

Sex, Race, and Ethnic Diversity of U.S. Health Occupations (2010-2012)

January 2015

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



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Suggested citation:

U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. Sex, Race, and Ethnic Diversity of U.S. Health Occupations (2010-2012), Rockville, Maryland; 2014.

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KEY FINDINGS

According to the 2010-2012 American Community Survey Public-Use Microdata Sample:

- Females represent the majority of workers in most U.S. health occupations (27 of 32), accounting for more than 80 percent of workers in nearly half (15 of 32) of these occupations.
- The majority of workers are male in 5 health occupations: Dentists, Chiropractors, Emergency Medical Technicians and Paramedics, Physicians, and Optometrists.
- Whites and Asians are the most represented race subgroups among the occupations found within the [Health Diagnosing and Treating Practitioners](#) grouping.
- Representation of Blacks and Hispanics is greatest among [Healthcare Support Occupations](#), for American Indians and Alaska Natives among the [Health Technologists and Technicians](#) subcategory, and for Native Hawaiians and Other Pacific Islanders among [Personal Care and Service Occupation workers](#).

Background

HRSA's primary mission is to help ensure access to care for all Americans. One key component of this mission is to strengthen the health workforce—making sure we have an adequate supply and distribution of well-prepared health workers to meet the nation's health care needs. A diverse workforce is vitally important to ensuring our nation has accessible, affordable, and quality health care.

HRSA defines diversity as “all the ways in which people differ, including innate characteristics (such as age, race, gender, national origin, mental or physical abilities, and sexual orientation) and acquired characteristics (such as education, socioeconomic status, religion, work experience, language skills, cultural values, geographic location, family status, organizational level, work style, philosophical and intellectual perspectives, etc.).”¹ In an effort to disseminate updated U.S. health workforce information, this brief provides data on the sex, race,² and Hispanic or Latino ethnic diversity for 32 U.S. health occupations.

For the purpose of this brief, the *U.S. working-age population* is used to represent the current workforce in the nation and includes the U.S. population 16 years of age or older who are currently employed or who were recently employed and are now seeking employment (e.g., individuals unemployed because they were laid off). Among the *U.S. working-age population*, 32 health occupations were identified to represent the *health workforce*. All occupations

¹HRSA Policy Statement on Workforce Diversity and Inclusion, January 2014.

²Race categories include White (non-Hispanic), Black/African-American, Asian, American Indians and Alaska Natives (non-Hispanic), Native Hawaiians and Other Pacific Islanders, and Multiple/Other Race (non-Hispanic).

included in this brief are defined and found among the categories/groupings created by the 2010 Standard Occupational Classification (SOC) system. For the period 2010-2012, the 32 occupations included in the *health workforce* represent approximately 10 percent of the *U.S. working-age population*.¹ (See the “About the Data” section for additional information on definitions and selection rationale for the occupations included in this analysis.)

Findings

Sex

The data presented in Table 1 show the distribution by sex of the U.S. working-age population and for 32 identified health occupations. Although males represent a larger proportion of the overall U.S. working-age population (52.8 percent), for 27 of the 32 health occupations, females represent a higher proportion of workers. For the remaining five (5) health occupations, males represent a higher proportion. All but one of these health occupations are within the *Health Diagnosing and Treating Practitioner* occupational subcategory, with Emergency Medical Technicians and Paramedics (69.3 percent male) being the only outlier (*Health Technologists and Technicians* occupational subcategory). On the other hand, the largest proportion of female workers is within the *Management, Healthcare Support, and Health Technologists and Technicians* categories.

Race and Ethnicity

With respect to race, Whites make up the majority of the U.S. working-age population (77.6 percent) compared with Blacks or African Americans (13.6 percent), Asians (6 percent), and individuals reporting multiple races or other race (2 percent). Both American Indians and Alaska Natives and Native Hawaiians and Other Pacific Islanders represent less than 1 percent of the U.S. working-age population (0.7 percent and 0.2 percent, respectively).² In regard to ethnicity, Hispanics or Latinos comprise 15.5 percent of the U.S. working-age population. The largest proportion of workers in each of the 32 identified health occupations are White (Non-Hispanic). Table 2 shows the distributions by race for the 32 health occupations while Table 3 provides the ethnicity data for these occupations among Hispanics or Latinos. Race and ethnicity findings for the examined health occupations are discussed in greater detail in the occupational subsections of the report that follow.

¹HRSA analysis of the U.S. Census Bureau, American Community Survey (ACS) Public Use Microdata Sample (PUMS), 2010-2012.

²HRSA analysis of the ACS PUMS, 2010-2012.

Life, Physical, and Social Science and Community and Social Service Occupations

Psychologists, the only occupation included under the *Life, Physical, and Social Science Occupation* heading, identify their race as White nearly 90 percent of the time. All other race and ethnicity subgroups are greatly underrepresented among Psychologists when compared to their distributions within the U.S. working-age population as a whole. Among Counselors and Social Workers (*Community and Social Service Occupations*), Blacks have nearly twice their representation in these two occupations (approximately 22 and 25 percent, respectively) in comparison to their representation in the U.S. working-age population. American Indians and Alaska Natives and individuals reporting multiple or other race also have a higher percentage of individuals in *Community and Social Service Occupations* than their representation in the U.S. working-age population, whereas representation of Native Hawaiian and Other Pacific Islanders in these occupations were nearly equivalent (0.2 percent) to their proportion in the U.S. working-age population. Hispanics are underrepresented in all three of these occupational categories.

Healthcare Practitioners and Technical Occupations

Overall, Whites and Asians are more represented among the occupations found within the *Health Diagnosing and Treating Practitioners* subcategory — occupations that often require many years of education or training — than in the U.S. working-age population altogether. Conversely, American Indians, Alaska Natives, Native Hawaiians, Other Pacific Islanders, Blacks, and individuals reporting multiple or other race are, in general, far less underrepresented in this subcategory. This is also true for Hispanics. However, there are a few notable exceptions: Black dietitians and nutritionists (15.4 percent) and individuals who identified as being of multiple or other race who work as physician assistants (2.9 percent) and physicians (2.2 percent). Asians are underrepresented among two occupations – advanced practice registered nurses (4.0 percent) and speech-language pathologists (2.1 percent).

Among the *Health Technologists and Technicians* subcategory, Blacks have their largest representation (25 percent) among licensed practical/vocational nurses, nearly twice their representation in the overall U.S. workforce. Similarly, American Indians and Alaska Natives and Asians have twice their national workforce level of representation among occupations such as medical and clinical laboratory technologists and technicians, and among medical records and health information technician occupations. However, Hispanics are underrepresented in all occupations in this subcategory.

Healthcare Support and Personal Care and Service Occupations

Similar to the health technical occupations, there is varying racial and ethnic representation among all the *Healthcare Support Occupations* — occupations that generally require fewer years of education or training. However, a few distinctions within specific occupations can be identified. For example, Blacks have their highest proportion among Nursing, Psychiatric, and Home Health Aides (37.5 percent) while Hispanics have their highest representation among Dental Assistants (22.5 percent), both of which are greater percentages than their proportion in the overall national workforce. In addition, American Indians and Alaska Natives along with Native Hawaiians and Other Pacific Islanders have their largest proportion of workers (1.2 percent and 0.6 percent, respectively) among Personal Care Aides (*Personal Care and Service Occupation*). Conversely, Whites have their lowest representation among Nursing, Psychiatric, and Home Health Aides (54 percent).

Discussion

In 2006, HRSA released a report entitled “*The Rationale for Diversity in the Health Occupations: A Review of the Evidence*” that examined the evidence to better understand the impact of health workforce diversity on health outcomes. Specifically, the report reviewed four pathways: service patterns (i.e., diverse providers are more likely to serve diverse populations, thereby improving access); racial, ethnic, and language concordance (i.e., patients who see providers of a similar, diverse background will have improved communication and decision-making); trust in the health care delivery system (i.e., greater diversity will increase trust); and occupational advocacy (i.e., diversity among providers will lead to more leadership and policies benefiting vulnerable populations). The study concluded that further research and data were needed to understand the full impact of these pathways, including improved health practitioner workforce data and data on institutional diversity.¹

This brief provides improved information on the diversity of the U.S. health workforce with regard to factors of race, ethnicity, and sex, and demonstrates that there are variations in these factors within the U.S. health workforce. However, this brief does not draw conclusions on why these variations exist, nor the impact these variations have on health outcomes. Research that examines the various factors which impact these variations would be useful in developing and enhancing policies and programs that diversify the health workforce.

¹<http://bhpr.hrsa.gov/healthworkforce/reports/diversityreviewevidence.pdf>

One of the major challenges associated with examining sex, race, and ethnicity data is understanding how to best articulate progress for each occupation. A possible method would be to compare each subgroup's proportion in every health occupation compared with their overall representation in the United States. However, such a comparison would mean that every health occupation would need to closely mirror each subgroup's U.S. representation. Although this may be optimal for benchmarking, it may also be important that various factors (e.g., regional factors, educational requirements, need-based geographical distribution of specific workers, etc.) are considered when determining how to best diversify each specific occupation. In addition, each occupational pipeline has its own nuances that could be further investigated through research so that appropriate determination of need and progress can be measured in accurate context.

This brief supports the “HHS Action Plan to Reduce Racial and Ethnic Health Disparities” which was developed to coordinate Departmental activities and assess the impact of such activities towards reducing health disparities. Specifically, by documenting the current state of diversity among the U.S. health workforce, this brief provides health workforce diversity data which can be used to evaluate HHS initiatives aimed at increasing diversity, thereby supporting Goal II of the Action Plan (*Strengthen the nation's Health and Human Services infrastructure and workforce*).¹

The data presented here can be used to inform decision-making for policy about the diversity of the health workforce pipeline. Namely, this information will provide national data to support four major grant programs administered by HRSA's Bureau of Health Workforce—the Health Careers Opportunity Program, Scholarship for Disadvantaged Students, Nursing Workforce Diversity, and the Centers of Excellence. These programs aim to increase the diversity among the nation's health workforce by providing resources to underrepresented health professional students or faculty.

Overall, HRSA is making strides to more closely align the health occupations with the increasing sex, race, and ethnic diversity of the U.S. working-age population.

¹U.S. Department of Health and Human Services (HHS) Action Plan to Reduce Racial and Ethnic Health Disparities: http://minorityhealth.hhs.gov/npa/files/Plans/HHS/HHS_Plan_complete.pdf

Table 1. U.S. Health Occupations¹ by Sex, 2010-2012

	Male (%)	Female (%)	Total Workforce ²
U.S. Working-Age Population³	52.8	47.2	133,326,585
<u>Health Occupations</u>			
Management Occupations			
Medical and Health Services Managers	30.0	70.0	553,748
Life, Physical, and Social Science Occupations			
Psychologists	30.7	69.3	181,797
Community and Social Services Occupations			
Counselors	30.1	69.9	653,486
Social Workers	19.4	80.6	724,618
Healthcare Practitioners and Technical Occupations			
<i>Health Diagnosing and Treating Practitioners</i>			
Advanced Practice Registered Nurses⁴	15.0	85.0	118,846
Chiropractors	72.7	27.3	54,444
Dentists	74.5	25.5	157,395
Dietitians and Nutritionists	10.3	89.7	79,159
Optometrists	60.2	39.8	33,202
Pharmacists	46.3	53.7	261,128
Physicians	65.1	34.9	835,723
Physician Assistants	32.6	67.4	106,419
Occupational Therapists	10.2	89.8	90,483
Physical Therapists	30.5	69.5	198,400
Respiratory Therapists	34.4	65.6	98,495
Speech-Language Pathologists	4.1	95.9	118,209
Registered Nurses	9.2	90.8	2,682,262
<i>Health Technologists and Technicians</i>			
Dental Hygienists	2.8	97.2	151,727
Diagnostic Related Technologists and Technicians	29.0	71.0	296,311
Emergency Medical Technicians (EMTs) and Paramedics	69.3	30.7	171,707
Health Practitioner Support Technologists and Technicians	21.9	78.1	493,953
Licensed Practical/Vocational Nurses	8.3	91.7	630,395
Medical and Clinical Laboratory Technologists and Technicians	27.0	73.0	328,620
Medical Records and Health Information Technicians	12.7	87.3	103,958
Opticians, Dispensing	28.6	71.4	46,701
Healthcare Support Occupations			
Dental Assistants	4.6	95.4	229,734
Massage Therapists	17.1	82.9	145,554
Medical Assistants and Other Health Support Occupations	12.4	87.6	719,749
Nursing, Psychiatric and Home Health Aides	13.0	87.0	2,150,679
Physical Therapist Assistants and Aides	28.3	71.7	65,924
Personal Care and Service Occupations			
Personal Care Aides	15.8	84.2	992,467
Office and Administrative Support Occupations			
Medical Secretaries	3.2	96.8	630,527

¹Occupations in this table are grouped and titled in line with the U.S. Government's Standard Occupational Classification system. ²Total Workforce is estimates from HRSA analysis of ACS PUMS, 2010-2012. The ACS data are based on self-reported occupation. ³The U.S. Working-age population consists of the population 16 years of age or older from the ACS PUMS, 2010-2012 that are in the workforce. ⁴Advanced Practice Registered Nurses include Nurse Anesthetists, Midwives, and Nurse Practitioners.

Table 2. U.S. Health Occupations¹ by Race, 2010-2012

	White (Non- Hispanic)	Black/ African- American (Non- Hispanic)	Asian (Non- Hispanic)	American Indian and Alaska Native	Native Hawaiian and Other Pacific Islander	Multiple/ Other Race (Non- Hispanic)
	(%)					
U.S. Working-Age Population²	77.6	13.6	6.0	0.7	0.2	2.0
Health Occupations						
Management Occupations						
Medical and Health Services Managers	80.8	11.8	5.0	0.6	0.1	1.6
Life, Physical, and Social Science Occupations						
Psychologists	89.8	5.3	3.0	0.3	NR	1.5
Community and Social Service Occupations						
Counselors	72.2	21.7	2.8	0.9	0.2	2.2
Social Workers	68.8	24.8	3.1	1.0	0.2	2.1
Healthcare Practitioners and Technical Occupations						
<i>Health Diagnosing and Treating Practitioners</i>						
Advanced Practice Registered Nurses³	89.5	5.2	4.0	(0.2)	NR	1.1
Chiropractors	89.4	2.5	6.6	0.1	NR	1.2
Dentists	80.5	3.3	14.5	(0.1)	NR	1.5
Dietitians and Nutritionists	76.0	15.4	6.6	0.6	NR	1.2
Optometrists	82.0	2.8	13.0	NR	NP	1.8
Pharmacists	73.7	5.9	18.0	0.2	NR	1.8
Physicians	72.2	5.3	20.0	0.2	0.03	2.2
Physician Assistants	81.6	8.0	7.2	0.3	NR	2.9
Occupational Therapists	87.2	5.0	6.3	(0.2)	NP	1.2
Physical Therapists	82.8	4.2	11.4	0.2	NR	1.2
Respiratory Therapists	77.5	13.5	6.7	0.3	(0.1)	1.8
Speech-Language Pathologists	92.0	4.6	2.1	0.2	NR	1.1
Registered Nurses	78.6	10.7	8.8	0.4	0.1	1.4
<i>Health Technologists and Technicians</i>						
Dental Hygienists	91.6	2.9	3.6	0.4	NR	1.5
Diagnostic Related Technologists and Technicians	84.8	8.1	5.0	0.5	(0.1)	1.6
Emergency Medical Technicians and Paramedics	89.3	6.7	1.3	0.8	(0.1)	1.7
Health Practitioner Support Technologists and Technicians	75.8	14.3	7.2	0.7	0.1	1.9
Licensed Practical/Vocational Nurses	68.2	25.0	4.1	0.7	0.1	1.8
Medical and Clinical Laboratory Technologists and Technicians	68.5	14.9	13.3	0.7	0.2	2.4
Medical Records and Health Information Technicians	73.2	18.0	6.0	1.4	(0.1)	1.4
Opticians, Dispensing	87.4	5.6	4.6	0.6	NP	1.7
Healthcare Support Occupations						
Dental Assistants	81.1	8.8	6.9	1.0	(0.1)	2.2
Massage Therapists	83.6	5.2	7.9	0.5	(0.2)	2.6
Medical Assistants and Other Health Support Occupations	72.6	18.4	5.3	0.8	0.4	2.4
Nursing, Psychiatric and Home Health Aides	54.0	37.5	5.1	1.0	0.2	2.3
Physical Therapist Assistants and Aides	83.4	9.5	5.3	(0.3)	NR	1.5
Personal Care and Service Occupations						
Personal Care Aides	59.0	28.0	8.7	1.2	0.6	0.2
Office and Administrative Support Occupations						
Medical Secretaries	81.2	13.1	3.4	0.6	0.1	1.6

¹Occupations are listed and titled as in U.S. Government's Standard Occupational Classification system. ²The U.S. Working-age population consists of the population 16 years of age or older from the ACS PUMS, 2010-2012. ³Includes Nurse Anesthetists, Midwives, and Nurse Practitioners.

Note: Total Workforce totals for Table 2 concerning the U.S. working-age population and each health occupation are the same totals from Table 1. Not all totals equal 100 percent due to rounding. Numbers in parenthesis represent estimates with relative standard errors (RSE) $\geq 20\%$ and should be used with caution. NR – Data are not reported because RSE $\geq 30\%$; estimate does not meet standards of reliability. NP – There are no data present in the 2010-2012 ACS PUMS for this subgroup.

Table 3. U.S. Health Occupations¹ by Hispanic or Latino Ethnicity, 2010-2012

	Hispanic or Latino (%)	Non-Hispanic or Latino (%)	Total Workforce ² (%)
U.S. Working-Age Population³	15.5	84.5	24,513,125
<u>Health Occupations</u>			
Management Occupations			
Medical and Health Services Managers	7.9	92.1	47,643
Life, Physical, and Social Science Occupations			
Psychologists	6.2	93.8	12,002
Community and Social Service Occupations			
Counselors	10.4	89.6	75,519
Social Workers	11.6	88.4	95,117
Healthcare Practitioners and Technical Occupations			
<i>Health Diagnosing and Treating Practitioners</i>			
Advanced Practice Registered Nurses⁴	4.4	95.6	5,487
Chiropractors	3.4	96.6	1,936
Dentists	6.1	93.9	10,247
Dietitians and Nutritionists	9.1	90.9	7,920
Optometrists	4.9	95.1	1,725
Pharmacists	4.0	96.0	10,894
Physicians	6.0	94.0	53,224
Physician Assistants	10.8	89.2	12,901
Occupational Therapists	4.3	95.7	4,032
Physical Therapists	4.2	95.8	8,709
Respiratory Therapists	7.5	92.5	8,046
Speech-Language Pathologists	5.8	94.2	7,247
Registered Nurses	5.4	94.6	154,166
<i>Health Technologists and Technicians</i>			
Dental Hygienists	5.7	94.3	9,197
Diagnostic Related Technologists and Technicians	9.1	90.9	29,773
Emergency Medical Technicians (EMTs) and Paramedics	10.9	89.1	20,988
Health Practitioner Support Technologists and Technicians	8.4	91.6	62,449
Licensed Practical/Vocational Nurses	8.2	91.8	57,439
Medical and Clinical Laboratory Technologists and Technicians	9.2	90.8	33,176
Medical Records and Health Information Technicians	13.8	86.2	16,593
Opticians, Dispensing	12.4	87.6	6,606
Healthcare Support Occupations			
Dental Assistants	22.5	77.5	66,542
Massage Therapists	9.4	90.6	15,174
Medical Assistants and Other Health Support Occupations	19.0	81.0	169,141
Nursing, Psychiatric and Home Health Aides	13.4	86.6	334,152
Physical Therapist Assistants and Aides	9.3	90.7	7,865
Personal Care and Service Occupations			
Personal Care Aides	17.7	82.3	214,092
Office and Administrative Support Occupations			
Medical Secretaries	10.7	89.3	75,290

¹Occupations in this table are listed and titled in line with the U.S. Government's Standard Occupational Classification system. ²Total Workforce are estimates from HRSA analysis of ACS PUMS, 2010-2012. The ACS data are based on self-reported occupation. ³The U.S. working-age population consists of the population 16 years of age or older from the ACS PUMS, 2010-2012. ⁴Advanced Practice Registered Nurses include Nurse Anesthetists, Midwives, and Nurse Practitioners.

About the Data

The American Community Survey (ACS), conducted by the U.S. Census Bureau, surveys approximately one (1) percent of U.S. households annually and obtains information on individuals' occupations and location. The 2010-2012 ACS 3-year file was selected over a single-year file for 2010 in order to improve the precision of estimates. In some occupations and population subgroups, small sample size may lead to unreliable estimates. In this brief, percent relative standard errors (RSEs) of 20 or greater are noted.

The sex, race, and Hispanic or Latino ethnicity categories available in the ACS are based on the 1997 standards outlined by the Office of Management and Budget (OMB) and are consistent with the HHS guidelines on data collection standards released in October 2011.

The SOC is used by federal statistical agencies to classify workers into occupational categories for the purpose of data collection and analysis. The 32 occupations included in this brief were selected based on the following criteria: (1) the occupation is among those with the largest number of jobs as identified by the SOC code, (2) the occupation is among the fastest growing occupations as projected by the U.S. Bureau of Labor Statistics (BLS), and/or (3) the occupation is among the top 30-35 occupations that have adequate data (i.e., sample sizes) available in the 3-year, 2010 to 2012 ACS PUMS file. These determinations were made based on data from the BLS Occupational Employment Statistics National May 2010 Employment and Wage Estimates.

The majority of occupations included in this brief are found within the SOC categories of Healthcare Practitioners and Technical Occupations and Healthcare Support Occupations. Additionally, a few occupations were selected from other categories such as: Office and Administrative Support Occupations (i.e., Medical Secretaries) and Community and Social Service Occupations (i.e., Counselors and Social Workers). For Medical Secretaries, Counselors, and Social Workers, the ACS data used are limited to individuals working in Medical and "Individual and Family Services" settings. More detailed information on the work settings can be found on the U.S. Census website: <http://www.census.gov/eos/www/naics/>.

For more detailed information on the data sources, definitions, methods, and SOC categories, see *Sex, Race, and Ethnic Diversity of U.S. Health Occupations (2010-2012) Technical Documentation* at <http://bhpr.hrsa.gov/healthworkforce/index.html>.

Note: Some important components of the health workforce are not included or fully represented in this brief because of data limitations. These components include occupations for which data are not collected or reported separately by the U.S. Census Bureau. For example, data for public health nurses are not collected separately from other types of nurses. The brief also does not include important health occupations because of the small size of the occupation, such as epidemiologists and other public-health oriented disciplines like laboratorians and environmental health professionals.