

Research Report

Racial/Ethnic Diversity in the Long-term Care Workforce

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Executive Summary

I. Introduction/Background

As many as 19 million older Americans are expected to need long-term care (LTC) services by the year 2050, more than double the number who required LTC in the year 2000.¹ Over time, this population (as well as the general population) will become increasingly racially and ethnically diverse. Consumers of healthcare services report a preference for providers who share their own race/ethnicity and cultural background. These findings raise questions about how racial and ethnic diversity is reflected in the current LTC workforce, and how the demographic make-up of the workforce will be matched to consumer needs in the future.

II. Methods

Data describing characteristics of the current long-term care (LTC) workforce were sourced from the 2015 American Community Survey (ACS), 1-year Public Use Microdata Sample (PUMS). Data describing graduates of LTC-related education programs were sourced from the 2015 Integrated Postsecondary Education Data System (IPEDS) and a customized file prepared by the American Association of Colleges of Nursing (AACN).

III. Findings

At the national level, the overall LTC workforce is relatively racially and ethnically diverse. African American and Filipino healthcare workers are substantially overrepresented.

The data also demonstrate an inverse relationship between racial/ethnic diversity and educational attainment: the share of employed non-White healthcare workers in LTC decreases as the level of educational attainment increases.

Finally, there were important differences in the racial and ethnic composition of the LTC workforce depending on the care delivery setting.

IV. Conclusions

These findings suggest that a highly diverse LTC workforce will care for an increasingly racially/ethnically diverse client population. While there will be some opportunities for clients to receive care from racially/ethnically concordant LTC workers, many LTC workers will be called upon to care for clients from multiple racial/ethnic groups. All LTC workers will need the skills to care effectively for persons from other racial/ethnic groups and to work effectively with co-workers from different racial/ethnic groups.

V. Policy Implications

The finding of an inverse relationship between racial/ethnic diversity and educational attainment suggests a need to provide opportunities for personal care aides and nursing/psychiatric/home health aides to pursue further education so that they can enter other, better paying LTC occupations, such as LVN and RN positions. Diversifying the RN workforce in LTC is especially important because RNs often work in leadership positions, such as Director of Nursing. Employers should provide financial assistance to aides who wish to pursue nursing education and offer them part-time employment while completing their education in exchange for an agreement to work for the LTC employer following graduation.

Background

As many as 19 million older Americans are expected to need long term care (LTC) services by the year 2050, more than double the number who required LTC in the year 2000.¹ Over time, this population (as well as the general population) will become increasingly racially and ethnically diverse. Between 2010 and 2030 the Latino share of the population ages 65 years and older is projected to increase from 6.9% to 11%, non-Hispanic Blacks from 8.4% to 10.3%, and other non-Hispanic nonwhite groups from 4.8% to 6.4%.² Consumers of healthcare services report a preference for providers who share their own race/ethnicity and cultural background for varying reasons.^{3,4,5,6} These findings raise questions about how racial and ethnic diversity is reflected in the current LTC workforce, and how the demographic make-up of the workforce will be matched to consumer needs in the future. Using data from the 2015 American Community Survey Public Use Microdata Sample (1-year file) we describe general employment and demographic characteristics of the LTC workforce in the United States.

Methods

Data

Data describing characteristics of the current long-term care (LTC) workforce were sourced from the 2015 American Community Survey (ACS), 1-year Public Use Microdata Sample (PUMS). The ACS is a national household survey administered by the U.S. Census Bureau and collects social, demographic, and economic information. Approximately 3.5 million households are in the sample, and each month approximately 295,000 are targeted for interviews; the sample is representative of approximately 95% of the U.S. population. The PUMS data are untabulated records describing either people or housing units, representing individual survey responses. We used survey weights to produce estimates generalizable to the U.S. civilian population.

Data describing graduates of LTC-related education programs were sourced from the 2015 Integrated Postsecondary Education Data System (IPEDS) and a customized file prepared by the American Association of Colleges of Nursing (AACN). For both sources, data are limited to graduates of institutions located in the United States; they do not include graduates of nursing schools located in a US territory (e.g., Puerto Rico) or graduates of international nursing schools who immigrate to the United States.

IPEDS is a collection of interrelated surveys conducted annually by the National Center for Education Statistics, which is an agency of the U.S. Department of Education. It is the most comprehensive source of data describing postsecondary education in the United States. Completion of IEPDS surveys are mandatory for any institution that participates in (or applies to participate in) federal student financial aid programs. Institutions surveyed include 4-year universities & colleges, 2-year community and technical colleges, and non-degree granting schools. The specific IPEDS data used for this report were sourced from the Completions surveys and were used to describe the racial and ethnic background of all non-nursing program graduates as well as pre-license nursing education program graduates at the Associate degree level.

The AACN is a national association of nursing schools that offer baccalaureate and graduate nursing education. It conducts an annual survey of its member institutions (currently 810 schools of nursing). The data produced by this survey are considered the most accurate available for describing nursing education in the U.S. However, the AACN collects data only for baccalaureate and graduate degree programs. As a result, the AACN data were used to describe the racial and ethnic background of pre-license nursing program graduates at the baccalaureate and Master's level.

IPEDS was used for pre-license, Associate degree nursing program graduates, and for graduates of all other program types described in this report. We focused on pre-license nursing education because the number of RNs in long-term care who have completed post-licensure education, such as geriatric nurse practitioners and adult-geriatric clinical nurse specialists, is much smaller than the number of RNs in this sector who only have pre-licensure education.

Defining Sector and Occupation

The long-term care sector was defined as the aggregate of 4 Census industry codes, using the 4-digit codes (most disaggregated available) that align with the North American Industry Classification System. (See Appendix Table A for crosswalk.) Three of these settings are typically identified as healthcare-related: *home health care services*, *skilled nursing facilities (SNFs)*, and *residential care facilities*. The other industry, *private household services*, is often, but not exclusively, involved in the delivery of LTC.

The LTC workforce was defined to include the following occupations:

Any occupation within the broad groups of *healthcare practitioner and technical occupations* and *healthcare support occupations* (with the exception of those related to veterinary medicine)

Psychologists (who are coded as part of the broader group “social scientists and related workers”)

- The following occupations that are considered *community and social service occupations*: social workers, counselors, social and human service assistants, and miscellaneous community and social service specialists, which includes health educators and community health workers.

For psychologists, social workers, and counselors, only sample observations where educational attainment was reported as a Master’s or higher degree were included in order to limit the analysis to people with the level of education required for licensure in these professions in most states. In many cases, the number of observations in the data for a specific occupation was too small to generate a reliable estimate. In these instances individual occupations were combined to form a larger group. (See Appendix Table A for a description of all occupations included as part of the LTC workforce and the methodology used to combine individual occupations into larger groups.)

Results

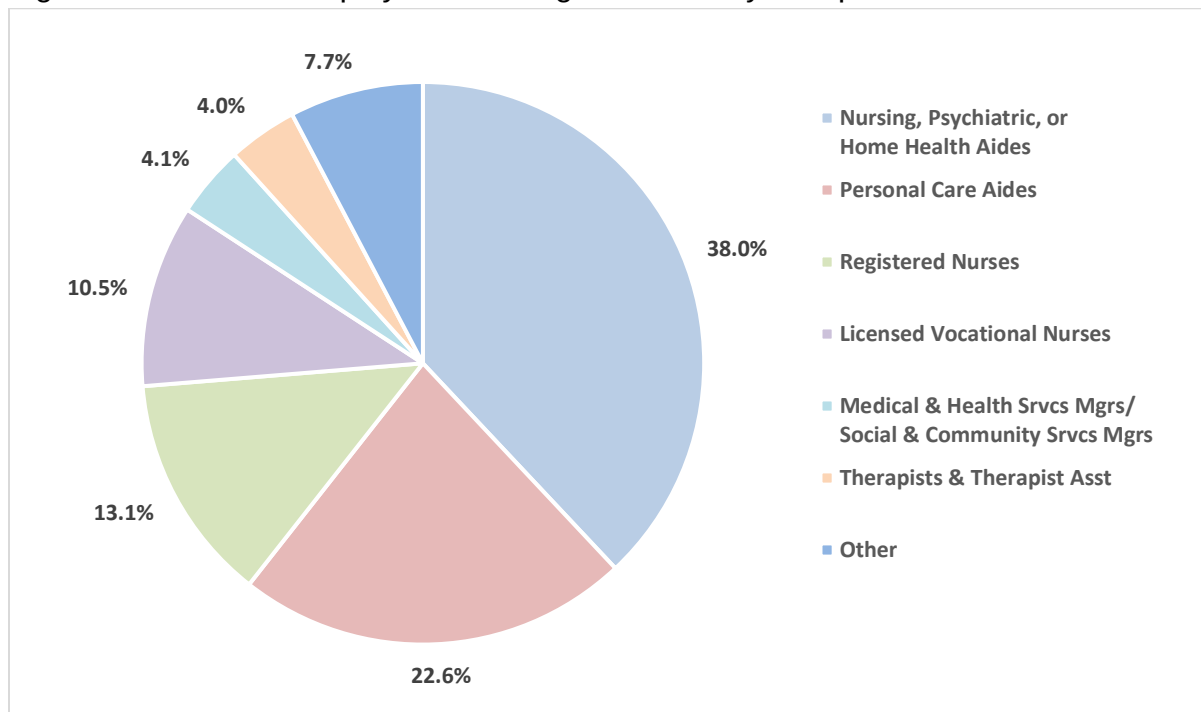
We first present general information about total employment in LTC, occupational composition, and the distribution of the workforce across settings and regions of the U.S. This information provides a broader context for the analysis of racial/ethnic diversity in the LTC healthcare workforce that follows.

Total Employment in Long-term Care

- Estimates derived from ACS data indicate that 3.3 million Americans were employed in a healthcare-related occupation in LTC in 2015
- The single largest occupational group was nursing/psychiatric/home health aide, which accounted for 38% of all healthcare-related employment in LTC

- The 4 occupational groups of nursing/psychiatric/home health aides, personal care aides, registered nurses, and licensed vocational nurses accounted for 84% of all healthcare-related employment in LTC

Figure 1. Estimated employment in long-term care by occupation, United States, 2015



Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Note: "Other" includes *Health Diagnosing & Treating Practitioners, Healthcare Technologists and Technicians, Healthcare Support Occupations, Social Workers, Counselors, Social and Human Services Assistants, and Miscellaneous Community Services Specialists*.

Composition of the LTC Workforce by Employment Setting

SNFs and home health agencies employed the majority of workers; 43.6% of Americans working in LTC were employed by SNFs and 35% were employed by home health agencies

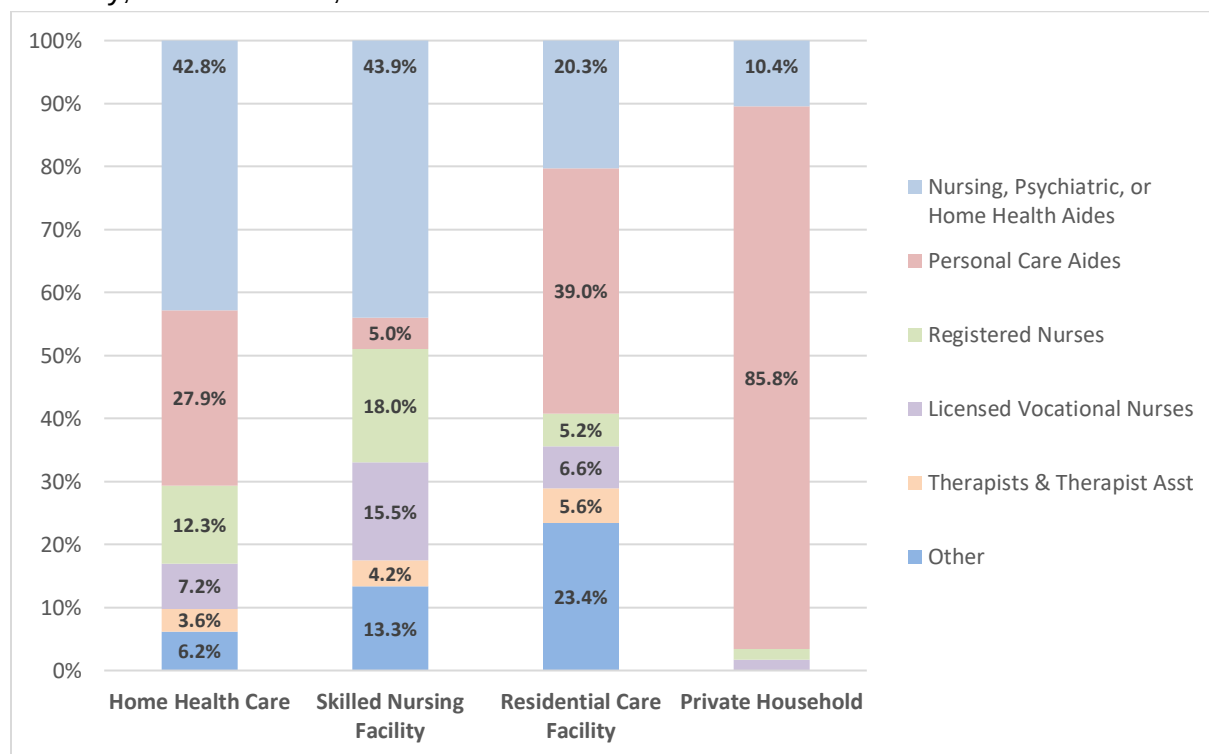
The occupational composition of LTC workers varied across the 4 industry settings

Personal care aides accounted for the overwhelming majority of workers in private households (85.8%) and were also the largest occupation employed by residential care facilities (39.0%)

Nursing/psychiatric/home health aides accounted for the largest proportions of persons working in SNFs (43.9%) and home health agencies (42.8%)

- Registered nurses were predominantly employed in either a SNF (18% of persons working in SNFs) or a home health care setting (12.3% of persons working in home health care)

Figure 2. Composition of healthcare workers employed in long-term care settings by industry, United States, 2015



Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Note: "Other" includes Medical and Health Services Managers, Community and Social Services Managers, Health Diagnosing & Treating Practitioners, Healthcare Technologists and Technicians, Healthcare Support Occupations, Social Workers, Counselors, Social and Human Services Assistants, and Miscellaneous Community Services Specialists.

LTC Employment by Region

The South region had the largest LTC workforce in terms of absolute size. However, the Northeast region had the largest LTC workforce when adjusted for population size. The West region had the smallest LTC workforce, both in absolute size and on a per capita basis.

Except in the West region, SNFs represented the largest source of LTC employment; In the West region, SNFs accounted for just 33.7% of all LTC employment, which is 10 percentage points less than the national average

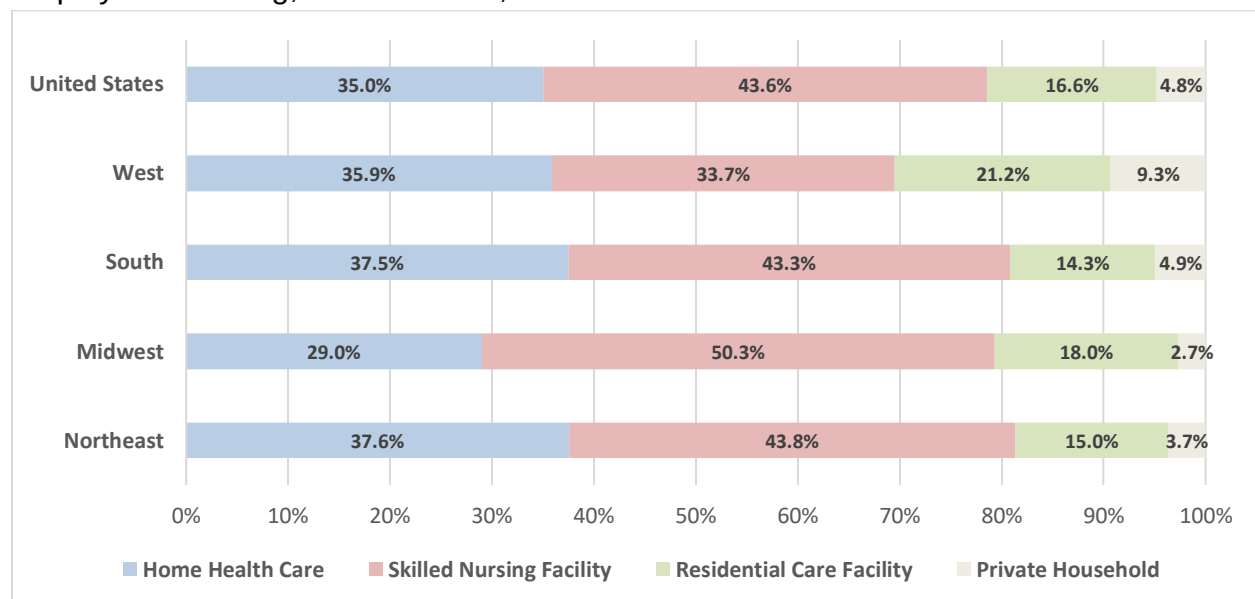
The share of LTC workers employed in residential care facilities and private households was larger in the West region compared with the other Census regions

Table 1. Healthcare workers employed in long-term care (total employment and employment per 100,000 population) by Census region, United States, 2015

Region	Total Employment	Employment Per 100K Population
Northeast	772,359	1,372
Midwest	859,838	1,266
South	1,136,176	938
West	563,065	740
United States	3,331,438	1,036

Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Figure 3. Healthcare workers employed in long-term care by Census region and employment setting, United States, 2015



Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Race/Ethnicity of the LTC Workforce

Comparison to the U.S. Population aged 85 and older

The racial/ethnic composition of the LTC workforce was compared with the racial/ethnic composition of the U.S. general population aged 85 years or older to identify similarities and differences between the LTC workforce and the segment of the general population most likely to need LTC services

The racial/ethnic composition of the LTC workforce differs significantly from that of the U.S. general population ages 85 and older

The share of the LTC workforce identified as White (51.2%) was more than 30 percentage points smaller than the share of the U.S. general population aged 85 and older (82.1%)

The percentage of African American healthcare workers (28%) employed in LTC is 4 times larger than the share of the U.S. general population aged 85 and older (7.1%)

The share of Latino healthcare workers (12.4%) employed in LTC is twice as large as the share of the U.S. general population aged 85 and older (6.4%)

Table 2. Racial and ethnic composition of healthcare workers employed in long-term care settings versus U.S. population ages 85 & older, United States, 2015

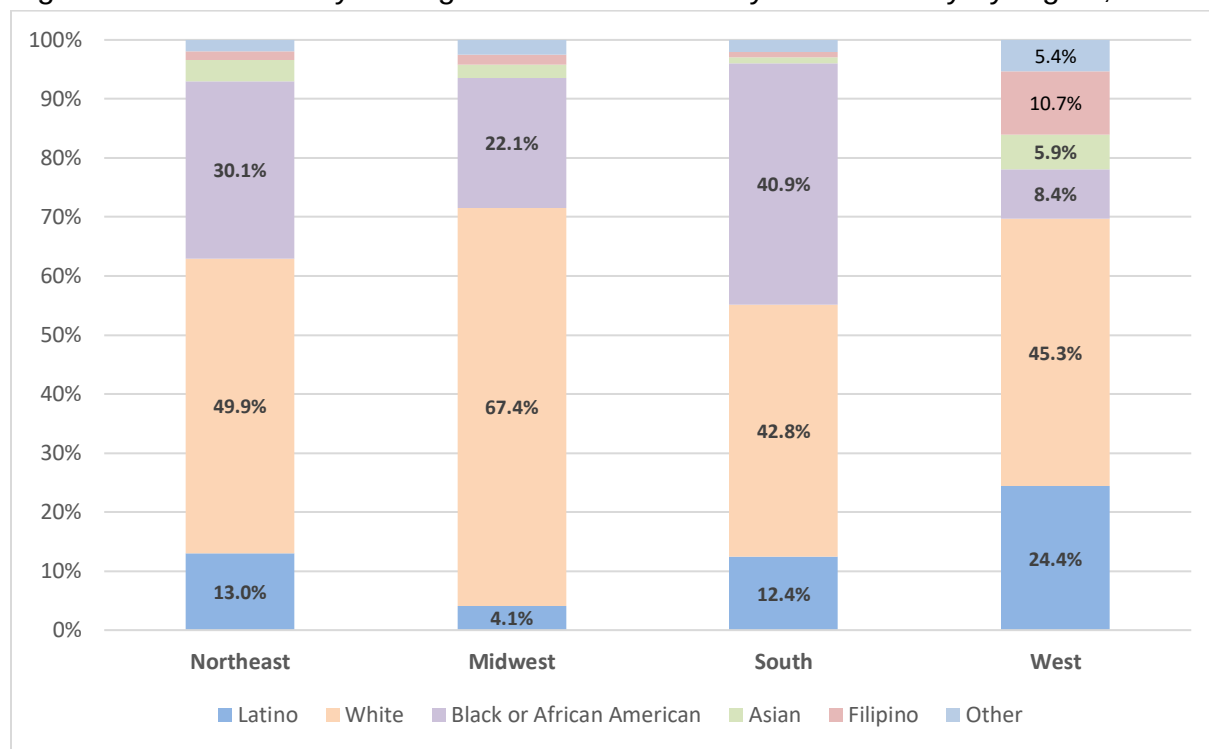
Race/Ethnicity	LTC Workforce		US Population 85+	
	Number	Percentage	Number	Percentage
Latino	414,362	12.4%	391,436	6.4%
White	1,705,563	51.2%	5,047,570	82.1%
Black or African American	934,004	28.0%	439,769	7.1%
American Indian or Native Alaskan	19,879	0.6%	17,293	0.3%
Asian	91,363	2.7%	176,330	2.9%
Filipino	95,995	2.9%	36,133	0.6%
Native Hawaiian or Pacific Islander	6,153	0.2%	2,957	0.05%
Two or more races	55,047	1.7%	36,363	0.6%
Some other race	9,072	0.3%	3,868	0.1%
Total	3,331,438	--	6,151,719	--

Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Race/Ethnicity by Region

National estimates of the race/ethnicity of LTC workers mask substantial variation across Census regions. Figure 4 shows that the percentage of African American healthcare workers employed in LTC ranged from 8.4% in the West region to 40.9% in the South. Similarly, the percentage of Latino healthcare workers employed in LTC ranged from 4.1% in the Midwest region to 24.4% in the West. The West region also had the highest percentages of LTC workers who were Asian or Filipino. Across all regions, the percentage of White healthcare workers employed in LTC is smaller than the percentage of Whites in the general population. (See Appendix B for tables describing racial and ethnic composition of general population.)

Figure 4. Race/Ethnicity of long-term care workers by race/ethnicity by region, 2015



Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Note: Other race includes American Indian or Native Alaskan, Native Hawaiian or Pacific Islander, two or more races, some other race

Race/Ethnicity by Occupation

Table 3 compares the race/ethnicity of LTC workers in 4 occupations: personal care aides, nursing/psychiatric/home health aides, licensed vocational nurses, and registered nurses. These occupations were chosen because they employ the largest number of people in LTC and require differing levels of education post high school. Personal care aides typically are not required to have a certificate or a degree. Nursing/psychiatric/home health aides usually have certificate level training. Licensed vocational nurses have either a certificate or an Associate degree. Registered Nurses have an Associate, Bachelor's, or Master's degree.

- The percentage of Latinos in these occupations decreases as the level of education required for the occupation increases, ranging from a high of 17.8% of personal care aides to a low of 6.25% of RNs
- A similar pattern holds for African Americans, although the percentage employed in nursing/psychiatric/home health aide positions is larger than the share employed as personal care aides
- White, Asian, and Filipino healthcare workers employed in LTC are most likely to be RNs, the occupation which requires the most education of the four listed in the table

Table: 3. Racial and ethnic composition of selected occupations employed in long-term care, United States, 2015

Race/Ethnicity	Personal Care Aide	Nursing/Psych/ Home Health Aide	LVN	RN
Latino	17.8%	14.0%	9.6%	6.2%
White	46.8%	42.2%	54.1%	65.0%
Black or African American	26.1%	36.5%	29.0%	18.5%
Asian	2.6%	2.6%	1.9%	3.2%
Filipino	3.4%	2.0%	2.9%	4.8%
Other race	3.4%	2.7%	2.5%	2.3%
Total	751,721	1,265,174	348,418	436,850

Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Note: Other race includes American Indian or Native Alaskan, Native Hawaiian or Pacific Islander, two or more races, some other race

Race/Ethnicity by Level of Education

The most common levels of educational attainment among LTC workers are an Associate degree or high school diploma (36% and 33%, respectively).

Table 4 displays the educational attainment by race/ethnicity for all healthcare-related occupations employed in LTC. Data describing the LTC workforce by level of education are consistent with those presented in Table 3.

- Whites account for 68.4% of LTC workers with Master's or higher degrees versus 33.5% of LTC workers with less than a high school diploma
- Conversely, Latinos represent 30.6% of LTC workers who have less than a high school diploma but only 5.6% of LTC workers with Master's or higher degrees
- Asian employment displays a bimodal distribution, accounting for a larger percentage of workers that have either less than a high school diploma or a Bachelor's degree or higher, compared with workers with a high school diploma or an Associate degree

Table 4. Racial and ethnic composition of healthcare workers employed in long-term care settings by level of educational attainment, United States, 2015

Race/Ethnicity	Less HS Diploma	HS Diploma	Associate Degree	Bachelor's Degree	Master's or higher Degree
Latino	30.6%	12.8%	10.3%	7.9%	5.6%
White	33.5%	48.0%	53.4%	57.4%	68.4%
Black or African American	27.6%	33.4%	29.1%	18.5%	14.9%
Asian	4.8%	1.7%	1.7%	4.6%	6.7%
Filipino	1.1%	1.3%	2.4%	9.3%	2.4%
Other race	2.3%	2.8%	3.0%	2.3%	1.9%
Total	313,690	1,137,940	1,195,982	476,785	207,041

Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Note: Other race includes American Indian or Native Alaskan, Native Hawaiian or Pacific Islander, two or more races, some other race

Race/Ethnicity by Employment Setting

Table 5 describes the racial/ethnic distribution of the LTC workforce by employment setting.

- Whites account for a relatively consistent share of the workforce across the 4 employment settings, although the percentage employed in home health care agencies is smaller
- The percentage of African Americans is consistent across 3 of 4 settings; they account for a much smaller share of workers employed in private households
- Latino employment displays a bimodal distribution, accounting for larger percentages of workers employed in private households and home healthcare agencies, compared with either SNFs or residential care facilities
- The employment pattern of Latinos may reflect differences in the composition of employment by setting seen across the different Census regions; employment in private households is greatest in the West region, which also has a higher percentage of Latinos and a lower percentage of African Americans compared with the other regions (See Appendix B)

Table 5. Racial and ethnic composition of healthcare workers employed in long-term care by employment setting, United States, 2015

Race/Ethnicity	Home Health Care	Skilled Nursing Facility	Residential Care Facility	Private Household
Latino	17.0%	8.7%	10.6%	20.1%
White	47.2%	53.6%	53.0%	52.2%
Black or African American	28.5%	28.7%	28.3%	17.7%
Asian	3.0%	2.6%	2.4%	2.9%
Filipino	1.7%	3.7%	2.9%	3.8%
Other race	2.7%	2.6%	2.8%	3.3%
Total	1,166,708	1,452,379	551,843	160,508

Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Note: Other race includes American Indian or Native Alaskan, Native Hawaiian or Pacific Islander, two or more races, some other race

Race/Ethnicity of Graduates of Education Programs in LTC-related Health Professions

Tables 6 and 7 presents data describing new graduates of education programs in LTC-related health professions, which provide information on the pool of new graduates from which LTC employers may draw employees. These data do not include programs that train psychologists, counselors, or social workers because the IPEDS data do not distinguish graduates of these programs who are likely to work in healthcare, let alone LTC, from graduates who will work in fields unrelated to healthcare. Tables 6 and 7 also does not include data describing persons completing certified nursing assistant (CNA) education programs because many CNAs are trained on the job and do not attend a formal training program offered by a degree-granting institution. As a consequence, the IPEDS data may not accurately reflect the racial/ethnic composition of persons who complete CNA training programs.

- Over 70% of the graduates of physical therapy assistant, physical therapist, occupational therapy assistant, and occupational therapist education programs were White
- Latinos are underrepresented among graduates of all LTC-related education programs relative to their proportion of the general population
- African Americans are underrepresented among graduates of all LTC-related education programs except licensed vocational nurse

Table 6: Racial and ethnic composition of graduates of LTC-related health professions education programs by program type, United States, 2015

Race/Ethnicity	OTA	PTA	LVN	RN	OT	PT
American Indian or Alaska Native	0.5%	0.2%	0.9%	0.7%	0.2%	0.2%
Asian	4.2%	6.2%	4.1%	5.7%	6.2%	7.1%
Black or African American	9.5%	3.6%	18.7%	9.6%	3.6%	2.5%
Hispanic or Latino	10.5%	5.7%	12.2%	9.2%	5.7%	4.1%
Native Hawaiian or Pacific Islander	0.1%	0.2%	0.4%	0.4%	0.2%	0.3%
White	70.4%	75.3%	58.3%	67.4%	75.3%	74.1%
Two or more races	1.3%	1.9%	1.9%	1.9%	1.9%	1.1%
Unknown	3.4%	7.0%	3.5%	5.2%	7.0%	10.6%
Total	5,030	7,135	49,178	151,270	6,162	14,437

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey and American Association of Colleges of Nursing (AACN) Research and Data Services

Note: RN data describe pre-license nursing education programs: Associate degree (ADN), Bachelor's degree (BSN), and entry-level Master's (ELM).

Almost all persons who complete pre-license nursing education in the US graduate from 1 of 3 different degree programs: an Associate degree program (ADN), a Bachelor's degree program (BSN) or an entry-level Master's program (ELM).

Because ELM programs accounted for just 1.5% of the total number of pre-license RN degrees awarded in 2015 in the U.S., they are shown in combination with BSN degrees in Table 7 below. Overall, 55% of pre-license RN education program graduates in 2015 earned an Associate degree while 45% earned a Bachelor's degree (or entry-level Master's degree).

- African Americans and Latinos account for larger shares of graduates of ADN programs compared with BSN/ELM degree programs
- Conversely, Asians account for a larger share of graduates of BSN/ELM degree programs compared with ADN programs

Table 7: Racial and ethnic composition of pre-license RN program graduates by degree type, United States, 2015

Race/Ethnicity	ADN		BSN/ELM	
	N	%	N	%
American Indian or Alaska Native	587	0.7%	469	0.7%
Asian	3,546	4.3%	5,027	7.4%
Black or African American	9,158	11.0%	5,347	7.9%
Hispanic or Latino	8,647	10.4%	5,282	7.8%
Native Hawaiian or Pacific Islander	197	0.2%	339	0.5%
White	56,158	67.3%	45,768	67.4%
Two or more races	1,500	1.8%	1,386	2.0%
Unknown	3,595	4.3%	4,264	6.3%
Total	83,388	--	67,882	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey and American Association of Colleges of Nursing (AACN) Research and Data Services

Note: Entry-level Master's (ELM) programs reported 2,378 graduates in 2015; IPEDS data were used to describe ADN graduates, AACN data were used to describe pre-license BSN and ELM graduates.

Tables presenting the racial/ethnic composition of LTC-related education program graduates for each Census region are included in Appendix C. Key findings across the different education programs and Census regions include:

Pre-license Registered Nursing (RN)

- Latinos were underrepresented across all regions relative to the general population; As is the case nationally, Latinos were more likely to graduate from an ADN than a BSN/ELM program (with the exception of the Midwest regions where percentages were equal)
- African Americans were nearly as likely to graduate from an ADN program as a BSN/ELM program in the West region; In all other regions, they accounted for a much larger share of ADN program graduates compared with BSN/ELM program graduates

- Asians were overrepresented among BSN/ELM programs across all regions, but most significantly in the West region where they accounted for 18.4% of graduates but just 9.6% of the general population

Licensed Vocational Nursing (LVN)

- Latinos were underrepresented among program graduates across all regions except the West region, where there was parity with the general population
- African Americans were overrepresented among LVN program graduates across all regions
- Asians were underrepresented among graduates of LVN programs across all regions except the West region

Physical Therapy (PT)

- Latinos were substantially underrepresented among program graduates across all regions
- African Americans were underrepresented among program graduates (though to a lesser extent in the West region)

Occupational Therapy (OT)

- Both Latino and African American students were substantially underrepresented among program graduates across all regions
- Asians were substantially overrepresented among program graduates in the West region. In all other regions there was parity with the general population
- Whites were overrepresented among program graduates in all regions

Physical Therapy Assistant (PTA)

- Latinos were underrepresented in all regions (though, to a lesser extent in the South and West regions)
- African Americans were underrepresented in all regions except the West region
- Asians were underrepresented among program graduates in the Northeast region; In all other regions there was parity with the general population

- Whites were overrepresented in all regions except the West region, where there was population parity

Occupational Therapy Assistant (OTA)

- Latinos were underrepresented among program graduates across all regions
- African Americans were underrepresented in all regions except the West region
- Asians and Whites were both overrepresented among program graduates across all regions

Limitations

This analysis has some important limitations that prevent us from providing a more detailed and precise analysis of the current LTC workforce and the supply of graduates of formal education and training programs for LTC-related occupations. Several of these concern the sample size of the ACS, which is too small to produce reliable estimates for many of the healthcare occupations within LTC, requiring these occupations to be combined into larger groups. The ACS sample size is also too small to produce estimates below the Census region level. It is possible that the Census region-level estimates mask important differences within those regions. The IPEDS data used to describe graduates of education programs in fields related to LTC include no information about whether or not those graduates will pursue employment in LTC. This limitation is especially important for RNs because many employment opportunities are available to them outside LTC settings. Data describing graduates of psychology, counseling, and social work programs cannot be included because they do not consistently provide information about whether or not graduates have been trained in fields related to healthcare. In addition, IPEDS data describing CNA training programs are incomplete because many of them are trained by entities other than degree-granting institutions.

Conclusion

In 2015, the LTC workforce was concentrated in 4 healthcare occupations: personal care aides; nursing/psychiatric/home health aides; licensed vocational nurses; and registered nurses, with the two groups of aides accounting for more than 60% of the workforce. Similarly, LTC healthcare workers were predominantly employed in 2 care settings: skilled nursing facilities (43.6% of the workforce) and home health agencies (35% of the workforce). This employment pattern was consistent across different regions of the U.S., although in the West region the combined share was 10 percentage points lower compared with the other regions. However, there was substantial regional variation in total LTC employment per capita, ranging from 740 healthcare workers per 100,000 population in the West region to 1,372 healthcare workers per 100,000 population in the Northeast region.

At the national level, the overall LTC workforce is relatively racially and ethnically diverse. The data indicate that African American healthcare workers are substantially overrepresented, as are Filipino healthcare workers (though to a far lesser extent) relative to the general population and to the population aged 85 years or older. As a result, Whites, Latinos, and Asians are underrepresented to varying degrees. However, these patterns are not consistent across individual healthcare occupations. For example, Whites account for a much larger share of RNs (and are overrepresented) compared with nursing/psychiatric/home health aides employed in LTC. The share of Latinos employed as a personal care aide is approximately equal to the share of Latinos in the general population, but Latinos are substantially underrepresented among RNs.

The data also demonstrate an inverse relationship between racial/ethnic diversity and educational attainment: the share of employed non-White healthcare workers in LTC decreases as the level of educational attainment increases. This pattern of decreasing LTC workforce diversity at higher levels of educational attainment is also reflected in the data on graduates of formal education programs in LTC occupations. Graduates of physical therapy programs (a 3-year doctoral degree) and occupational therapy programs (Master's degree) are predominantly White. The share of Blacks or African Americans and Latinos who earned a Bachelor's degree in nursing was smaller than the share who earned an Associate degree. These relationships were generally consistent across all regions of the US.

Finally, there were important differences in the racial and ethnic composition of the LTC workforce depending on the care delivery setting. The share of Latinos

employed in either a home health care setting or a private household was much larger compared with either SNFs or residential care facilities. The share of Black or African American LTC workers employed in a private household was much smaller compared with all other settings. These differences between Latinos and African Americans may reflect differences in availability of employment opportunities by setting across Census regions. The West region, which has the highest percentage of Latinos and the lowest percentage of African Americans in the general population, has the highest percentage of workers employed in private households. Among the other population groups, there was less variation across the different LTC settings in terms of how large or small a share of the workforce they represented.

These findings suggest that a highly diverse LTC workforce will care for an increasingly racially/ethnically diverse client population. While there will be some opportunities for clients to receive care from racially/ethnically concordant LTC workers, many LTC workers will be called upon to care for clients from multiple racial/ethnic groups. All LTC workers will need the skills to care effectively for persons from other racial/ethnic groups and to work effectively with co-workers from different racial/ethnic groups.

The finding of an inverse relationship between racial/ethnic diversity and educational attainment suggests a need to provide opportunities for personal care aides and nursing/psychiatric/home health aides to pursue further education so that they can enter other, better paying LTC occupations, such as LVN and RN positions. Diversifying the RN workforce in LTC is especially important because RNs often work in leadership positions, such as Director of Nursing. Employers should provide financial assistance to aides who wish to pursue nursing education and offer them part-time employment while completing their education in exchange for an agreement to work for the LTC employer following graduation.

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Appendix A. Data sources and methods

This Appendix contains additional information about the sources of data and methods used to conduct the analyses presented in this report.

Table A.1. presents the Census industry codes that were used to identify respondents to the American Community Survey (ACS) who work in long-term care settings along with the corresponding North American Industry Classification System codes. We used the 4-digit Census codes, which are the most disaggregated Census industry codes available. Three of these settings are typically identified as healthcare-related: *home health care services*, *skilled nursing facilities*, and *residential care facilities*. The other industry, *private household services*, is often, but not exclusively, involved in the delivery of LTC.

Table A.1. Census industry code and NAICS code crosswalk for selected long-term care settings

Setting	Census code	NAICS code
Home Health Care Services	8170	6216
Skilled Nursing Facilities	8270	6231
Residential Care Facilities, without Nursing	8290	6232, 6233, 6239
Private Households	9290	8140

Table A.2. details which occupations were included as part of the healthcare-related LTC workforce, how they were combined (if they were combined), and the Census occupation codes and corresponding Standard Occupation Classification (SOC) codes that identify them. In some cases, the Census occupation code corresponds to a broad occupational group within the SOC scheme; a broad occupational group includes related, but distinct, occupations. In the table below, the Included Occupations column includes a note identifying instances where this is the case. The corresponding SOC code can be used to identify the detailed occupations that are included as part of the broad group. Table A.2. refers only to occupations that respondents to the ACS reported. In other words, if there were no sample observations for a specific occupation, even though it would be considered healthcare-related, it is not listed in Table A.2.

Table A.2. Census occupation code and Standard Occupational Classification (SOC) code crosswalk for selected occupations and occupational groups

Occupation or Occupation Group	Included Occupations	Census Code	SOC Code
Nursing, Psychiatric, or Home Health Aides	Nursing, Psychiatric, and Home Health Aides (broad occupation)	3600	31-1010
Personal Care Aides	Personal Care Aides	4610	39-9021
Registered Nurses	Registered Nurses Nurse Practitioners*	3255 3258	29-1141 29-1171
Licensed Vocational Nurses	Licensed Practical & Licensed Vocational Nurses	3500	29-2061
Medical & Health Services Managers/ Social & Community Services Managers	Medical and Health Services Managers Social and Community Services Managers	0350 0420	11-9111 11-9151
Therapists & Therapist Assistants	Occupational Therapists Physical Therapists Recreational Therapists Respiratory Therapists Speech-Language Pathologists All other therapists Occupational Therapy Assistants and Aides (broad occupation) Physical Therapy Assistants and Aides	3150 3160 3210 3220 3230 3245 3610 3620	29-1122 29-1123 29-1125 29-1126 29-1127 29-1129 31-2010 31-2020

Occupation or Occupation Group	Included Occupations	Census Code	SOC Code
	(broad occupation)		
	Massage Therapists	3630	31-9011
Health Diagnosing & Treating Practitioners/ Healthcare Technologists & Technicians	Psychologists (broad occupation)	1820	19-3030
	Chiropractors	3000	29-1011
	Dietitians and Nutritionists	3030	29-1031
	Pharmacists	3050	29-1051
	Physicians and Surgeons (broad occupation)	3060	29-1060
		3140	29-1181
	Audiologists	3300	29-2010
	Clinical Laboratory Technologists and Technicians (broad occupation)	3310	29-2021
	Dental Hygienists	3320	29-2030
	Diagnostic Related Technologists and Technicians (broad occupation)	3400	29-2041
	EMTs and Paramedics	3420	29-2071
	Medical Records and Health Information Technicians	3535	29-2099
	Other healthcare technicians and technologists		
		3540	29-9099
	Other healthcare practitioners and technical workers		
Healthcare Support Occupations	Dental Assistants	3640	31-9091
	Medical Assistants	3645	31-9092
	Medical Equipment Preparers	3655	31-9093
	Medical Transcriptionists	3646	31-9094

Occupation or Occupation Group	Included Occupations	Census Code	SOC Code
	Pharmacy Aides	3647	31-9095
	Phlebotomists	3649	31-9097
	All other healthcare support workers	3655	31-9099
Counselors	Counselors (broad occupation)	2000	21-1010
Social Workers	Social Workers (broad occupation)	2010	21-1020
Social and Human Services Assistants/ Miscellaneous Community and Social Services Specialists	Health Educators	2025	21-1091
	Social and Human Service Assistants	2016	21-1093
	Community Health Workers	2025	21-1094
	All other community and social service specialists	2025	21-1099

*The Census occupation code for nurse practitioners also includes nurse midwives.

Appendix B. Racial and ethnic composition of general population by Census region, 2015

Table B.1. Racial and ethnic composition of the general population by Census region, United States, 2015

Race/Ethnicity	Northeast %	Midwest %	South %	West %	US %
American Indian or Alaska Native	0.2%	0.5%	0.5%	1.3%	0.7%
Asian	6.0%	2.9%	3.1%	9.6%	5.1%
Black or African American	11.0%	10.2%	18.9%	4.4%	12.3%
Hispanic or Latino	13.5%	7.4%	16.7%	29.3%	17.1%
Native Hawaiian or Pacific Islander	0.02%	0.03%	0.1%	0.5%	0.2%
White	67.1%	76.9%	58.6%	51.5%	62.3%
Two or more races	1.7%	2.0%	1.9%	3.1%	2.2%
Unknown	0.4%	0.1%	0.2%	0.2%	0.2%
Total	55,989,520	67,546,398	118,575,377	74,403,726	316,515,021

Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Table B.2. Racial and ethnic composition of the population ages 85 and older by Census region, United States, 2015

Race/Ethnicity	Northeast %	Midwest %	South %	West %	US %
American Indian or Alaska Native	0.1%	0.2%	0.2%	0.7%	0.3%
Asian	2.6%	0.9%	1.2%	10.6%	3.5%
Black or African American	6.3%	5.5%	11.5%	2.7%	7.1%
Hispanic or Latino	4.1%	1.5%	7.4%	12.2%	6.4%
Native Hawaiian or Pacific Islander	0.02%	0.004%	0.01%	0.2%	0.05%
White	86.5%	91.4%	79.0%	72.4%	82.1%
Two or more races	0.3%	0.4%	0.6%	1.0%	0.6%
Unknown	0.1%	0.01%	0.1%	0.1%	0.1%
Total	1,307,291	1,422,729	2,099,637	1,322,062	6,151,719

Source: American Community Survey (ACS) Public Use Microdata Sample, 1-year File, United States

Appendix C. Racial and ethnic composition of education program graduates by Census region, 2015

Table C.1. Racial and ethnic composition of pre-license RN program graduates by degree type, Census region Northeast, 2015

Race/Ethnicity	ADN		BSN/ELM		Total	
	N	%	N	%	N	%
American Indian or Alaska Native	46	0.3%	32	0.3%	78	0.3%
Asian	571	4.1%	931	7.5%	1,502	5.7%
Black or African American	1,805	13.0%	1,037	8.4%	2,842	10.8%
Hispanic or Latino	1,020	7.3%	699	5.6%	1,719	6.5%
Native Hawaiian or Pacific Islander	36	0.3%	39	0.3%	75	0.3%
White	9,398	67.7%	8,274	66.6%	17,672	67.2%
Two or more races	179	1.3%	182	1.5%	361	1.4%
Unknown	835	6.0%	1,224	9.9%	2,059	7.8%
Total	13,890	--	12,418	--	26,308	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey and American Association of Colleges of Nursing (AACN) Research and Data Services

Note: Entry-level Master's programs in the South region reported 517 graduates in 2015; IPEDS data were used to describe ADN graduates, AACN data were used to describe pre-license BSN and ELM graduates

Table C.2. Racial and ethnic composition of pre-license RN program graduates by degree type, Census region Midwest, 2015

Race/Ethnicity	ADN		BSN/ELM		Total	
	N	%	N	%	N	%
American Indian or Alaska Native	113	0.5%	196	1.0%	309	0.7%
Asian	477	2.2%	794	3.9%	1,271	3.0%
Black or African American	1,849	8.5%	1,045	5.1%	2,894	6.9%
Hispanic or Latino	816	3.8%	799	3.9%	1,615	3.8%
Native Hawaiian or Pacific Islander	25	0.1%	38	0.2%	63	0.1%
White	17,132	78.8%	16,025	78.5%	33,157	78.6%
Two or more races	312	1.4%	303	1.5%	615	1.5%
Unknown	1,018	5.0%	1,225	6.4%	2,243	5.3%
Total	21,742	--	20,425	--	42,167	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey and American Association of Colleges of Nursing (AACN) Research and Data Services

Note: Entry-level Master's programs in the Northeast region reported 368 graduates in 2015; IPEDS data were used to describe ADN graduates, AACN data were used to describe pre-license BSN and ELM graduates

Table C.3. Racial and ethnic composition of pre-license RN program graduates by degree type, Census region South, 2015

Race/Ethnicity	ADN		BSN/ELM		Total	
	N	%	N	%	N	%
American Indian or Alaska Native	287	0.9%	138	0.6%	425	0.7%
Asian	858	2.6%	1,117	4.8%	1,975	3.5%
Black or African American	5,028	15.0%	2,858	12.3%	7,886	13.9%
Hispanic or Latino	4,134	12.3%	2,237	9.7%	6,371	11.2%
Native Hawaiian or Pacific Islander	62	0.2%	115	0.5%	177	0.3%
White	21,479	64.1%	15,401	66.5%	36,880	65.0%
Two or more races	571	1.7%	426	1.8%	997	1.8%
Unknown	1,106	3.3%	883	3.8%	1,989	3.5%
Total	33,525	--	23,175	--	56,700	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey and American Association of Colleges of Nursing (AACN) Research and Data Services

Note: Entry-level Master's programs in the Midwest region reported 592 graduates in 2015; IPEDS data were used to describe ADN graduates, AACN data were used to describe pre-license BSN and ELM graduates

Table C.4. Racial and ethnic composition of pre-license RN program graduates by degree type, Census region West, 2015

Race/Ethnicity	ADN		BSN/ELM		Total	
	N	%	N	%	N	%
American Indian or Alaska Native	141	1.0%	103	0.9%	244	0.9%
Asian	1,640	11.5%	2,185	18.4%	3,825	14.7%
Black or African American	476	3.3%	407	3.4%	883	3.4%
Hispanic or Latino	2,677	18.8%	1,547	13.0%	4,224	16.2%
Native Hawaiian or Pacific Islander	74	0.5%	147	1.2%	221	0.8%
White	8,149	57.3%	6,068	51.1%	14,217	54.5%
Two or more races	438	3.1%	475	4.0%	913	3.5%
Unknown	636	4.5%	932	7.9%	1,568	6.0%
Total	14,231	--	11,864	--	26,095	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey and American Association of Colleges of Nursing (AACN) Research and Data Services

Note: Entry-level Master's programs in the West region reported 901 graduates in 2015; IPEDS data were used to describe ADN graduates, AACN data were used to describe pre-license BSN and ELM graduates

Table C.5. Racial and ethnic composition of LVN program graduates by Census region, United States, 2015

Race/Ethnicity	Northeast		Midwest		South		West		US	
	N	%	N	%	N	%	N	%	N	%
American Indian or Alaska Native	25	0.3%	95	0.7%	243	1.2%	89	1.0%	452	0.9%
Asian	194	2.7%	269	2.1%	297	1.5%	1,270	14.1%	2,030	4.1%
Black or African American	1,937	26.5%	1,837	14.5%	4,663	23.1%	736	8.2%	9,173	18.7%
Hispanic or Latino	626	8.6%	472	3.7%	2,294	11.4%	2,594	28.9%	5,986	12.2%
Native Hawaiian or Pacific Islander	18	0.2%	8	0.1%	15	0.1%	139	1.5%	180	0.4%
White	4,036	55.3%	9,408	74.1%	11,910	59.0%	3,340	37.2%	28,694	58.3%
Two or more races	194	2.7%	171	1.3%	307	1.5%	265	2.9%	937	1.9%
Unknown	270	3.7%	431	3.4%	469	2.3%	556	6.2%	1,726	3.5%
Total	7,300	--	12,691	--	20,198	--	8,989	--	49,178	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey

Note: Includes only institutions located in a US state (no US territories); degree types are Associate degree or 1-2 year certificates

Table C.6. Racial and ethnic composition of PT program graduates by Census region, United States, 2015

Race/Ethnicity	Northeast		Midwest		South		West		US	
	N	%	N	%	N	%	N	%	N	%
American Indian or Alaska Native	6	0.2%	1	0.0%	14	0.5%	5	0.3%	28	0.2%
Asian	341	10.9%	98	3.7%	141	4.8%	251	13.1%	1,019	7.1%
Black or African American	55	1.8%	43	1.6%	163	5.5%	39	2.0%	359	2.5%
Hispanic or Latino	124	4.0%	65	2.5%	214	7.2%	168	8.8%	592	4.1%
Native Hawaiian or Pacific Islander	6	0.2%	10	0.4%	7	0.2%	7	0.4%	39	0.3%
White	2,051	65.8%	2,189	83.5%	2,221	74.9%	1,196	62.4%	10,701	74.1%
Two or more races	21	0.7%	38	1.4%	45	1.5%	55	2.9%	163	1.1%
Unknown	511	16.4%	177	6.8%	160	5.4%	197	10.3%	1536	10.6%
Total	3,115	--	2,621	--	2,965	--	1,918	--	14,437	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey

Note: Includes doctoral level degrees only

Table C.7. Racial and ethnic composition of OT program graduates by Census region, United States, 2015

Race/Ethnicity	Northeast		Midwest		South		West		US	
	N	%	N	%	N	%	N	%	N	%
American Indian or Alaska Native	3	0.1%	3	0.2%	4	0.2%	2	0.2%	12	0.2%
Asian	98	4.8%	50	3.1%	50	3.1%	181	20.3%	379	6.2%
Black or African American	56	2.8%	29	1.8%	128	8.0%	10	1.1%	223	3.6%
Hispanic or Latino	66	3.2%	40	2.5%	164	10.2%	84	9.4%	354	5.7%
Native Hawaiian or Pacific Islander	5	0.2%	0	0.0%	0	0.0%	5	0.6%	10	0.2%
White	1,575	77.5%	1,401	85.9%	1,157	72.0%	507	56.8%	4,640	75.3%
Two or more races	28	1.4%	36	2.2%	21	1.3%	30	3.4%	115	1.9%
Unknown	201	9.9%	72	4.4%	83	5.2%	73	8.2%	429	7.0%
Total	2,032	--	1,631	--	1,607	--	892	--	6,162	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey

Note: Includes Master's or higher degrees

Table C.8. Racial and ethnic composition of PTA program graduates by Census region, United States, 2015

Race/Ethnicity	Northeast		Midwest		South		West		US	
	N	%	N	%	N	%	N	%	N	%
American Indian or Alaska Native	1	0.1%	10	0.5%	24	0.8%	22	1.6%	57	0.8%
Asian	34	3.6%	45	2.3%	92	3.1%	125	9.2%	296	4.1%
Black or African American	30	3.2%	53	2.7%	269	9.0%	62	4.5%	414	5.7%
Hispanic or Latino	42	4.5%	47	2.4%	437	14.7%	327	24.0%	853	11.8%
Native Hawaiian or Pacific Islander	3	0.3%	4	0.2%	7	0.2%	23	1.7%	37	0.5%
White	748	80.3%	1,688	86.7%	2,017	67.8%	705	51.7%	5,158	71.5%
Two or more races	18	1.9%	24	1.2%	45	1.5%	35	2.6%	122	1.7%
Unknown	56	6.0%	75	3.9%	83	2.8%	64	4.7%	278	3.9%
Total	932	--	1,927	--	2,913	--	1,363	--	7,135	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey

Table C.9. Racial and ethnic composition of OTA program graduates by Census region, United States, 2015

Race/Ethnicity	Northeast		Midwest		South		West		US	
	N	%	N	%	N	%	N	%	N	%
American Indian or Alaska Native	1	0.1%	8	0.6%	11	0.5%	3	0.5%	23	0.5%
Asian	38	4.1%	23	1.7%	64	3.1%	87	13.1%	212	4.2%
Black or African American	69	7.4%	90	6.5%	294	14.3%	27	4.1%	480	9.5%
Hispanic or Latino	57	6.1%	42	3.1%	317	15.4%	114	17.2%	530	10.5%
Native Hawaiian or Pacific Islander	1	0.1%	1	0.1%	4	0.2%	0	0.0%	6	0.1%
White	700	75.1%	1,161	84.4%	1,286	62.5%	395	59.6%	3,542	70.4%
Two or more races	10	1.1%	8	0.6%	35	1.7%	13	2.0%	66	1.3%
Unknown	56	6.0%	43	3.1%	48	2.3%	24	3.6%	171	3.4%
Total	932	--	1,376	--	2,059	--	663	--	5,030	--

Source: Integrated Postsecondary Education Data System (IPEDS) Completions Survey