2024 Percent Change
Men	45,783	45,589	45,036	44,512	44,345	-3.1%
Women	46,842	48,480	50,291	51,853	53,422	14.0%
Total enrollment	92,626	94,074	95,347	96,405	97,903	5.7%

Note. Adapted from the Association of American Medical Colleges (AAMC) FACTS: Table B-1.2 Total Enrollment by U.S. MD-Granting Medical School and Gender, 2019-2020 through 2023-2024, by the AAMC, 2023 (<https://www.aamc.org/media/6101/download?attachment>). To reflect changes in how data are collected and in what data are collected, the AAMC may from time to time modify FACTS tables. The current tables reflect the most recently available data for each year. Students who reported "another gender identity" or who declined to report gender are only reflected in total enrollment. Therefore, the sum for men and women may not equal to counts shown in the total enrollment row.

Nursing

Nursing is the nation's largest health care profession, with more than four million registered nurses (RNs), licensed practical/vocational nurses (LPNs), and advanced practice registered nurses (APRNs) in the workforce in 2023. The nursing workforce increased by 4.6% over the past five years (Table 4). Over that period, the number of APRNs, particularly nurse practitioners (NPs) and nurse anesthetists (NAs), grew faster than the number of RNs. The number of LPNs declined each year and by 8.4% over the past five years.

Table 4. Enumeration of Nursing Workforce, 2019-2023

Nurse Type	2019	2020	2021	2022	2023	2019-2023 Percent Change
Registered nurses ^a	3,014,280	3,001,270	3,047,530	3,072,700	3,175,390	5.3%
Licensed practical/vocational nurses	687,930	672,710	641,240	632,020	630,250	-8.4%
Advanced practice registered nurses						
Nurse practitioners	206,800	221,890	234,690	258,230	280,140	35.5%
Nurse anesthetists	44,110	44,500	43,950	46,540	47,810	8.4%
Nurse midwives	7,160	7,080	7,750	7,950	6,960	-2.8%
Nursing workforce total	3,960,280	3,947,450	3,975,160	4,017,440	4,140,550	4.6%

Note. Adapted from the *Occupational Employment and Wage Statistics (OEWS)*, by the U.S. Bureau of Labor Statistics, various years (<https://www.bls.gov/oes/tables.htm>). Does not include self-employed nurses. Beginning with the May 2021 release, OEWS estimates were produced by a model-based estimation method using three years of OEWS data (MB3). For consistency, the data for 2019-2020 presented here are produced using the same methodology and can be downloaded at <https://www.bls.gov/oes/oes-mb3-methods.htm>. ^a Includes Clinical Nurse Specialists.

Compared to the U.S. population, a greater percentage of nurses are non-Hispanic Black or African American (14% compared to 12%) and non-Hispanic Asian (9% compared to 6%). These numbers vary considerably by type of nurse, with LPNs having the highest percentages of Hispanics (13%) and non-Hispanic Black or African Americans (26%). See Table 5.

Table 5. Nursing Workforce by Race/Ethnicity

Nurse Type	Hispanic	White (Non-Hispanic)	Black or African American (Non-Hispanic)	Asian (Non-Hispanic)	Other or Multiple Races (non-Hispanic)
Nursing workforce	9.2%	65.0%	13.8%	8.5%	3.6%
Registered nurses ^a	8.6%	66.8%	11.7%	9.3%	3.6%
Licensed practical/vocational nurses	13.1%	51.8%	26.2%	5.2%	3.7%
Advanced practice registered nurses	6.4%	76.3%	7.4%	6.5%	3.4%
U.S. population	18.6%	58.9%	12.1%	5.7%	4.7%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding. Due to limited sample sizes, American Indian or Alaska Natives and Native Hawaiian and Other Pacific Islanders are included in "Other or Multiple Races." ^a Includes Clinical Nurse Specialists.

The majority of nurses of all types are women (Table 6). In fact, 88% of the nursing workforce is female, compared with 50% of the overall U.S. population.

Table 6. Nursing Workforce by Gender

Nurse Type	Male	Female
Nursing workforce	12.3%	87.7%
Registered nurses ^a	12.1%	87.9%
Licensed practical/vocational nurses	12.0%	88.0%
Advanced practice registered nurses	15.8%	84.2%
U.S. population	49.6%	50.4%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). ^a Includes Clinical Nurse Specialists.

The average age of RNs in the United States is 43.4 years old, compared to 44.3 years old for APRNs and 43.1 years old for LPNs (Table 7). LPNs are relatively younger than RNs and APRNs. This is not surprising as many LPNs go on to become RNs and many RNs go on to become APRNs.¹⁹ Overall, 43% of the nursing workforce is under the age of 40.

Table 7. Nursing Workforce, Average Age and Age Distribution

Nurse Type	Average Age	Less than 30 Years Old	30 to 39 Years Old	40 to 49 Years Old	50 to 59 Years Old	60 Years and Older
Nursing workforce	43.4	16.9%	26.1%	23.1%	19.9%	13.9%
Registered nurses ^a	43.4	17.3%	26.0%	22.8%	19.9%	13.9%
Licensed practical/vocational nurses	43.1	20.0%	22.9%	22.6%	20.1%	14.5%
Advanced practice registered nurses	44.3	5.3%	35.3%	27.8%	18.9%	12.6%
U.S. population	39.1	38.4%	13.5%	12.4%	12.8%	22.9%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding. ^a Includes Clinical Nurse Specialists.

Nurses work in several roles in the U.S. health care system, ranging from administration and education to a variety of patient care roles. According to the 2022 National Sample Survey of Registered Nurses (NSSRN), approximately 85% of RNs (including APRNs) have patient care responsibilities as of 2021.²⁰ RNs with patient care responsibilities work in a variety of settings and specialties (Table 8).

Table 8. Clinical Specialties of Registered Nurses, Including Advanced Practice Registered Nurses, 2021

Clinical Specialty	Count of RNs	Percentage
General medical surgical	399,864	13.7%
Surgery (pre-op, post-op, PACU, anesthesia)	302,775	10.3%
Critical Care or intensive care	302,463	10.3%
Emergency or trauma care	224,047	7.7%
Ambulatory care – primary care	182,927	6.2%
Cardiac or cardiovascular care	177,117	6.0%
Home health or hospice	160,647	5.5%
Labor and delivery or neonatal care	130,785	4.5%
Psychiatric or mental health	126,175	4.3%
Ambulatory care – specialty	125,365	4.3%
Oncology	106,370	3.6%
School health service (K-12 or post-secondary)	84,304	2.9%
Obstetrics and gynecology	65,790	2.2%
Community or public health	64,403	2.2%
Rehabilitation	63,829	2.2%
Renal or dialysis	57,520	2.0%
Chronic care	52,419	1.8%
Gastrointestinal	36,047	1.2%
Neurological	33,803	1.2%
Orthopedics	33,737	1.2%
Infectious or communicable disease	19,705	0.7%
Pulmonary or respiratory	16,445	0.6%
Occupational health	15,422	0.5%
Substance use disorder	14,571	0.5%
Other	132,141	4.5%

Note. Adapted from the *National Center for Health Workforce Analysis (NCHWA) Nursing Workforce Dashboard*, by the U.S. Health Resources and Services Administration, 2022 (<https://data.hrsa.gov/topics/health-workforce/nursing-workforce-dashboards>).

The National Center for Health Workforce Analysis (NCHWA) projects a 6% shortage of RNs nationwide and a 13% shortage in nonmetro areas in 2037.¹⁸ The demand for LPNs is projected to grow faster than supply between 2022 and 2037, resulting in a projected shortage of 302,440 LPN FTEs (a 36% shortage) in 2037.¹⁸

A strong pipeline of new graduates is crucial to ensuring the future of the nursing profession. The number of candidates taking the National Council Licensure Examination for RNs (NCLEX-RN), the national licensure examination for RNs, has increased in each of the last five years, from 252,311 in 2019 to 358,998 in 2023 (Table 9). While pass rates declined from 2019 to 2022, they increased in 2023. Additionally, the number of newly licensed RNs continues to increase, from 183,682 in 2019 to 250,078 in 2023.

According to the American Association of Colleges of Nursing (AACN), most individuals enter the nursing profession with a Bachelor of Science in Nursing (BSN) degree. Despite strong growth in enrollment from 2002 to 2018, the latest AACN survey found that enrollment in entry-level BSN programs has declined 9.9% from 2022 to 2023, which continues a five year downward trend in enrollment for RN-to-BSN programs.²¹

Table 9. National Council Licensure Examination for Registered Nurses (NCLEX-RN) Candidates and Pass Rates, 2019-2023

Candidate Type	2019	2020	2021	2022	2023
First-time U.S. educated	171,387	177,407	185,062	188,005	186,350
Repeat U.S. educated	40,022	44,983	55,192	69,715	58,674
First-time international	21,041	11,903	18,495	35,074	65,966
Repeat international	19,861	18,106	20,066	28,762	48,008
Total	252,311	252,399	278,815	321,556	358,998
Overall pass rates	72.8%	72.4%	68.9%	63.4%	69.7%
Estimated number of newly licensed RNs	183,682	182,611	191,964	203,834	250,078

Note. Adapted from the *National Council Licensure Examination (NCLEX) Pass Rates*, by the National Council of State Boards of Nursing, various years (<https://www.ncsbn.org/exams/exam-statistics-and-publications/nclex-pass-rates.page>).

The estimates of the number of candidates passing the National Council Licensure Examination for Practical Nurses (NCLEX-PN) and obtaining their LPN license increased by 4.2% from 2019 to 2023. There was a 3.0% increase in candidates taking the exam over the period. (Table 10).

Table 10. National Council Licensure Examination for Practical Nurses (NCLEX-PN) Candidates and Pass Rates, 2019-2023

Candidate Type	2019	2020	2021	2022	2023
First-time U.S. educated	48,234	45,661	46,356	47,635	47,552
Repeat U.S. educated	14,163	14,620	17,420	17,686	17,203
First-time international	523	560	435	408	409
Repeat international	843	711	660	562	515
Total	63,763	61,552	64,871	66,291	65,679
Overall pass rates	73.7%	70.9%	66.9%	67.5%	74.5%
Estimated number of newly licensed LPNs	47,000	43,634	43,412	44,720	48,957

Note. Adapted from the *National Council Licensure Examination (NCLEX) Pass Rates*, by the National Council of State Boards of Nursing, various years (<https://www.ncsbn.org/exams/exam-statistics-and-publications/nclex-pass-rates.page>).

Oral Health

The nation's oral health workforce, comprised of dentists, dental hygienists, and dental assistants, totaled 747,582 workers in 2022, up from 696,779 in 2018 (Table 11). Overall, the number of dentists increased by 2.1% over the past five years. Although the number of dental hygienists and dental assistants declined in 2020 and 2021, they increased in 2022.

Table 11. Enumeration of the Oral Health Workforce, 2018-2022

Provider Type	2018	2019	2020	2021	2022	2018-2022 Percent Change
All dentists ^a	200,816	201,387	202,241	204,013	205,048	2.1%
General dentists	157,448	157,252	157,446	158,386	158,919	0.9%
Orthodontists	10,474	10,508	10,592	10,660	10,662	1.8%
Pediatric dentists	7,955	8,183	8,475	8,730	8,945	12.4%
Oral surgeons	7,185	7,171	7,200	7,156	7,149	-0.5%
Periodontists	5,681	5,664	5,629	5,596	5,528	-2.7%
Endodontists	5,609	5,609	5,651	5,655	5,663	1.0%
Other dentists	6,464	7,000	7,248	7,830	8,182	26.6%
Dental hygienists ^b	186,945	202,927	198,941	198,259	206,090	10.2%
Dental assistants ^b	309,018	343,903	318,309	311,695	336,444	8.9%
Oral health workforce total	696,779	748,217	719,491	713,967	747,582	7.3%

^a Adapted from the *American Dental Association's (ADA) Year-End Master File*, by the ADA, various years. Includes active dentists located in the 50 states, Washington, DC, Puerto Rico, and Guam, as well as overseas military personnel. Licensed dentists over the age of 80 are excluded to account for dentists who have retired but still have an active license. ^b Adapted from the national- and person-level files from the *American Community Survey 1-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/1-Year/>).

Overall, compared to the U.S. population, a greater percentage of dentists are non-Hispanic White (67% compared to 59%) and non-Hispanic Asian (19% compared to 6%) (Table 12). While the share of dentists and hygienists who are Hispanic is lower than in the overall population, the share of dental assistants who are Hispanic is higher (28% compared to 19%).

Table 12. Oral Health Workforce by Race/Ethnicity

Provider Type	Hispanic	White (Non-Hispanic)	Black or African American (Non-Hispanic)	Asian (Non-Hispanic)	Other or Multiple Races (non-Hispanic)
Oral health workforce	17.8%	63.7%	5.4%	9.4%	3.7%
Dentists	7.1%	66.7%	4.1%	19.4%	2.7%
Dental hygienists	10.1%	76.8%	3.8%	5.6%	3.7%
Dental assistants	28.2%	54.3%	7.0%	6.2%	4.3%
U.S. population	18.6%	58.9%	12.1%	5.7%	4.7%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding. Due to limited sample sizes, American Indian or Alaska Natives and Native Hawaiian and Other Pacific Islanders are included in "Other or Multiple Races."

The majority (67%) of dentists are men (Table 13). However, according to the American Dental Association (ADA), the share of dentists who are female has grown in recent years, increasing from 24% in 2010 to 38% in 2023.²² In contrast, most dental hygienists and dental assistants are women (both 94%).

Table 13. Oral Health Workforce by Gender

Provider Type	Male	Female
Oral health workforce	21.8%	78.2%
Dentists	67.1%	32.9%
Dental hygienists	5.8%	94.2%
Dental assistants	6.5%	93.5%
U.S. population	49.6%	50.4%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>).

The average age of dentists in the United States is 48.3 years old, compared to 42.5 years old for hygienists and 37.1 years old for dental assistants (Table 14).

Table 14. Oral Health Workforce, Average Age and Age Distribution

Provider Type	Average Age	Less than 30 Years Old	30 to 39 Years Old	40 to 49 Years Old	50 to 59 Years Old	60 Years and Older
Oral health workforce	41.4	23.9%	26.0%	20.3%	16.8%	13.0%
Dentists	48.3	5.9%	26.8%	22.8%	19.2%	25.3%
Dental hygienists	42.5	18.3%	28.1%	21.8%	20.1%	11.6%
Dental assistants	37.1	37.0%	24.4%	18.0%	13.6%	7.0%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding.

NCHWA projects shortages for all dentists (8,100 FTEs) and dental hygienists (29,740 FTEs) (Table 15). Supply adequacy varies considerably by provider type.

Table 15. Projected Surplus or Shortage for Selected Oral Health Occupations and Specialties, 2037

Provider Type	Surplus or (Shortage)	Percent Adequacy
All dentists	(8,100)	96%
Endodontists	(200)	97%
General dentists	(11,860)	93%
Oral surgeons	(360)	95%
Orthodontists	1,090	111%
Other dentists	580	113%
Pediatric dentists	3,180	137%
Periodontists	(530)	91%
Dental hygienists	(29,740)	85%

Note. Adapted from the *National Center for Health Workforce Analysis (NCHWA) Workforce Projections*, by the U.S. Health Resources and Services Administration, 2024 (<https://data.hrsa.gov/topics/health-workforce/workforce-projections>). Demand and supply estimates and projections are in full-time equivalents (FTEs), defined as working 40 hours a week. FTE estimates may differ from estimates of the head counts of the health workforce. Percent adequacy is calculated as projected supply divided by projected demand.

The number of dental graduates increased by 8% between 2019 to 2023. In contrast, the number of individuals graduating from dental hygiene and dental assistant programs has declined since 2019 (Table 16).

Table 16. Graduates from Dental Programs, 2019-2023

Provider Type	2019	2020	2021	2022	2023	2019-2023 Percent Change
All dentists	6,350	6,609	6,665	6,745	6,869	8.2%
General dentists	4,595	4,829	4,888	4,961	5,098	10.9%
Orthodontists	388	391	386	398	389	0.3%
Pediatric dentists	460	477	479	472	479	4.1%
Oral surgeons	243	247	249	255	252	3.7%
Periodontists	192	185	185	181	193	0.5%
Endodontists	221	210	215	222	215	-2.7%
Other	251	270	263	256	243	-3.2%
Dental hygienists	7,311	7,002	7,325	6,857	7,132	-2.4%
Dental assistants	4,517	4,003	3,943	3,720	3,721	-17.6%

Note. Adapted from the *Dental Education Program Enrollment and Graduates Trends Report: 2023-24*, Table 10: *Graduates of Accredited Dental Education Programs, 2019 to 2023*, by the American Dental Association, various years (<https://www.ada.org/en/resources/research/health-policy-institute/dental-education>). Other dentists include students enrolled in advanced programs for dental anesthesiology, oral and maxillofacial pathology, oral and maxillofacial radiology, oral medicine, orofacial pain, and prosthodontics/maxillofacial prosthetics. Enrollment in general dentistry programs is estimated as total enrollment less enrollment in specialty programs.

The declining number of dental hygienists and dental assistants, along with recent declines in the number of new graduates, has raised concerns about the future adequacy of the supply of hygienists and dental assistants. The 2024 Quarter One Economic Outlook and Emerging Issues in Dentistry poll by the ADA's Health Policy Institute report that 89% of dentists find recruitment of dental hygienists to be "very" or "extremely challenging," while 77% find recruitment of dental assistants very or extremely challenging.²³

Conclusion

The U.S. health care workforce faces several challenges. The COVID-19 pandemic has changed the way care is provided, and burnout continues to affect workers. Current and future shortages, as well as maldistribution, make it more difficult to provide care. An aging population will require providers who are trained to handle the needs of an aging population. With the health care delivery system rapidly changing, it becomes even more important to have a well-trained and well-distributed health care workforce that can adapt to the changing needs of a population.

Additional health care occupations

Tables 17 to 20 provide demographic information for additional health care professions, including behavioral health providers, health care diagnosing or treating practitioners, health technologists and technicians, health care support occupations, and others.

Table 17. Selected Additional Health Care Professions by Race/Ethnicity

Provider Type	Total	Hispanic	White (Non-Hispanic)	Black or African American (Non-Hispanic)	Asian (Non-Hispanic)	Native Hawaiian and Other Pacific Islander	American Indian or Alaska Native	Other or Multiple Races
Behavioral health providers								
Psychologists ^a	99,030	7.2%	80.7%	4.8%	3.9%	**	**	3.3%
Counselors ^b								
Substance abuse and behavioral disorder counselors	99,771	15.5%	58.2%	17.6%	4.1%	0.1%	0.6%	3.9%
Educational, guidance, and career counselors and advisors	15,577	10.8%	60.8%	20.8%	3.8%	**	**	3.2%
Marriage and family therapists	28,066	11.5%	70.8%	10.4%	2.9%	**	0.3%	4.1%
Mental health counselors	135,662	13.8%	61.2%	17.8%	2.9%	0.2%	0.2%	3.9%
All other counselors	144,123	11.9%	60.2%	20.7%	2.7%	0.2%	0.6%	3.6%
Social workers ^b								
Child, family, and school social workers	24,791	16.4%	53.9%	21.0%	1.8%	0.0%	0.7%	6.1%
Health care social workers	78,647	14.1%	53.9%	24.3%	2.9%	**	0.7%	3.9%
Mental health and substance abuse social workers	24,644	12.7%	69.1%	11.7%	2.4%	0.0%	**	4.1%
All other social workers	409,256	15.2%	57.2%	20.0%	3.7%	0.1%	0.5%	3.4%
Health care diagnosing and treating practitioners								
Audiologists	19,871	6.4%	82.4%	3.5%	3.7%	0.0%	0.2%	3.8%

Provider Type	Total	Hispanic	White (Non-Hispanic)	Black or African American (Non-Hispanic)	Asian (Non-Hispanic)	Native Hawaiian and Other Pacific Islander	American Indian or Alaska Native	Other or Multiple Races
Chiropractors	71,101	6.9%	82.1%	2.8%	5.1%	**	0.2%	2.9%
Dietitians and nutritionists	112,065	9.2%	68.0%	13.0%	6.3%	**	0.3%	3.1%
Optometrists	47,930	3.7%	72.5%	2.5%	18.3%	0.0%	0.1%	2.9%
Pharmacists	352,027	5.1%	63.3%	7.0%	21.6%	0.1%	0.1%	2.8%
Physician assistants	152,103	10.2%	71.8%	5.4%	8.7%	0.1%	0.2%	3.6%
Podiatrists	12,247	5.2%	81.1%	3.8%	7.6%	**	0.0%	2.1%
Therapists								
Occupational therapists	140,243	6.0%	78.7%	5.5%	6.7%	**	0.1%	2.9%
Physical therapists	283,667	7.0%	73.3%	4.0%	12.4%	0.1%	0.1%	3.0%
Radiation therapists	14,648	10.3%	70.9%	6.7%	7.5%	0.0%	**	4.4%
Recreational therapists	17,292	7.4%	70.9%	12.8%	5.5%	**	**	3.3%
Respiratory therapists	123,267	11.5%	64.8%	12.9%	7.2%	**	0.4%	3.0%
Speech-language pathologists	187,083	9.1%	79.9%	4.8%	3.3%	**	0.3%	2.6%
Veterinarians	98,279	5.0%	84.9%	1.5%	4.9%	**	0.1%	3.5%
Health technologists and technicians								
Clinical laboratory technologists and technicians	344,017	13.4%	54.2%	16.1%	12.1%	0.3%	0.5%	3.5%
Cardiovascular technologists and technicians	49,853	12.9%	56.8%	16.8%	9.8%	0.2%	0.4%	3.2%
EMTs and paramedics	249,388	12.9%	72.5%	6.9%	3.2%	0.1%	0.8%	3.6%
Opticians, dispensing	72,044	17.0%	67.3%	5.4%	6.4%	0.2%	0.2%	3.4%

Provider Type	Total	Hispanic	White (Non-Hispanic)	Black or African American (Non-Hispanic)	Asian (Non-Hispanic)	Native Hawaiian and Other Pacific Islander	American Indian or Alaska Native	Other or Multiple Races
Pharmacy technicians	406,831	16.4%	56.5%	13.7%	8.8%	0.1%	0.6%	4.0%
Health practitioner support technologists and technicians ^c	423,365	14.9%	61.9%	14.2%	3.8%	0.2%	0.4%	4.7%
Medical records specialists	193,803	13.5%	61.9%	14.9%	5.4%	0.3%	1.0%	3.0%
Health care support occupations								
Home health aides	602,061	26.3%	29.9%	31.2%	8.2%	0.1%	0.6%	3.8%
Personal care aides	1,582,133	21.2%	41.1%	24.5%	8.3%	0.5%	0.7%	3.7%
Nursing, psychiatric aides, and orderlies	1,506,681	14.7%	41.6%	34.3%	5.0%	0.2%	0.7%	3.5%
Occupational therapy assistants and aides	56,110	12.6%	65.1%	14.5%	3.9%	**	0.6%	3.3%
Physical therapist assistants and aides	120,992	11.8%	71.3%	6.4%	6.8%	0.1%	0.3%	3.2%
Massage therapists	198,118	13.0%	65.6%	7.0%	10.1%	0.1%	0.2%	3.8%
Medical assistants	614,982	29.6%	47.4%	14.2%	4.9%	0.2%	0.5%	3.3%
Pharmacy aides	37,411	21.4%	46.1%	15.9%	11.9%	**	0.4%	4.0%
Veterinary assistants and laboratory animal caretakers	73,567	16.3%	72.8%	3.6%	2.8%	**	0.1%	4.4%
Phlebotomists	128,195	19.8%	47.4%	22.4%	5.9%	0.2%	0.6%	3.8%
Medical transcriptionists	53,844	11.4%	65.1%	6.8%	12.5%	**	0.2%	3.7%
Other occupations								

Provider Type	Total	Hispanic	White (Non-Hispanic)	Black or African American (Non-Hispanic)	Asian (Non-Hispanic)	Native Hawaiian and Other Pacific Islander	American Indian or Alaska Native	Other or Multiple Races
Community health workers: other community and social service specialists ^d	108,983	18.3	52.6%	18.7%	4.3%	**	1.3%	4.6%
U.S. population	331,097,594	18.6%	58.9%	12.1%	5.7%	0.2%	0.6%	3.9%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding.

^a Limited to psychologists with doctoral-level education attainment. The total count for psychologists, regardless of degree level, is 243,778. ^b Limited to practitioners employed in a medical setting, defined as employed in NAICS sector 62 (health care and social assistance), excluding NAICS 6242 (community food and housing, and emergency services), 6243 (vocational rehabilitation services), and 6244 (child day care services). ^c Includes dietetic technicians, psychiatric technicians, surgical technologists, veterinary technologists and technicians, and ophthalmic medical technicians. ^d The variable name has changed from “other community and social service specialists including community health workers” to “other community and social service specialists” in the 2018-2022 PUMS. ** Data withheld due to a high standard error.

Table 18. Selected Additional Health Care Professions by Gender

Provider Type	Total	Male	Female
Behavioral health providers			
Psychologists ^a	99,030	32.8%	67.2%
Counselors ^b			
Substance abuse and behavioral disorder counselors	99,771	27.9%	72.1%
Educational, guidance, and career counselors and advisors	15,577	27.4%	72.6%
Marriage and family therapists	28,066	20.7%	79.3%
Mental health counselors	135,662	22.6%	77.4%
All other counselors	144,123	29.4%	70.6%
Social workers ^b			
Child, family, and school social workers	24,791	15.9%	84.1%
Health care social workers	78,647	22.5%	77.5%
Mental health and substance abuse social workers	24,644	17.0%	83.0%
All other social workers	409,256	16.2%	83.8%
Health care diagnosing and treating practitioners			
Audiologists	19,871	15.8%	84.2%
Chiropractors	71,101	69.8%	30.3%
Dietitians and nutritionists	112,065	10.1%	89.9%
Optometrists	47,930	52.7%	47.3%
Pharmacists	352,027	40.7%	59.3%
Physician assistants	152,103	34.2%	65.8%
Podiatrists	12,247	73.4%	26.6%
Therapists			
Occupational therapists	140,243	12.1%	87.9%
Physical therapists	283,667	35.0%	65.0%
Radiation therapists	14,648	29.3%	70.7%
Recreational therapists	17,292	19.6%	80.4%
Respiratory therapists	123,267	34.7%	65.3%
Speech-language pathologists	187,083	4.8%	95.2%
Veterinarians	98,279	35.5%	64.5%
Health technologists and technicians			
Clinical laboratory technologists and technicians	344,017	28.9%	71.1%
Cardiovascular technologists and technicians	49,853	40.6%	59.4%
EMTs and paramedics	249,388	65.5%	34.5%
Opticians, dispensing	72,044	27.6%	72.4%
Pharmacy technicians	406,831	21.7%	78.3%

Provider Type	Total	Male	Female
Health practitioner support technologists and technicians ^c	423,365	20.3%	79.7%
Medical records specialists	193,803	10.4%	89.6%
Health care support occupations			
Home health aides	602,061	12.3%	87.7%
Personal care aides	1,582,133	17.9%	82.1%
Nursing, psychiatric aides, and orderlies	1,506,681	13.2%	86.8%
Occupational therapy assistants and aides	56,110	16.5%	83.5%
Physical therapist assistants and aides	120,992	31.6%	68.4%
Massage therapists	198,118	20.4%	79.6%
Medical assistants	614,982	9.6%	90.4%
Pharmacy aides	37,411	24.7%	75.3%
Veterinary assistants and laboratory animal caretakers	73,567	15.4%	84.6%
Phlebotomists	128,195	16.0%	84.0%
Medical transcriptionists	53,844	19.8%	80.2%
Other occupations			
Community health workers: other community and social service specialists ^d	108,983	30.5%	69.5%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding. ^a Limited to psychologists with doctoral-level education attainment. The total count for psychologists, regardless of degree level, is 243,778. ^b Limited to practitioners employed in a medical setting, defined as employed in NAICS sector 62 (health care and social assistance), excluding NAICS 6242 (community food and housing, and emergency services), 6243 (vocational rehabilitation services), and 6244 (child day care services). ^c Includes dietetic technicians, psychiatric technicians, surgical technologists, veterinary technologists and technicians, and ophthalmic medical technicians. ^d The variable name has changed from “other community and social service specialists including community health workers” to “other community and social service specialists” in the 2018-2022 PUMS. ** Data withheld due to a high standard error.

Table 19. Selected Additional Health Care Professions by Age

Provider Type	Total	Less than 30 Years Old	30 to 39 Years Old	40 to 49 Years Old	50 to 59 Years Old	60 Years and Older
Behavioral health providers						
Psychologists ^a	99,030	2.1%	23.2%	22.4%	18.4%	33.8%
Counselors ^b						
Substance abuse and behavioral disorder counselors	99,771	30.5%	27.2%	17.4%	14.3%	10.6%
Educational, guidance, and career counselors and advisors	15,577	22.1%	21.4%	24.0%	16.9%	15.6%
Marriage and family therapists	28,066	14.4%	28.3%	21.2%	15.0%	21.1%
Mental health counselors	135,662	20.3%	29.4%	21.5%	16.0%	12.9%
All other counselors	144,123	20.0%	24.0%	18.7%	17.7%	19.6%
Social workers ^b						
Child, family, and school social workers	24,791	24.8%	30.1%	21.6%	13.6%	9.9%
Health care social workers	78,647	14.2%	26.4%	22.1%	22.3%	15.0%
Mental health and substance abuse social workers	24,644	12.4%	23.9%	20.8%	16.7%	26.3%
All other social workers	409,256	20.2%	27.9%	23.1%	16.8%	12.0%
Health care diagnosing and treating practitioners						
Audiologists	19,871	15.4%	27.8%	25.4%	20.7%	10.7%
Chiropractors	71,101	8.0%	25.9%	25.2%	21.5%	19.5%
Dietitians and nutritionists	112,065	22.8%	26.3%	19.7%	16.9%	14.3%
Optometrists	47,930	8.9%	28.2%	23.6%	19.0%	20.3%
Pharmacists	352,027	17.9%	31.7%	22.7%	16.0%	11.7%
Physician assistants	152,103	20.4%	38.6%	21.9%	11.9%	7.2%
Podiatrists	12,247	4.3%	21.2%	25.1%	22.2%	27.3%
Therapists						

Provider Type	Total	Less than 30 Years Old	30 to 39 Years Old	40 to 49 Years Old	50 to 59 Years Old	60 Years and Older
Occupational therapists	140,243	19.9%	31.0%	24.6%	16.2%	8.2%
Physical therapists	283,667	16.8%	31.2%	25.5%	18.1%	8.4%
Radiation therapists	14,648	14.6%	33.6%	23.8%	21.3%	6.7%
Recreational therapists	17,292	29.7%	19.4%	18.8%	17.5%	14.6%
Respiratory therapists	123,267	12.7%	26.5%	23.8%	22.3%	14.7%
Speech-language pathologists	187,083	20.8%	30.4%	23.5%	15.6%	9.6%
Veterinarians	98,279	9.9%	31.9%	23.0%	17.0%	18.2%
Health technologists and technicians						
Clinical laboratory technologists and technicians	344,017	25.9%	22.6%	18.5%	18.6%	14.5%
Cardiovascular technologists and technicians	49,853	19.3%	24.4%	21.8%	20.5%	14.1%
EMTs and paramedics	249,388	40.1%	27.8%	16.8%	11.0%	4.3%
Opticians, dispensing	72,044	22.4%	22.6%	17.9%	19.7%	17.4%
Pharmacy technicians	406,831	38.3%	26.2%	16.2%	12.6%	6.6%
Health practitioner support technologists and technicians ^c	423,365	40.5%	25.6%	15.8%	12.1%	6.0%
Medical records specialists	193,803	12.2%	21.4%	24.0%	25.1%	17.4%
Health care support occupations						
Home health aides	602,061	16.6%	17.4%	21.0%	24.5%	20.5%
Personal care aides	1,582,133	22.1%	17.5%	18.2%	21.7%	20.6%
Nursing, psychiatric aides, and orderlies	1,506,681	33.8%	21.1%	17.7%	17.1%	10.3%
Occupational therapy assistants and aides	56,110	23.9%	26.4%	20.4%	19.8%	9.5%
Physical therapist assistants and aides	120,992	35.2%	24.2%	18.6%	15.4%	6.6%
Massage therapists	198,118	15.6%	25.6%	25.5%	20.0%	13.3%
Medical assistants	614,982	35.2%	28.4%	18.9%	12.0%	5.5%
Pharmacy aides	37,411	39.6%	25.2%	15.5%	11.7%	8.1%

Provider Type	Total	Less than 30 Years Old	30 to 39 Years Old	40 to 49 Years Old	50 to 59 Years Old	60 Years and Older
Veterinary assistants and laboratory animal caretakers	73,567	59.7%	22.5%	8.0%	5.7%	4.1%
Phlebotomists	128,195	31.5%	24.3%	20.9%	15.7%	7.5%
Medical transcriptionists	53,844	55.7%	10.5%	6.9%	12.2%	14.7%
Other occupations						
Community health workers: other community and social service specialists ^d	108,983	24.3%	25.2%	20.9%	16.6%	12.9%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding.

^a Limited to psychologists with doctoral-level education attainment. The total count for psychologists, regardless of degree level, is 243,778. ^b Limited to practitioners employed in a medical setting, defined as employed in NAICS sector 62 (health care and social assistance), excluding NAICS 6242 (community food and housing, and emergency services), 6243 (vocational rehabilitation services), and 6244 (child day care services). ^c Includes dietetic technicians, psychiatric technicians, surgical technologists, veterinary technologists and technicians, and ophthalmic medical technicians. ^d The variable name has changed from “other community and social service specialists including community health workers” to “other community and social service specialists” in the 2018-2022 PUMS. ** Data withheld due to a high standard error.

Table 20. Selected Additional Health Care Professions by Employment Setting

Provider Type	Total	Hospital	Ambulatory	Residential – Long Term Care	Other
Behavioral health providers					
Psychologists ^a	99,030	14.2%	57.1%	0.6%	28.2%
Counselors ^b					
Substance abuse and behavioral disorder counselors	99,771	7.7%	64.2%	10.7%	17.3%
Educational, guidance, and career counselors and advisors	15,577	5.3%	16.5%	17.8%	60.4%
Marriage and family therapists	28,066	3.0%	32.9%	3.2%	60.8%
Mental health counselors	135,662	10.1%	66.3%	3.5%	20.1%
All other counselors	144,123	6.9%	22.9%	11.0%	59.2%
Social workers ^b					
Child, family, and school social workers	24,791	2.5%	5.3%	7.8%	84.4%
Health care social workers	78,647	11.9%	11.1%	29.6%	47.4%
Mental health and substance abuse social workers	24,644	18.9%	52.7%	3.3%	25.2%
All other social workers	409,256	16.8%	18.7%	8.5%	56.0%
Health care diagnosing and treating practitioners					
Audiologists	19,871	27.5%	44.2%	**	28.1%
Chiropractors	71,101	0.5%	96.9%	0.1%	2.4%
Dietitians and nutritionists	112,065	33.6%	20.2%	12.2%	34.0%
Optometrists	47,930	3.8%	86.3%	**	9.8%
Pharmacists	352,027	29.0%	3.0%	0.3%	67.6%
Physician assistants	152,103	42.4%	46.1%	0.5%	11.0%
Podiatrists	12,247	14.9%	80.8%	0.0%	4.3%
Therapists					
Occupational therapists	140,243	26.1%	37.2%	12.5%	24.2%

Provider Type	Total	Hospital	Ambulatory	Residential – Long Term Care	Other
Physical therapists	283,667	26.2%	56.5%	8.2%	9.0%
Radiation therapists	14,648	65.9%	26.6%	0.0%	7.5%
Recreational therapists	17,292	24.5%	13.6%	37.0%	24.9%
Respiratory therapists	123,267	84.5%	6.3%	2.8%	6.4%
Speech-language pathologists	187,083	11.6%	29.4%	5.4%	53.6%
Veterinarians	98,279	0.4%	0.1%	0.0%	99.5%
Health technologists and technicians					
Clinical laboratory technologists and technicians	344,017	49.5%	12.9%	4.4%	33.1%
Cardiovascular technologists and technicians	49,853	71.0%	19.5%	0.2%	9.3%
EMTs and paramedics	249,388	19.7%	5.1%	0.4%	74.9%
Opticians, dispensing	72,044	2.1%	39.6%	0.2%	58.1%
Pharmacy technicians	406,831	16.8%	2.1%	0.4%	80.8%
Health practitioner support technologists and technicians ^c	423,365	26.5%	19.3%	8.7%	45.5%
Medical records specialists	193,803	40.5%	24.2%	5.2%	30.1%
Health care support occupations					
Home health aides	602,061	0.6%	79.9%	2.8%	16.7%
Personal care aides	1,582,133	1.7%	24.2%	18.9%	55.3%
Nursing, psychiatric aides, and orderlies	1,506,681	29.7%	15.6%	42.6%	12.1%
Occupational therapy assistants and aides	56,110	12.1%	42.6%	28.8%	16.5%
Physical therapist assistants and aides	120,992	17.1%	62.9%	14.6%	5.5%
Massage therapists	198,118	0.9%	8.4%	0.3%	90.4%
Medical assistants	614,982	24.7%	62.5%	1.5%	11.3%
Pharmacy aides	37,411	13.6%	2.9%	0.8%	82.7%
Veterinary assistants and laboratory animal caretakers	73,567	0.4%	0.1%	**	99.5%
Phlebotomists	128,195	42.8%	11.7%	0.6%	44.9%

Provider Type	Total	Hospital	Ambulatory	Residential – Long Term Care	Other
Medical transcriptionists	53,844	29.2%	29.6%	0.2%	40.9%
Other occupations					
Community health workers: other community and social service specialists ^d	108,983	7.1%	6.1%	1.1%	85.7%

Note. Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>). Numbers may not add to 100% due to rounding.

^a Limited to psychologists with doctoral-level education attainment. The total count for psychologists, regardless of degree level, is 243,778. ^b Limited to practitioners employed in a medical setting, defined as employed in NAICS sector 62 (health care and social assistance), excluding NAICS 6242 (community food and housing, and emergency services), 6243 (vocational rehabilitation services), and 6244 (child day care services). ^c Includes dietetic technicians, psychiatric technicians, surgical technologists, veterinary technologists and technicians, and ophthalmic medical technicians. ^d The variable name has changed from “other community and social service specialists including community health workers” to “other community and social service specialists” in the 2018-2022 PUMS. ** Data withheld due to a high standard error.

Appendix A

Distribution of Patient Care Physicians Per 100,000 Population by State, 2022

State	Ratio
Alabama	190
Alaska	255
Arizona	222
Arkansas	191
California	246
Colorado	268
Connecticut	302
Delaware	226
District of Columbia	507
Florida	238
Georgia	202
Hawaii	260
Idaho	175
Illinois	243
Indiana	201
Iowa	194
Kansas	224
Kentucky	210
Louisiana	234
Maine	289
Maryland	300
Massachusetts	353
Michigan	251
Minnesota	272
Mississippi	171
Missouri	233
Montana	243
Nebraska	220
Nevada	185
New Hampshire	272
New Jersey	263
New Mexico	206
New York	290
North Carolina	228
North Dakota	221
Ohio	251
Oklahoma	182

State	Ratio
Oregon	274
Pennsylvania	270
Rhode Island	317
South Carolina	208
South Dakota	228
Tennessee	221
Texas	198
Utah	204
Vermont	330
Virginia	237
Washington	244
West Virginia	224
Wisconsin	241
Wyoming	192

Note. Adapted from the American Medical Association's (AMA) *Physician Professional Data*, 2022, and the state population estimates from the *Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia and Puerto Rico: April 1, 2020 to July 1, 2023*, by the U.S. Census Bureau, 2022 (<https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html>). Data includes both MDs and DOs and excludes residents. In 2022, there were 157,604 residents.

¹ Note. Adapted from the American Medical Association's (AMA) *Physician Professional Data*, 2022. Data for patient care practicing physicians includes both MDs and DOs but excludes residents and non-resident physicians working in administration, research, and other settings that does not involve direct contact with patients.

² Bureau of Labor Statistics. (n.d.). *Current employment statistics – CES (national): Table B-1a. Employees on nonfarm payrolls by industry sector and selected industry detail, seasonally adjusted* [Dashboard]. U.S. Department of Labor. Retrieved June 13, 2024, from https://www.bls.gov/ces/data/employment-and-earnings/2023/table1a_202312.htm

³ Centers for Medicare and Medicaid Services. (2024, June 8). *National health expenditure data: Historical* [Data set]. U.S. Department of Health and Human Services. Retrieved June 13, 2024, from <https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/nationalhealthaccountshistorical>

⁴ Health Resources and Services Administration. (2024, August 18). *Health workforce shortage areas* [Dashboard]. United States Department of Health and Human Services. Retrieved August 20, 2024, from <https://data.hrsa.gov/topics/health-workforce/shortage-areas>

⁵ The National Academies of Sciences, Engineering, and Medicine. (2019). *Taking action against clinician burnout: A systems approach to professional well-being*. National Academies Press. Retrieved November 17, 2023, from <https://nap.nationalacademies.org/download/25521#>

⁶ Hendrickson, R.C., Slevin, R.A., Hoerster, K.D., Chang, B.P., Sano, E., McCall, C.A., Monty, G.R., Thomas, R.G., & Raskind, M.A. (2022). The impact of the COVID-19 pandemic on mental health, occupational functioning, and professional retention among health care workers and first responders. *Journal of general internal medicine*, 37(2), 397–408. <https://doi.org/10.1007/s11606-021-07252-z>

⁷ Prasad, K., McLoughlin, C., Stillman, M., Poplau, S., Goelz, E., Taylor, S., Nankivil, N., Brown, R., Linzer, M., Cappelucci, K., Barbouche, M., & Sinsky, C.A. (2021). Prevalence and correlates of stress and burnout among U.S. healthcare workers during the COVID-19 pandemic: A national cross-sectional survey study. *EClinicalMedicine*, 35, 100879. <https://doi.org/10.1016/j.eclinm.2021.100879>

⁸ Shanafelt, T.D., West, C.P., Dyrbye, L.N., Trockel, M., Tutty, M., Wang, H., Carlasare, L.E., & Sinsky, C. (2022). Changes in burnout and satisfaction with work-life integration in physicians during the first 2 years of the COVID-19 pandemic. *Mayo Clinic proceedings*, 97(12), 2248–2258. <https://doi.org/10.1016/j.mayocp.2022.09.002>

- ⁹ Medscape. (2024, January 24). *New Medscape report reveals progress among physician burnout, depression*. PR Newswire. Retrieved June 14, 2024, from <https://www.prnewswire.com/news-releases/new-medscape-report-reveals-progress-among-physician-burnout-depression-302043454.html>
- ¹⁰ Smiley, R.A., Allgeyer, R.L., Shobo, Y., Lyons, K.C., Letourneau, R., Zhong, E., Kaminski-Ozturk, N., & Alexander, M. (2023). The 2022 National Nursing Workforce Survey. *Journal of nursing regulation*, 14(1), S1-S90. [https://doi.org/10.1016/S2155-8256\(23\)00047-9](https://doi.org/10.1016/S2155-8256(23)00047-9)
- ¹¹ CareQuest Institute for Oral Health. (2022 July). *Burnout among dental professionals before and during a public health crisis: Causes, consequences, and next steps*. CareQuest Institute. https://www.carequest.org/system/files/CareQuest_Institute_Burnout-Among-Dental-Professionals_8.3.22.pdf
- ¹² Rotenstein, L.S., Brown, R., Sinsky, C., & Linzer, M. (2023). The association of work overload with burnout and intent to leave the job across the healthcare workforce during COVID-19. *Journal of general internal medicine*, 38(8), 1920–1927. <https://doi.org/10.1007/s11606-023-08153-z>
- ¹³ Shen, K., Eddelbuettel, J.C.P., & Eisenberg, M.D. (2024). Job flows into and out of health care before and after the COVID-19 pandemic. *JAMA health forum*, 5(1), e234964. <https://doi.org/10.1001/jamahealthforum.2023.4964>
- ¹⁴ Adapted from the national- and person-level files from the *American Community Survey 5-Year Public Use Microdata Sample (PUMS)*, by the U.S. Census Bureau, 2018-2022 (<https://www2.census.gov/programs-surveys/acs/data/pums/2022/5-Year-CSV-PUS/>).
- ¹⁵ Association of American Colleges. (n.d.). *U.S. physician workforce data dashboard* [Dashboard]. Retrieved May 06, 2024, from <https://www.aamc.org/data-reports/report/us-physician-workforce-data-dashboard>
- ¹⁶ U.S. Census Bureau. (2023, September 27). Population projections. U.S. Department of Commerce. Retrieved June 13, 2024, from <https://www.census.gov/programs-surveys/popproj.html>
- ¹⁷ Adapted from the *American Medical Association's (AMA) Physician Professional Data*, 2022. Data excludes residents.
- ¹⁸ Health Resources and Services Administration. (n.d.). *Workforce projections* [Dashboard]. U.S. Department of Health and Human Services. Retrieved November 7, 2024, from <https://data.hrsa.gov/topics/health-workforce/workforce-projections>
- ¹⁹ Health Resources and Services Administration. (2024). *Technical documentation for HRSA's health workforce simulation model: IV. Nursing model components*. U.S. Department of Health and Human Services, Retrieved August 20, 2024, from <https://bhw.hrsa.gov/data-research/projecting-health-workforce-supply-demand/technical-documentation/nursing>
- ²⁰ Health Resources and Services Administration. (n.d.). *NCHWA nursing workforce dashboard* [Dashboard]. U.S. Department of Health and Human Services. Retrieved May 7, 2024, from <https://data.hrsa.gov/topics/health-workforce/nursing-workforce-dashboards>
- ²¹ American Association of Colleges of Nursing. (2024, June). *Nursing education factsheet: Degree completion programs for registered nurses: RN to master's degree and RN to baccalaureate programs*. Retrieved August 20, 2024, from <https://www.aacnnursing.org/news-data/fact-sheets/degree-completion-programs-for-rns>
- ²² American Dental Association. (2024). *Supply of dentists in the U.S.: 2001-2023* [Data set]. Retrieved June 7, 2024, from <https://www.ada.org/en/resources/research/health-policy-institute/dentist-workforce#:~:text=How%20many%20dentists%20are%20female,percentage%20of%20dentists%20are%20specialists%3F>
- ²³ American Dental Association Health Policy Institute. (2024, April). *Economic outlook and emerging issues in dentistry 1st quarter, 2024*. American Dental Association. Retrieved August 20, 2024, from https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/mar2024_hpi_economic_outlook_dentistry_main_report.pdf?rev=900b79b7a40f481ca45dd4951070bff8&hash=389FE7AAA294198974EC43456CDDD1D0E