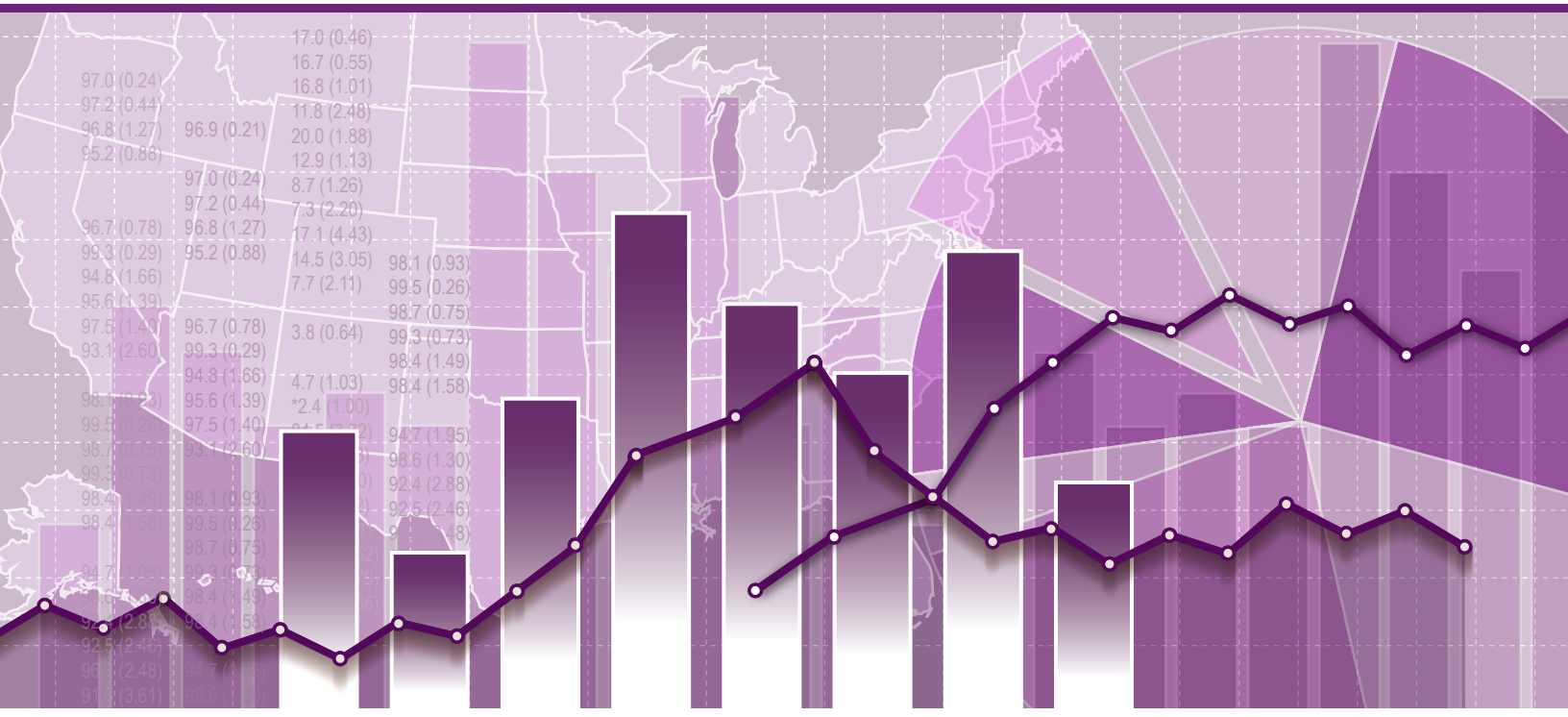
NATIONAL CENTER FOR HEALTH STATISTICS

Vital and Health Statistics

Series 3, Number 43

February 2019



Long-term Care Providers and Services Users in the United States, 2015–2016

Analytical and Epidemiological Studies

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

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Suggested citation

Harris-Kojetin L, Sengupta M, Lendon JP, Rome V, Valverde R, Caffrey C. Long-term care providers and services users in the United States, 2015–2016. National Center for Health Statistics. Vital Health Stat 3(43). 2019.

Library of Congress Cataloging-in-Publication Data

Names: National Center for Health Statistics (U.S.), issuing body.
Title: : Long-term care providers and services users in the United States, 2015-2016.
Other titles: DHHS publication ; no. 2019-1427. | Vital & health statistics. Series 3, Analytical and epidemiological studies ; no. 43.
Description: Washington, DC : U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, January 2019. | Series: DHHS publication ; no. 2019-1427 | Series: Vital and health statistics, Series 3 ; number 43 | Includes bibliographical references and index.
Identifiers: LCCN 2018056225 | ISBN 084060694X (pbk.)
Subjects: | MESH: Long-Term Care | Insurance, Long-Term Care | United States | Statistics
Classification: LCC RA412.2 | NLM W2 A N148vc no. 43 2018 | DDC 368.38/200973--dc23
LC record available at https://lccn.loc.gov/2018056225

For sale by the U.S. Government Publishing Office
Superintendent of Documents
Mail Stop: SSOP
Washington, DC 20401–0001
Printed on acid-free paper.

NATIONAL CENTER FOR HEALTH STATISTICS
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Long-term Care Providers and Services Users in the United States, 2015–2016

Data from the National Study of Long-Term Care Providers

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

Hyattsville, Maryland
February 2019
DHHS Publication No. 2019–1427

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Acknowledgments

The authors are grateful to the many people who provided technical expertise and assistance in implementing the 2015–2016 National Study of Long-Term Care Providers (NSLTCP) and in developing this report.

This report was edited and produced by the National Center for Health Statistics (NCHS) Office of Information Services, Information Design and Publishing Staff: Danielle Taylor edited the report, and graphics and layout were produced by Odell D. Eldridge (contractor), Mike Jones (contractor), and Shamir Ballard.

The authors are indebted to the directors and administrators of the assisted living and similar residential care communities and adult day services centers, and their designated staff, who took time to complete the questionnaires. This report would lack information on these sectors without their participation.

The authors recognize the following organizations for their vital contributions in successfully completing the 2016 NSLTCP adult day services center and residential care community surveys: Adult Day Health Care Association of Texas (ADCAT), American Seniors Housing Association (ASHA), Argentum, California Association for Adult Day Services (CAADS), Center for Excellence in Assisted Living (CEAL), LeadingAge, National Adult Day Services Association (NADSA), The National Association of States United for Aging and Disabilities (NASUAD), and National Center for Assisted Living (NCAL). For promoting participation in the 2016 surveys, the authors thank Tynetta Alston (Pennsylvania Adult Day Services Association), Maribeth Bersani (Argentum), Jeanne McGlynn Delgado (ASHA), Donna Hale (NADSA), Blanca Laborde (ADCAT), Stephen Maag (LeadingAge), Lydia Missaelides (CAADS), Peter Notarstefano (LeadingAge), Lisa Peters-Beumer (NADSA), Martha Roherty (NASUAD), Lindsay Schwartz (NCAL and CEAL), and Randy Slikkers (CEAL).

The authors thank the members of the 2011 NSLTCP Work Group, whose expertise helped guide the NSLTCP survey content. Members, with affiliations at the time of the 2011 meeting, include: Jean Accius, AARP; Gretchen Alkema, The SCAN Foundation; Nicholas Castle, University of Pittsburgh; Thomas Clark, the American Society of Consultant Pharmacists; Joel Cohen, Agency for Healthcare Research and Quality; Rosaly Correa-de-Araujo, U.S. Department of Health and Human Services; Holly Dabelko-Schoeny, The Ohio State University; Frederic Decker, the Health Resources and Services Administration; Elena Fazio, Administration for Community Living; Michael Furukawa, Office of the National Coordinator for Health Information Technology; Mary George, Centers for Disease Control and Prevention (CDC); Stacie Greby, CDC; Stuart Hagen, Congressional Budget Office; Christa Hojlo, Department of Veterans Affairs (VA); Teresa Johnson, NADSA; Judith Kasper, Johns Hopkins University; Enid Kassner, AARP; Ruth Katz, Office of the Assistant Secretary for Planning and Evaluation (ASPE); Gavin Kennedy, ASPE; Mary Jane Koren, the Commonwealth Fund; Dave Kyllo, NCAL; Sheila Lambowitz, Centers for Medicare & Medicaid Services (CMS); Karen Love, CEAL; William Marton, ASPE; Lisa Matthews-Martin, American Health Care Association; Anne Montgomery, Senate Special Committee on Aging; Vincent Mor, Brown University; Richard Nahin, CDC; Carol O'Shaughnessy, the National Health Policy Forum; Doug Pace, Long-Term Quality Alliance; Georgeanne Patmios, National Institute on Aging; Carol Regan, Paraprofessional Healthcare Institute; Robin Remsburg, University of North Carolina at Greensboro; Robert Rosati, Visiting Nurse Service of New York; Emily Rosenoff, ASPE; James Scanlon, ASPE; Daniel Schoeps, VA; Margo Schwab, Office of Management and Budget; Carol Spence, National Hospice and Palliative Care Organization; Nimalie Stone, CDC; Robyn Stone, LeadingAge; Mary St. Pierre, National Association for Home Care & Hospice; Nicola Thompson, CDC; Daniel Timmel, CMS; Julie Weeks, NCHS; Janet Wells, National Consumer Voice for Quality Long-Term Care; and Cheryl Wiseman, CMS.

Under a contract with NCHS, RTI International implemented the 2016 NSLTCP surveys. The authors gratefully acknowledge the talented and dedicated staff at RTI International for their contributions to the design and successful implementation of the 2016 NSLTCP surveys, especially, Angela Greene, Melissa Hobbs, Katherine Mason, Mai Nguyen, Linda Lux, and Celia Eicheldinger.

The authors are grateful for the technical support and assistance from staff at CMS and the Research Data Assistance Center who helped identify and obtain needed administrative data sources throughout this project, specifically, Faith Asper, Stephanie Bartee, Dovid Chaifetz, Christine Cox, Karen Edrington, Angela Jannotta, Waruiru Mburu, and Matt McFalls.

Long-term Care Providers and Services Users in the United States, 2015–2016

by Lauren Harris-Kojetin, Ph.D., Manisha Sengupta, Ph.D., Jessica Penn Lendon, Ph.D., Vincent Rome, M.P.H., Roberto Valverde, M.P.H., and Christine Caffrey, Ph.D.

Abstract

Objective

This report presents the most current national results from the National Study of Long-Term Care Providers (NSLTCP) conducted by the National Center for Health Statistics (NCHS) to describe providers and services users in five major sectors of paid, regulated long-term care services in the United States.

Methods

Data sources include NCHS surveys of adult day services centers and residential care communities (covers 2016 data year) and administrative records from the Centers for Medicare & Medicaid Services on home health agencies, hospices, and nursing homes (covers 2015 and 2016 data years).

Results

This report provides information on the supply, organizational characteristics, staffing, and services offered by providers; and the demographic, health, and functional composition, and adverse events among users of these services. Services users include residents of nursing homes and residential care communities, patients of home health agencies and hospices, and participants of adult day services centers. This third edition updates "Long-Term Care Providers and Services Users in the United States: Data From the National Study of Long-Term Care Providers, 2013–2014" (available from: https://www.cdcgov/nchs/data/series/sr_03/sr03_038.pdf). New content in this edition includes an additional service (dietary and nutritional services offered by providers); additional diagnoses (Alzheimer disease, arthritis, asthma, chronic kidney disease, chronic obstructive pulmonary disease, depression, diabetes, heart disease, hypertension, and osteoporosis); overnight hospitalizations among nursing home residents; and estimates by length of stay for selected characteristics (age, sex, race and ethnicity, diagnoses, overnight hospital stays, and falls) for nursing home residents.

Conclusion

In 2016, about 65,600 paid, regulated, long-term care services providers in five major sectors served more than 8.3 million people in the United States. Sectors differed in ownership and chain status, and supply varied by region. Long-term care services users varied by sector in their demographic and health characteristics and functional status.

Companion products will include: "Long-term Care Providers and Services Users in the United States—State Estimates Supplement: National Study of Long-Term Care Providers, 2015–2016" and "Long-term Care Services Use Rates in the United States—U.S. Maps Supplement: National Study of Long-Term Care Providers, 2015–2016." NCHS plans to conduct NSLTCP every 2 years. NSLTCP results and publications are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_products.htm.

Keywords: aging • disability • home- and community-based services • chronic conditions • long-term services and supports • postacute care

Key Findings

In 2016, about 65,600 paid, regulated long-term care services providers in five major sectors served over 8.3 million people in the United States.

- Long-term care services were provided by 4,600 adult day services centers, 12,200 home health agencies, 4,300 hospices, 15,600 nursing homes, and 28,900 assisted living and similar residential care communities (Appendix III, Table V).
- In 2016, there were an estimated 286,300 current participants enrolled in adult day services centers, 1,347,600 current residents in nursing homes, and 811,500 current residents living in residential care communities. In 2015, about 4,455,700 patients were discharged from home health agencies, and 1,426,000 patients received services from hospices (Appendix III, Table VIII).

Sectors differed in ownership and chain status, and supply varied by region.

- The majority of home health agencies, hospices, nursing homes, and residential care communities were for profit, while a minority of adult day services centers were for profit (Figure 4). The majority of nursing homes and residential care communities and a minority of adult day services centers were chain-affiliated (Figure 5).
- The supply of residential care beds per 1,000 persons aged 65 and over was higher in the Midwest and West than in the Northeast and the South, and the capacity of adult day services centers was higher in the West than in the other regions (Figure 3).

Almost 1.5 million nursing employee full-time equivalents (FTEs)—including registered nurses (RNs), licensed practical or vocational nurses (LPNs or LVNs), and aides—and about 35,000 social work employee FTEs worked in the five sectors.

- The relative distribution of nursing and social work employee FTEs varied across sectors; the most common employee FTEs were aides in adult day services centers, nursing homes, and residential care communities, while RNs were the most common employee FTEs in home health agencies and hospices (Figure 9).

Sectors differed in their average staffing levels for nursing, social work, and activities employees.

- Among the three sectors where nursing staff levels (RNs, LPNs or LVNs, and aides) could be examined, the average total nursing staff hours per resident or participant day was higher in nursing homes than in residential care communities and adult day services centers (Figure 11).
- In contrast, the average social work staffing level was higher in adult day services centers than in nursing homes or residential care communities, and the average activities staffing level in adult day services centers was more than twice that of nursing homes and residential care communities.

Daily-use rates among individuals aged 65 and over per 1,000 persons aged 65 and over varied by sector.

- The highest daily-use rate was for nursing home residents, followed by residential care residents, and the lowest daily-use rate was for adult day services center participants.

Long-term care services users varied by sector in their demographic and health characteristics and functional status.

- Adult day services center participants tended to be younger than services users in other sectors (Figure 20). Adult day services center participants were the most racially and ethnically diverse among the five sectors (Figure 22).
- At least one-quarter of services users in each of the five sectors had Alzheimer disease or other dementias, arthritis, heart disease, or hypertension (Figure 24). However, the prevalence of these and six other reported diagnosed chronic conditions varied widely between sectors.
- Fewer adult day services center participants needed assistance with four of six activities of daily living (ADLs; bathing, dressing, toileting, and walking or locomotion) than services users in other sectors (Figure 25).

Adverse events among long-term care services users varied by sector.

- Compared with adult day participants and residential care residents, more home health patients had overnight hospital stays and emergency department visits (Figure 26).
- More residential care residents had falls compared with adult day participants and nursing home residents.

Short- and long-stay current nursing home residents varied on a variety of characteristics.

- Short-stay (less than 100 days) residents differed from long-stay (100 days or more) residents by age and sex, and in the prevalence of numerous diagnosed conditions, overnight hospital stays, and falls (Appendix III, Table IX).

Introduction

Long-term Care Services

Long-term care services include a broad range of health, personal care, and supportive services that meet the needs of frail older people and other adults whose capacity for self-care is limited because of a chronic illness; injury; physical, cognitive, or mental disability; or other health-related conditions (1). Historically, the term "long-term care" has been used to refer to services and supports to help frail older adults and younger persons with disabilities maintain their daily lives. Recently, alternative terms have gained wider use, including "long-term services and supports." The Patient Protection and Affordable Care Act (ACA, P.L. 111-148, as amended) uses the term "long-term services and supports" and defines the term to include certain institutionally based and noninstitutionally based long-term services and

supports [Section 10202(f)(1)]. This report uses "long-term care services" to reflect both the changing vocabulary and the fact that these services can include both health care-related and nonhealth care-related services.

Long-term care services include assistance with activities of daily living (ADLs; dressing, bathing, and toileting), instrumental activities of daily living (IADLs; medication management and housework), and health maintenance tasks. Long-term care services assist people to improve or maintain an optimal level of physical functioning and quality of life, and can include help from other people and special equipment or assistive devices. The need for long-term care services is generally defined based on functional limitations (need for assistance with or supervision in ADLs and IADLs) regardless of cause, age of the person, where the person is receiving assistance, whether the assistance is human or mechanical, and whether the assistance is paid or unpaid.

Individuals may receive long-term care services in a variety of settings (2–5):

- In the community, such as at an adult day services center
- In the home, for example, from a home health agency, hospice, or family and friends
- In institutions, such as in a nursing home or skilled nursing facility
- In other residential settings, for instance, in an assisted living or similar residential care community

Long-term care services provided by paid regulated providers are an important component of personal health care spending in the United States (6). Estimates of expenditures for paid long-term care services vary, depending on what types of providers, populations, and services are included. According to a recent estimate, in 2013 total national spending for paid long-term care services was almost $339 billion, with public spending accounting for about 72% of this amount (7). The cost of long-term care services varies by the type of paid care provided and the type of provider or sector (e.g., adult day services centers, assisted living and similar residential care communities, home health agencies, or hospices) (2,8).

Finding a way to pay for long-term care services is a growing concern for older adults, other persons with disabilities, and their families, and it is a major challenge facing state and federal governments (9–12). People who use paid long-term care services, through home- and community-based services or institutional care, are among the most costly participants in Medicare and Medicaid programs (13). Medicaid finances the largest portion of paid long-term care services, followed by Medicare, out-of-pocket payments by individuals and families, other private sources, private insurance, and other public programs (4,6,14).

Medicaid finances a variety of long-term care services through multiple mechanisms (e.g., Medicaid State Plan, home- and community-based services waiver program, and other options for community-based long-term care services), including an array of home- and community-based services and institutional services (15–17). Medicaid spending on long-term care services totaled $158 billion in 2015, accounting for 30% of total Medicaid expenditures (18). This report does not address all long-term care services financed by Medicaid. For example, intermediate care facilities for people with intellectual or developmental disabilities are excluded.

Experts disagree on whether Medicare expenditures for skilled nursing facilities and home health agencies, since they are postacute services, should be considered long-term care services (14). This report includes Medicare-certified skilled nursing facilities and home health agencies, which are often referred to as postacute care services.

The distribution of the different financing sources described previously varies by long-term care services sector and population. For example, most residents pay out of pocket for assisted living and similar residential care communities (19), with a small percentage using Medicaid to help pay for services (20). In contrast, the largest single payer for long-term nursing home care is Medicaid, whereas Medicare finances hospice costs and a major portion of the costs for short-stay postacute care in skilled nursing facilities for Medicare beneficiaries (21,22).

Although people of all ages may need long-term care services, the risk of needing these services increases with age. The number of Americans over age 65 is projected to shift from 47.8 million in 2015 to over 87.9 million in 2050, representing an increase of 84% and comprising 22% of the population (23). The population aged 85 and over is projected to triple, from 6.3 million in 2015 to over 18.9 million in 2050, and will account for almost 5% of the U.S. population (23). This "oldest old" population tends to have the highest disability rate and highest need for long-term care services, and is also more likely to be widowed and without someone to provide assistance with daily activities (24,25). The number of older people in the United States with significant physical or cognitive disabilities is projected to increase from 6.3 million in 2015 to 15.7 million in 2065 (26).

Decreasing family size and increasing employment rates among women may reduce the traditional pool of family caregivers, further stimulating demand for paid long-term care services (27). Among persons who need long-term care services, adults aged 65 and over are more likely than younger adults to receive paid help (28). Results from the National Health and Aging Trends study show that of the 10.9 million older adults who reported receiving help with daily activities in a given month in 2011, about 3 in 10 received paid help (29). Recent projections using microsimulation modeling estimate that about one-half of Americans reaching age 65 will need long-term care services and will incur, on average, $138,000 in long-term care costs (26). The average projected length of needing long-term

care services is 2 years, including an average length of 1 year of paid long-term care services. However, about one-third of people turning age 65 are projected to need long-term care services for more than 2 years and to incur higher long-term care services costs (26).

In sum, projections estimate that the number of older adults using paid long-term care services will grow considerably in the coming years (30–34). As a substantial share of paid long-term care services is publicly funded through programs such as Medicaid, accurate and timely statistical information can help guide those programs and inform relevant policy decisions. The National Study of Long-Term Care Providers (NSLTCP) is designed to help supply this information.

The National Study of Long-Term Care Providers

The long-term care services delivery system in the United States has changed substantially over the last 30 years. For example, although nursing homes are still a major provider of long-term care services, there has been growing use of skilled nursing facilities for short-term postacute care and rehabilitation (35). Additionally, consumers' desire to stay in their own homes, as well as federal and state policy developments, have led to growth in a variety of home- and community-based alternatives (36–38). Examples of these federal and state policy developments include the Supreme Court's Olmstead decision; introduction of the Medicare Prospective Payment System; and a variety of initiatives to encourage balancing of Medicaid-financed services from institutional to noninstitutional settings, such as Money Follows the Person, Community First Choice Option, and the Balancing Incentives Payment Program (39).

The major sectors of paid long-term care services providers now also include adult day services centers, assisted living and similar residential care communities, home health agencies, and hospices.

In 2011, the National Center for Health Statistics (NCHS) launched the biennial NSLTCP—an integrated strategy for efficiently obtaining and providing statistical information about the major sectors of paid, regulated long-term care services in the United States. NSLTCP is designed to provide reliable, accurate, relevant, and timely statistical information to support and inform long-term care services policy, research, and practice.

The main goals of NSLTCP are to:

1. Estimate the supply, provision, and use of paid, regulated long-term care services
2. Estimate key policy-relevant characteristics and practices
3. Produce national and state estimates, where feasible
4. Compare estimates among sectors
5. Monitor trends over time

NSLTCP replaces NCHS' periodic National Nursing Home Survey and National Home and Hospice Care Survey, as well as the one-time National Survey of Residential Care Facilities. Unlike the previous strategy of surveying major sectors of long-term care services separately and at different times—often several years apart—NSLTCP intends to provide information on five major sectors of providers and services users at a similar point in time, and to provide updated information on all five sectors every 2 years. The NSLTCP core is designed to:

- Broaden NCHS' ongoing coverage of paid, regulated long-term care services providers beyond home health agencies, hospices, and nursing homes to also include adult day services centers and assisted living and similar residential care communities (called "residential care communities" in this report)
- Have the potential over time to add other types of paid, regulated long-term care services providers (e.g., home care agencies)
- Capitalize on existing national administrative data from the Centers for Medicare & Medicaid Services (CMS) on home health agencies, hospices, and nursing homes
- Collect primary data every other year from cross-sectional, nationally representative, establishment-based surveys of adult day services centers and residential care communities, because administrative data do not exist
- Produce state estimates, where feasible
- Compare and monitor trends across the five sectors

In addition to the core content, the NSLTCP data collection system provides the infrastructure on which to build provider-specific surveys, cross-provider topical modules, more in-depth surveys to respond to evolving or emerging policy issues, and sampling and collecting information on individual users (e.g., nursing home residents).

Structure of Report and Other NSLTCP Products

This is the third edition of a descriptive overview report intended to inform policy makers, providers, researchers, consumer advocates, the media, foundations, and others to inform planning for long-term care services. The report includes two sections that present findings. "National Profile of Long-term Care Services Providers" presents findings on providers of long-term care services (i.e., adult day services centers, home health agencies, hospices, nursing homes, and residential care communities). This section includes estimates on provider supply, organizational characteristics, staffing, and services offered. New to this edition, this section presents estimates on dietary and nutritional services offered.

Staffing is especially important to examine because paid long-term care services are provided by a wide array of trained professionals and paraprofessionals, with the largest

share—an estimated 70% to 80%—being direct care workers that include certified nursing assistants and personal care aides and home health aides, generally referred to as aides (40,41). Previous studies have provided evidence that higher nurse staffing levels are associated with higher quality of care outcomes for nursing home residents (42–44); nursing homes are required to meet minimum nurse staffing ratios for participation in Medicare and Medicaid. Less research has been conducted on staffing levels and outcomes in adult day, home health, hospice, and residential care settings (for an exception see reference 45).

In its 2008 report, "Retooling for an Aging America: Building the Health Care Workforce," the Institute of Medicine documented the growing need for gerontological social workers and the lack of interest among social workers in working with older adults (46). According to one study, while about 36,100 to 44,200 professional social workers were employed in long-term care settings in 2002, approximately 110,000 social workers would be needed in these settings by 2050 (47). Projections estimate that social workers and home health and personal care aides are among the long-term care services occupations that will grow the most by 2030 (48). This report contributes to the literature on the long-term care services workforce by using NSLTCP data to provide information by sector on the numbers of nursing, licensed social work, and activities employees, and average hours per service user day.

"National Profile of Long-term Care Services Users" presents findings on users of long-term care services, including participants of adult day services centers, patients of home health agencies and of hospices, and residents of nursing homes and of residential care communities. This section's topics include demographic characteristics; functional status; selected health conditions, including Alzheimer disease and other dementias; and adverse events among services users, including hospitalizations and falls. Alzheimer disease is a common precipitating factor for transition to receiving long-term care services (49). According to the Alzheimer's Association, in 2018 there were about 5.7 million Americans living with Alzheimer dementia; 5.5 million of them were aged 65 and over (50). The number of people with Alzheimer disease or other dementias will continue to increase along with the growth of the older population (49). New to this report, this section presents estimates on 10 diagnoses; estimates on overnight hospitalizations among nursing home residents; and estimates by length of stay for selected characteristics (age, sex, race and ethnicity, diagnoses, overnight hospital stays, and falls) for nursing home residents.

The Technical Notes (Appendix I) describe the data sources used to produce the information on providers and services users in each of the five sectors, outlines the approach used for data analyses, and discusses study limitations. Appendix II defines each variable used for each sector in the study, and Appendix III presents the data tables for the figures in the report.

This report presents national results from the third wave of NSLTCP, using data from surveys about adult day services centers and participants, and residential care communities and residents that were fielded by NCHS between August 2016 and February 2017. The report also uses data from administrative records obtained from CMS on home health agencies and patients, hospices and patients, and nursing homes and residents, which reflect these providers and services users between 2015 and 2016. See the Appendix I Technical Notes for definitions of the five sectors and the corresponding data sources used in this report.

This report also updates previous editions of this report: "Long-Term Care Services in the United States: 2013 Overview"(https://www.cdc.gov/nchs/data/nsltcp/long_term_care_services_2013.pdf), which reported findings from the first NSLTCP wave conducted in 2012 (data years 2011 and 2012); and "Long-Term Care Providers and Services Users in the United States: Data From the National Study of Long-Term Care Providers, 2013–2014 (https://www.cdc.gov/nchs/data/series/sr_03/sr03_038.pdf), which reported findings from the second NSLTCP wave conducted in 2014 (data years 2013 and 2014).

A companion product, "Long-term Care Providers and Services Users in the United States—State Estimates Supplement: National Study of Long-Term Care Providers, 2015–2016," contains tables showing comparable state estimates for the national findings in this report. These state tables update previous editions of this product: "Long-Term Care Services in the United States: 2013 State Web Tables and Maps" (https://www.cdc.gov/nchs/data/nsltcp/State_estimates_for_NCHS_Series_3_37.pdf); and "Long-Term Care Providers and Services Users in the United States—State Estimates Supplement: National Study of Long-Term Care Providers, 2013–2014 (https://www.cdc.gov/nchs/data/nsltcp/2014_nsltcp_state_tables.pdf).

An additional companion product, "Long-term Care Services Use Rates in the United States—U.S. Maps Supplement: National Study of Long-Term Care Providers, 2015–2016," shows rates of use for each sector by state population of adults aged 65 and over and aged 85 and over. These and other NSLTCP results and publications, when published, will be available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_products.htm. NCHS is fielding the fourth wave of NSLTCP surveys between July 2018 and February 2019 and obtaining the fourth wave of administrative data within a similar time frame. NCHS intends to produce future reports to examine trends over time and produce public-use survey data files for the 2018 adult day services center and residential care community surveys. The 2018 surveys are redesigned for the first time to collect data on a scientifically drawn random sample of individual adult day services center participants and residential care residents.

The findings in this report provide the most current national picture of providers and users of five major sectors of paid, regulated long-term care services in the United States.

Findings on differences and similarities in supply, provision, and use; and the characteristics of providers and users of long-term care services offer useful information to policymakers, providers, and researchers as they plan to meet the needs of an aging population.

National Profile of Long-term Care Services Providers

Supply of Long-term Care Services Providers

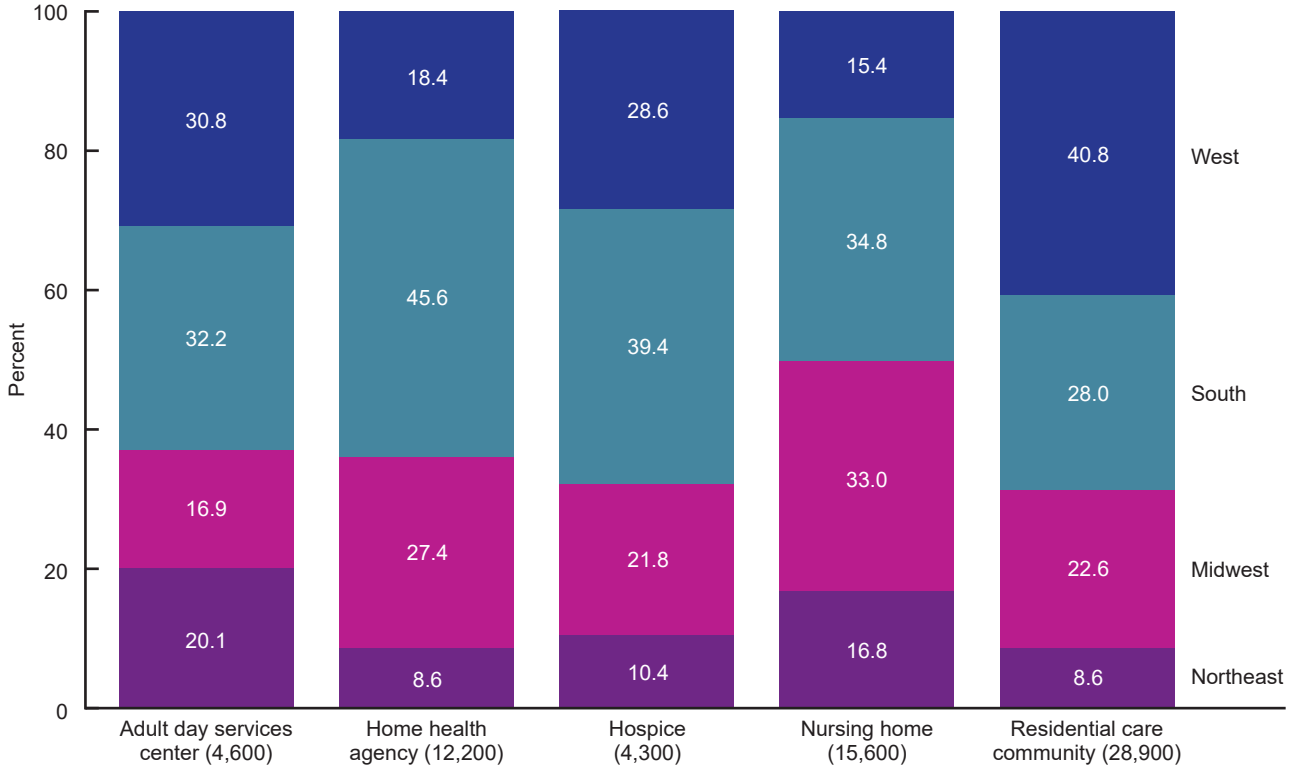
As of 2016 in the United States, there were an estimated 4,600 adult day services centers, 12,200 home health agencies, 4,300 hospices, 15,600 nursing homes, and 28,900 residential care communities. This report includes only providers that are in some way regulated by federal or state government. Adult day services centers and residential care communities were state regulated, home health agencies and nursing homes were Medicare- or Medicaid-certified, and hospices were Medicare-certified. Of these approximately 65,600 paid, regulated long-term care services providers, 7.0% were adult day services centers, 18.6% were home health agencies, 6.6% were hospices, 23.8% were nursing homes, and 44.1% were residential care communities.

This section provides an overview of the supply, organizational characteristics, staffing, and services offered by paid, regulated providers of long-term care services in each of these five sectors. Supply information is provided nationally, by census geographic region, and by metropolitan statistical area (MSA) status. Organizational characteristics include ownership type, chain affiliation, Medicare and Medicaid certification, and number of people served. Staffing measures include number and distribution of nursing and social work employees; percentage of providers employing any nursing, social work, or activities employees; and average hours per resident or participant per day, by staff type. Services include social work, mental health or counseling, therapeutic services, skilled nursing or nursing, pharmacy or pharmacist services, hospice, dietary and nutritional services, and dementia care units.

Geographic distribution

The supply of providers in the five long-term care services sectors varied in their geographic distribution. The largest share of adult day services centers (32.2%), home health agencies (45.6%), hospices (39.4%), and nursing homes (34.8%) was in the South, while the largest share of residential care communities (40.8%) was in the West (Figure 1).

Figure 1. Percent distribution of long-term care services providers, by sector and region: United States, 2016



NOTES: Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table V in Appendix III.

Metropolitan and micropolitan statistical areas are geographic entities defined by the Office of Management and Budget for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics.

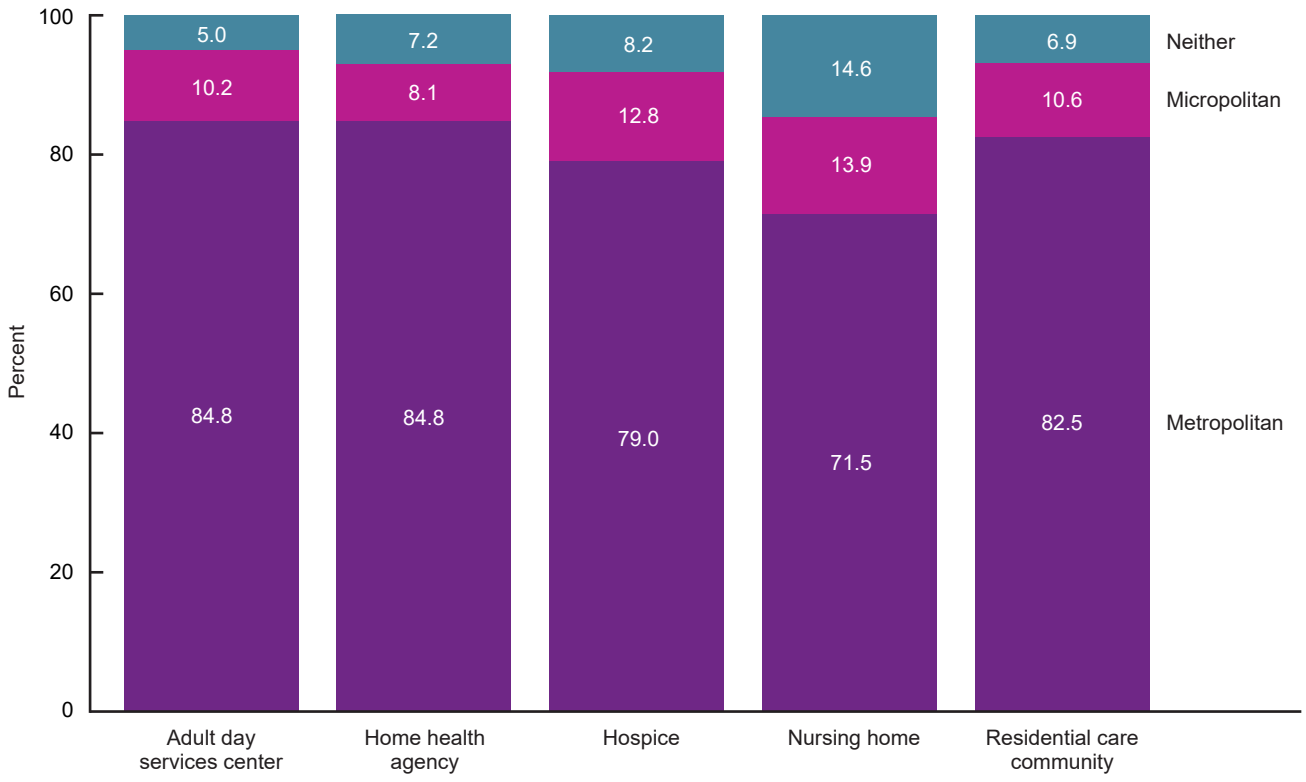
A metropolitan statistical area contains a core urban area of 50,000 or more population, and a micropolitan statistical area contains an urban core of at least 10,000 (but less than 50,000) population. Each metropolitan or micropolitan statistical area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core (51). Most providers in all five long-term care services sectors were in MSAs (Figure 2). This distribution reflects the higher population density in these areas. Compared with hospices (79.0%) and nursing homes (71.5%), a greater percentage of adult day services centers (84.8%), home health agencies (84.8%), and residential care communities (82.5%) were located in metropolitan areas.

Capacity

Based on the maximum number of participants allowed, the 4,600 adult day services centers in the country could serve a daily maximum of up to 298,400 participants nationally (Appendix III, Table V). The allowable daily capacity of adult day services centers ranged from 2 to 530, with an average of 66 participants. The 15,600 nursing homes in the country provided a total of 1,660,400 certified beds. Nursing homes ranged in capacity from 2 to 1,389 certified beds, with an average of 106 certified beds. The 28,900 residential care communities in the United States provided 996,100 licensed beds. Residential care communities ranged in capacity from 4 to 518 licensed beds, with an average of 35 licensed beds. Capacity for home health agencies and hospices was not examined because licensed maximum capacity or a similar metric was not available.

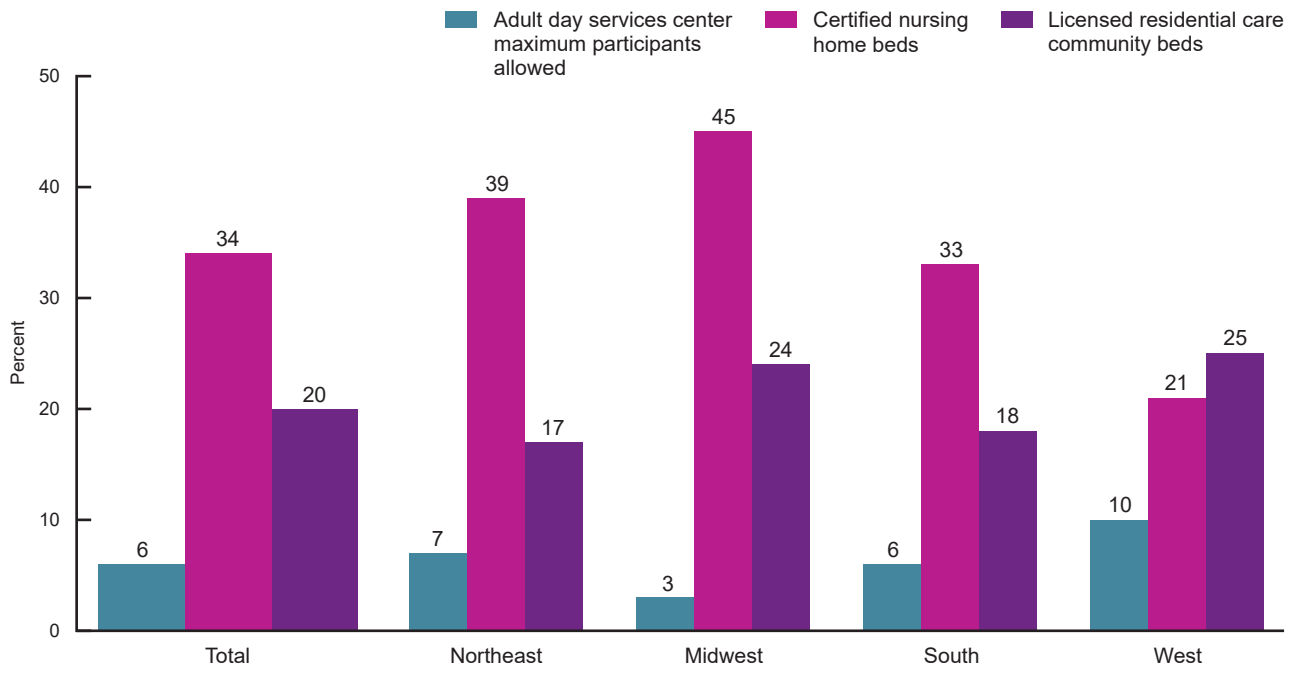
The supply of adult day services center capacity and nursing home and residential care beds varied by region (Figure 3). Compared with other regions, the Midwest had the largest supply of nursing home beds (45) and the smallest supply of adult day services center capacity (3) per 1,000 persons aged 65 and over. The West (25) and Midwest (24) had a

Figure 2. Percent distribution of long-term care services providers, by sector and metropolitan statistical area status: United States, 2016



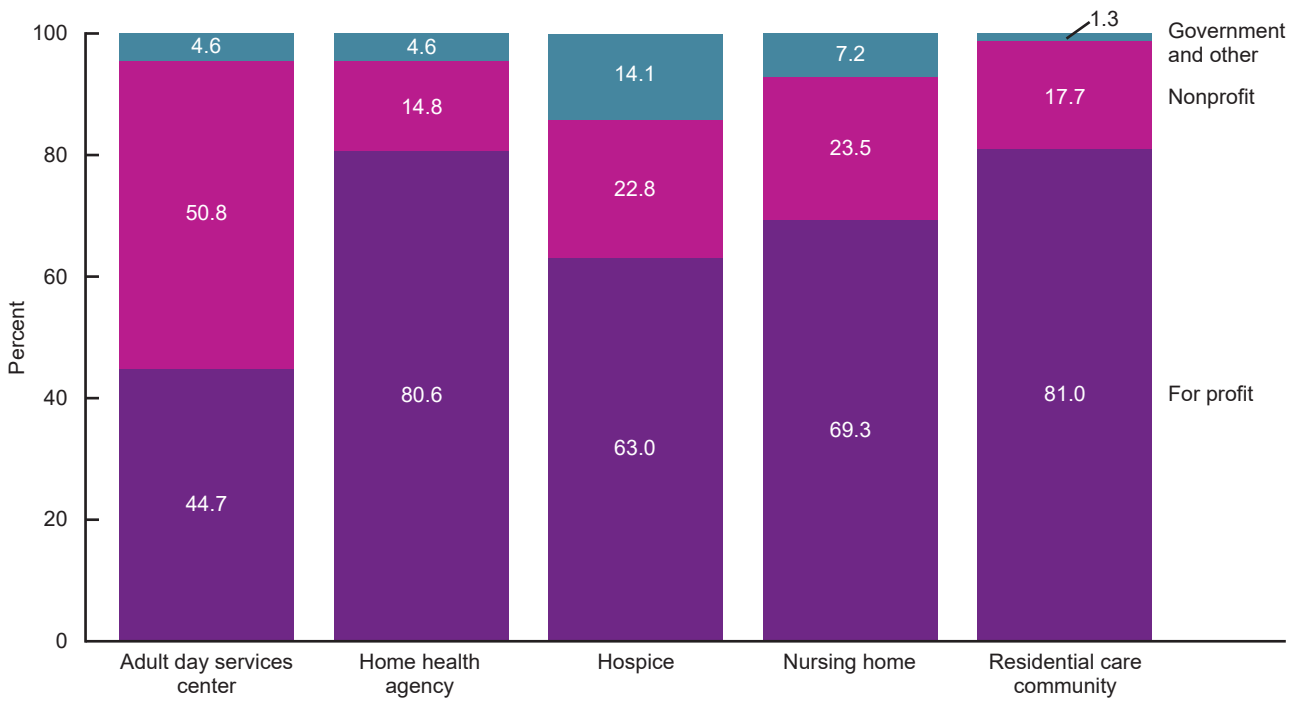
NOTES: Metropolitan statistical areas and micropolitan statistical areas are geographic entities delineated by the Office of Management and Budget for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics. A metropolitan statistical area contains a core urban area of 50,000 or more population, and a micropolitan statistical area contains an urban core of at least 10,000 (but less than 50,000) population. Each metropolitan or micropolitan statistical area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core (see reference 51 in report). Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table V in Appendix III.

Figure 3. Long-term care services provider capacity per 1,000 people aged 65 and over, by sector and region: United States, 2015–2016



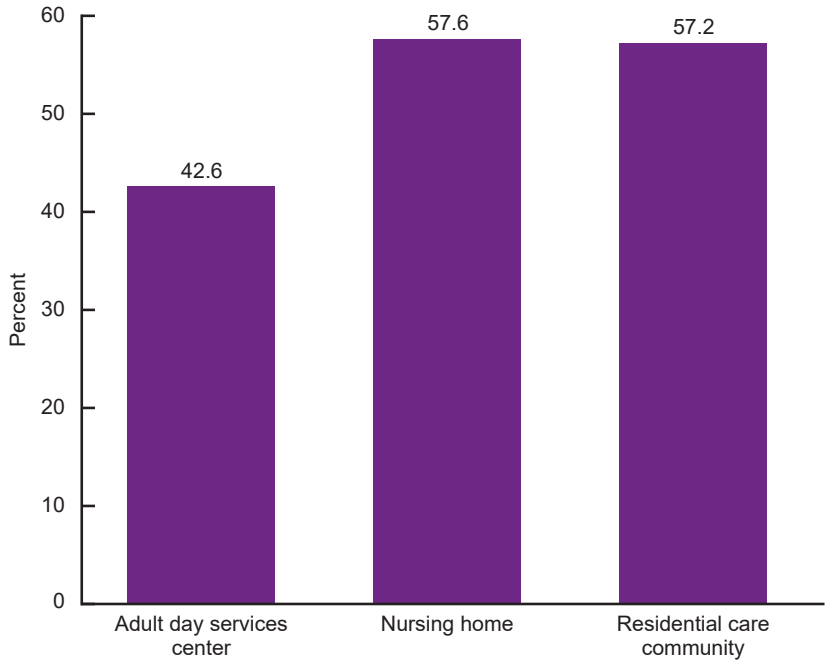
NOTES: Capacity refers to the number of certified nursing home beds, the number of licensed residential care community beds, and the maximum number of adult day services center participants allowed. See Appendix II for definitions of capacity used for each sector. Capacity for home health agencies and hospices was not examined because licensed maximum capacity or a similar metric was not available. Rates are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers.

Figure 4. Percent distribution of long-term care services providers, by sector and ownership: United States, 2016



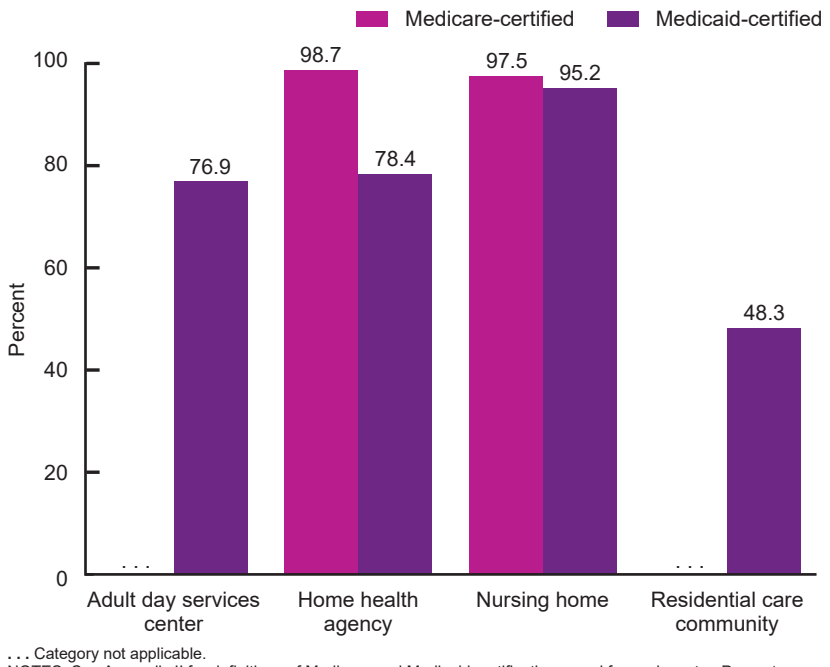
NOTES: See Appendix II for definitions of ownership used for each sector. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table V in Appendix III.

Figure 5. Percentage of long-term care services providers that are chain-affiliated, by sector: United States, 2016



NOTES: See Appendix II for definitions of chain affiliation used for each sector. Chain affiliation for home health agencies and hospices was not examined because this information was not available. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table V in Appendix III.

Figure 6. Percentage of long-term care services providers that are Medicare- and Medicaid-certified, by sector: United States, 2016



. . . Category not applicable.
NOTES: See Appendix II for definitions of Medicare and Medicaid certifications used for each sector. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table V in Appendix III.

aged 65 and over. The West (25) and Midwest (24) had a larger supply of residential care beds per 1,000 persons aged 65 and over compared with the Northeast (17) and the South (18).

In the West, the supply of residential care beds (25) was greater than the supply of nursing home beds (21) per 1,000 persons aged 65 and over, whereas nursing home beds outnumbered residential care beds in all other regions.

Organizational Characteristics of Long-term Care Services Providers

Ownership type

In all sectors except adult day services centers, the majority of long-term care services providers were for profit (Figure 4). Home health agencies (80.6%) and residential care communities (81.0%) had the highest percentages of for-profit ownership, while adult day services centers (44.7%) had the lowest percentage. About one-half of adult day services centers were nonprofit (50.8%).

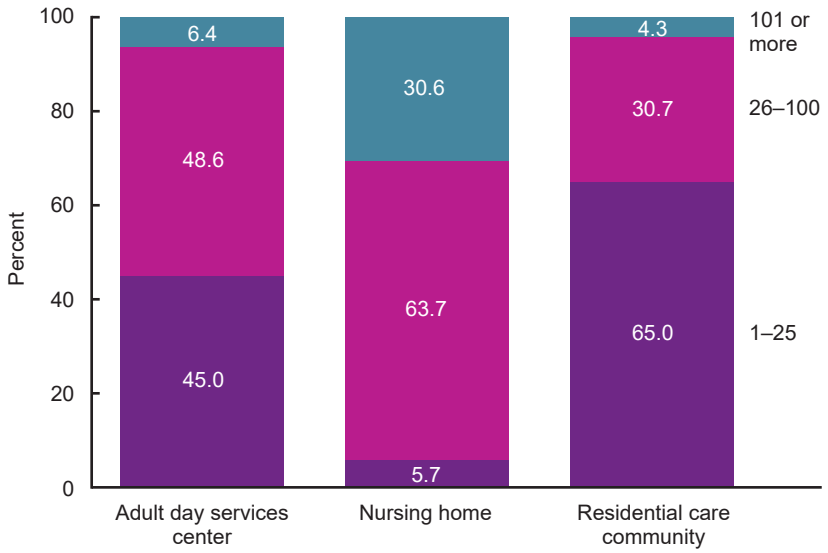
Chain status

The majority of nursing homes (57.6%) and residential care communities (57.2%) were chain-affiliated, while fewer adult day services centers (42.6%) were part of a chain (Figure 5). Chain affiliation for home health agencies and hospices was not examined because this information was not available.

Medicare and Medicaid certification

All data on home health agencies and nursing homes used in this report are only for Medicare- or Medicaid-certified providers, and all data on hospices are only for Medicare-certified hospices. Almost all nursing homes (95.2%), about three-quarters of adult day services centers (76.9%) and home health agencies (78.4%), and almost one-half of residential care communities (48.3%) were

Figure 7. Percent distribution of long-term care services providers, by sector and number of people served daily: United States, 2016



NOTES: Number of people served categorizes the number of current residents (nursing homes and residential care communities) or the average daily attendance of participants in a typical week (adult day services centers) into three categories: 1–25, 26–100, and 101 or more. See Appendix II for definitions of number of people served for each sector. Figure does not include home health agencies or hospices because the data on services users in these sectors that were used for this report are about patients served annually, not daily. Daily use among home health agencies and hospices could not be derived from these data. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table V in Appendix III.

Figure 8. Percent distribution of long-term care services providers, by sector and number of people served annually: United States, 2015

NOTES: Number of people served is derived from the number of home health patients whose episode of care ended at any time in 2015 and the number of hospice patients receiving care at any time in 2015, respectively, and has three categories: 1–100, 101–300, and 301 or more. See Appendix II for definitions of number of people served for each sector. This figure does not include adult day services centers, nursing homes, or residential care communities because the data on services users in these sectors that were used for this report are about services users served daily, not annually. Annual use among adult day services centers, nursing homes, or residential care communities could not be derived from these data. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table V in Appendix III.

authorized or certified to participate in Medicaid (Figure 6). Information was not available on whether any of the Medicare-certified hospices were also certified by Medicaid. Virtually all home health agencies (98.7%), hospices (100.0%; data not shown in figure), and nursing homes (97.5%) were Medicare-certified. In 2016, Medicare did not certify or reimburse for services provided by adult day care services centers or residential care communities; therefore, these providers were not asked about Medicare certification.

Number of people served

See Appendix II for how number of people served was defined for each sector.

In terms of persons served daily per provider, nursing homes served, on average, more than twice the number of people as adult day services centers, and three times the number of people as residential care communities. Nursing homes housed an average of 86 current residents daily, while adult day services centers had a mean weekday daily attendance of 42 participants, and residential care communities served an average of 28 residents daily (Appendix III, Table V).

The majority of nursing homes served between 26 and 100 residents daily (63.7%), while the majority of residential care communities served 25 residents or fewer daily (65.0%) (Figure 7). Nearly one-half of adult day services centers served 26 to 100 participants daily (48.6%); 45.0% served 25 participants or fewer. Figure 7 does not include data for home health agencies or hospices because the data on services users in these sectors that were used for this report are for patients served annually, not daily. Daily use among home health agencies and hospices could not be derived from these data.

The percentage of nursing homes serving more than 100 persons daily (30.6%) was almost five times as large as the percentage of adult day services centers (6.4%) doing so and almost

eight times as large as the percentage of residential care communities (4.3%) doing so (Figure 7).

In terms of persons served annually, a home health agency served an average of 401 patients who were then discharged from the agency in 2015, while a hospice served an average of 353 patients during the year (Appendix III, Table V). About 44.8% of home health agencies discharged 100 patients or fewer annually, while 25.8% discharged 101 to 300, and 29.4% discharged more than 300 (Figure 8). The number of patients served annually per hospice agency was about evenly distributed, with about one-third of agencies each serving 1 to 100 patients (34.2%), 101 to 300 patients (34.0%), and more than 300 patients (31.8%). Figure 8 does not include data for adult day services centers, nursing homes, or residential care communities because the data on services users in these sectors that were used for this report are for services users served daily, not annually. Annual use among adult day services centers, nursing homes, and residential care communities could not be derived from these data.

Staffing: Nursing, Social Work, and Activities Employees

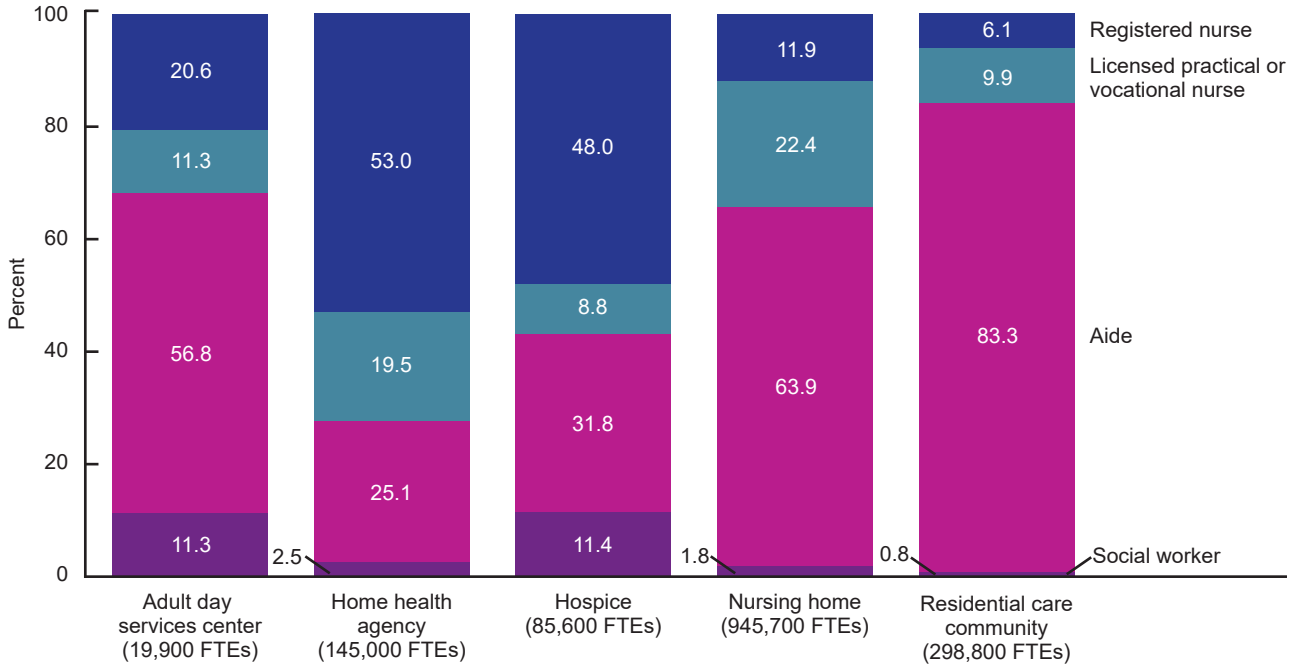
This section focuses on workers employed directly by adult day services centers, home health agencies, hospices, nursing homes, and residential care communities. Information is provided about registered nurses (RNs), licensed practical nurses (LPNs) or licensed vocational nurses (LVNs), aides, social workers, and activities staff. See Appendix II for the definition of full-time equivalent (FTE) and each staff type used for each sector. Contract staff that work for these providers were excluded because comparable information on contract staff was not available for all five sectors.

Nursing and social work employee full-time equivalents

In 2016, about 1,460,400 nursing employee FTEs—including RNs, LPNs or LVNs, and aides—and about 35,000 social work employee FTEs were working in the five sectors (data not shown). Of these nursing and social work employees in the five sectors, 63.3% (945,700 FTEs) worked in nursing homes, 20.0% (298,800 FTEs) were residential care community employees, 9.7% (145,000 FTEs) were employed by home health agencies, 5.7% (85,600 FTEs) were employed by hospices, and 1.3% (19,900 FTEs) were adult day services center employees.

The relative distribution of social work and nursing employee FTEs varied across sectors. In adult day services centers (56.8%), nursing homes (63.9%), and residential care communities (83.3%), the majority of these employee FTEs

Figure 9. Total number and percent distribution of nursing and social work full-time equivalent employees, by sector and staff type: United States, 2016



NOTES: FTEs is full-time equivalent. Only employees are included for all staff types; contract staff are not included. For adult day services centers and residential care communities, aides refer to certified nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides. For home health agencies and hospices, aides refer to home health aides. For nursing homes, aides refer to certified nurse aides, medication aides, and medication technicians. Social workers include licensed social workers or persons with a bachelor's or master's degree in social work in adult day services centers and residential care communities; medical social workers in home health agencies and hospices; and qualified social workers in nursing homes. See the Appendix I Technical Notes for information on how outliers were identified and coded. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VI in Appendix III.

were aides (Figure 9). However, in home health agencies (53.0%) and hospices (48.0%), RNs were the most common of these employee FTEs. Social work FTE employees were more common in adult day services centers (11.3%) and hospices (11.4%) than in the other sectors.

The administrative data used in this report for the home health, hospice, and nursing home sectors used less-inclusive wording to capture aides than was used in the questionnaire data for adult day services centers and residential care communities. Consequently, estimates using the administrative data may undercount the number of aides employed by providers in those sectors. See Appendix II for how aide was defined for each sector.

Providers employing any nursing, social work, or activities staff

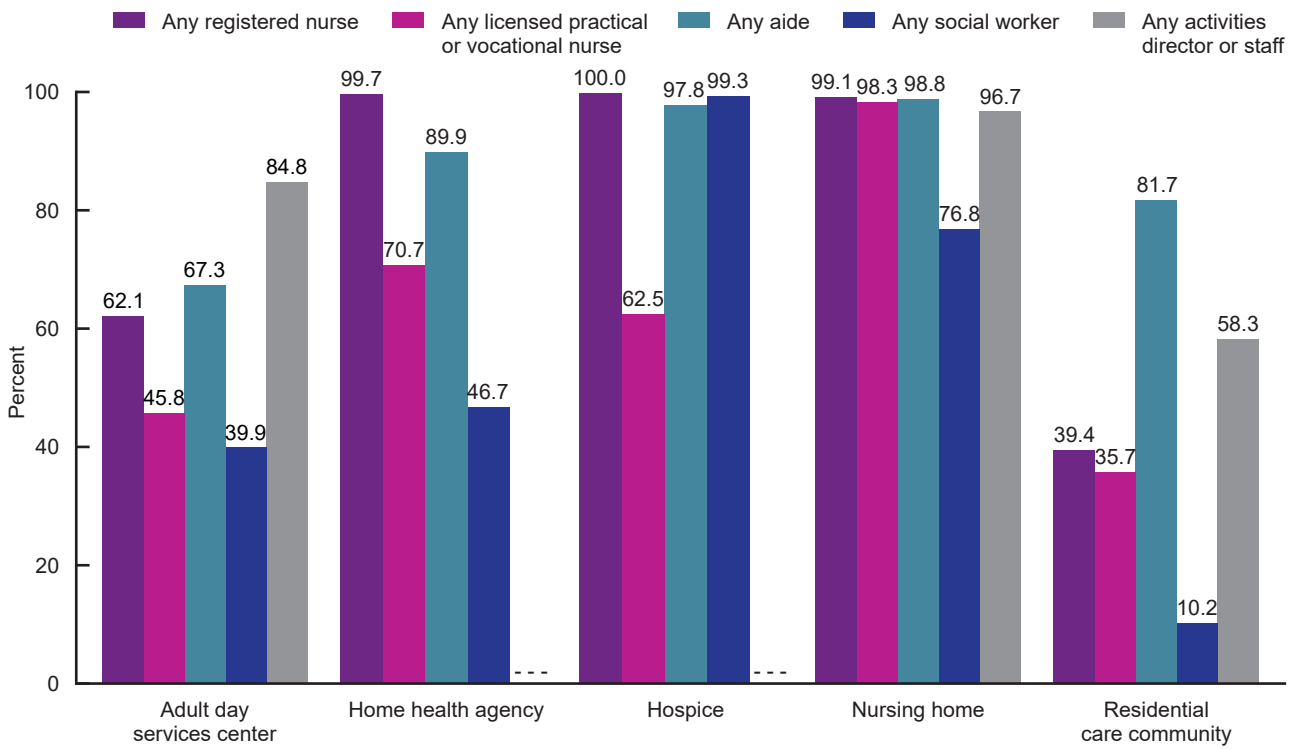
Among the four staff types examined across all five sectors, employing any aides showed the least variation by sector (Figure 10). In all five sectors, the majority of providers employed aides; nursing homes were most likely (98.8%) and adult day services centers were least likely (67.3%) to have any aides on staff.

The majority of providers in all sectors except residential care communities employed licensed nursing staff (either RNs, or LPNs or LVNs). Virtually all home health agencies, hospices, and nursing homes employed at least one RN (99.7%, 100.0%, and 99.1%, respectively). In contrast, 62.1% of adult day services centers and 39.4% of residential care communities directly employed any RNs. The majority of nursing homes (98.3%), home health agencies (70.7%), and hospices (62.5%) employed at least one LPN or LVN, whereas a minority of adult day services centers (45.8%) and residential care communities (35.7%) directly employed any LPNs or LVNs.

Employing any social workers showed the most variation across five sectors. Virtually all hospices employed social workers (99.3%), as did 76.8% of nursing homes. About 46.7% of home health agencies and 39.9% of adult day services centers employed social workers; however, only 10.2% of residential care communities directly employed social workers.

The majority of nursing homes (96.7%), adult day services centers (84.8%), and residential care communities (58.3%) directly employed an activities director or activities staff.

Figure 10. Percentage of long-term care services providers with any full-time equivalent employees, by sector and staff type: United States, 2016



- - - Data not available.
NOTES: Only employees are included for all staff types; contract staff are not included. For adult day services centers and residential care communities, aides refer to certified nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides. For home health agencies and hospices, aides refer to home health aides. For nursing homes, aides refer to certified nurse aides, medication aides, and medication technicians. Social workers include licensed social workers or persons with a bachelor's or master's degree in social work in adult day services centers and residential care communities; medical social workers in home health agencies and hospices; and qualified social workers in nursing homes. See the Appendix I Technical Notes for information on how outliers were identified and coded. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VI in Appendix III.

Use of any activities staff was not examined for home health agencies and hospices because this information was not available.

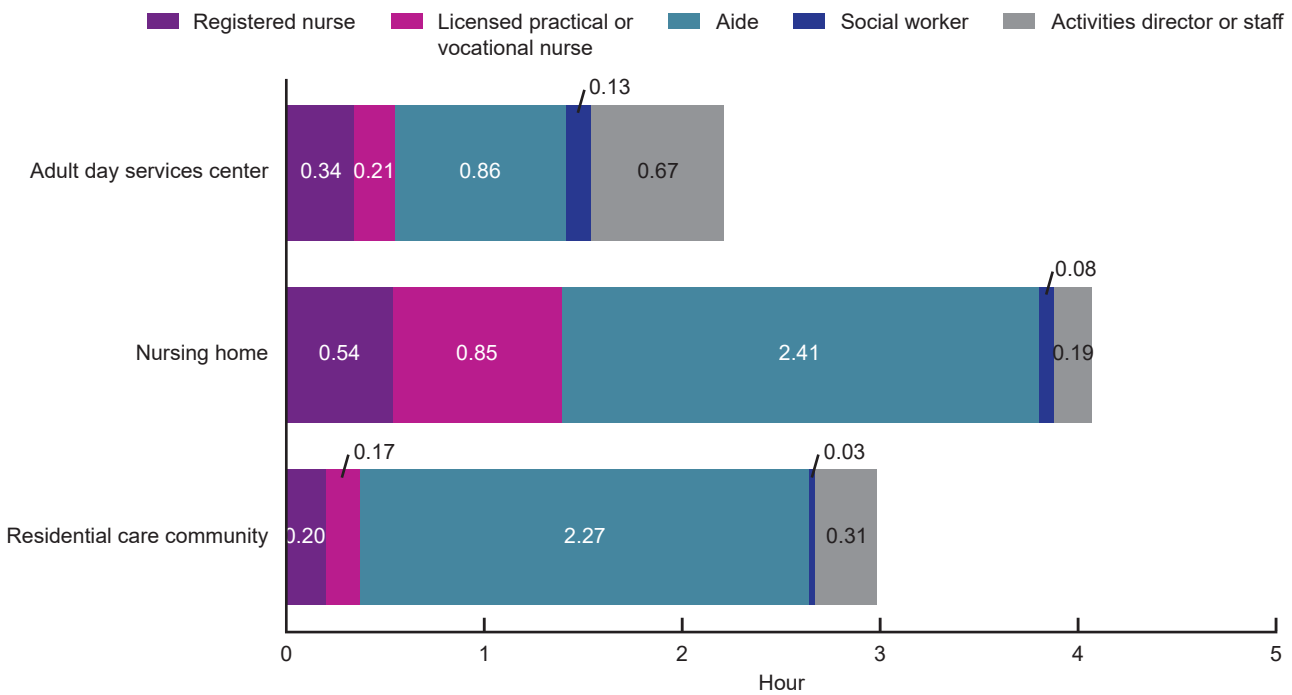
Staffing hours for nursing, social work, and activities staff

Rather than hours per day, which have been used in nursing home and residential care settings, alternative staffing metrics have been reported in the literature for adult day services centers, home health agencies, and hospices, such as average number of visits per 8-hour day (52) and worker-to-participant ratio (53). However, to provide a measure by which to compare staffing levels across sectors, hours per user (resident or participant) per day are provided in this report. See Technical Notes (Appendix I) and Appendix II for details on how hours per resident or participant per day were computed for adult day services centers, nursing homes, and residential care communities. Hours per patient per day could not be provided for home health agencies or hospices, because the administrative data available provided total number of all patients served in a year, not the number served on a given day, which is needed to produce this estimate.

For both licensed nursing staff types examined (i.e., RN, or LPN or LVN), the average staff hours per resident or participant per day was higher in nursing homes than in residential care communities and adult day services centers (Figure 11). In contrast, the average social work staff hours per resident or participant per day was higher in adult day services centers (0.13 hours or 8 minutes) than in nursing homes (0.08 hours or 5 minutes) or residential care communities (0.03 hours or 2 minutes), and the average activities staff hours per resident or participant per day in adult day services centers (0.67 hours or 40 minutes) was more than twice the size of the ratio for residential care communities (0.31 hours or 19 minutes) or nursing homes (0.19 hours or 11 minutes).

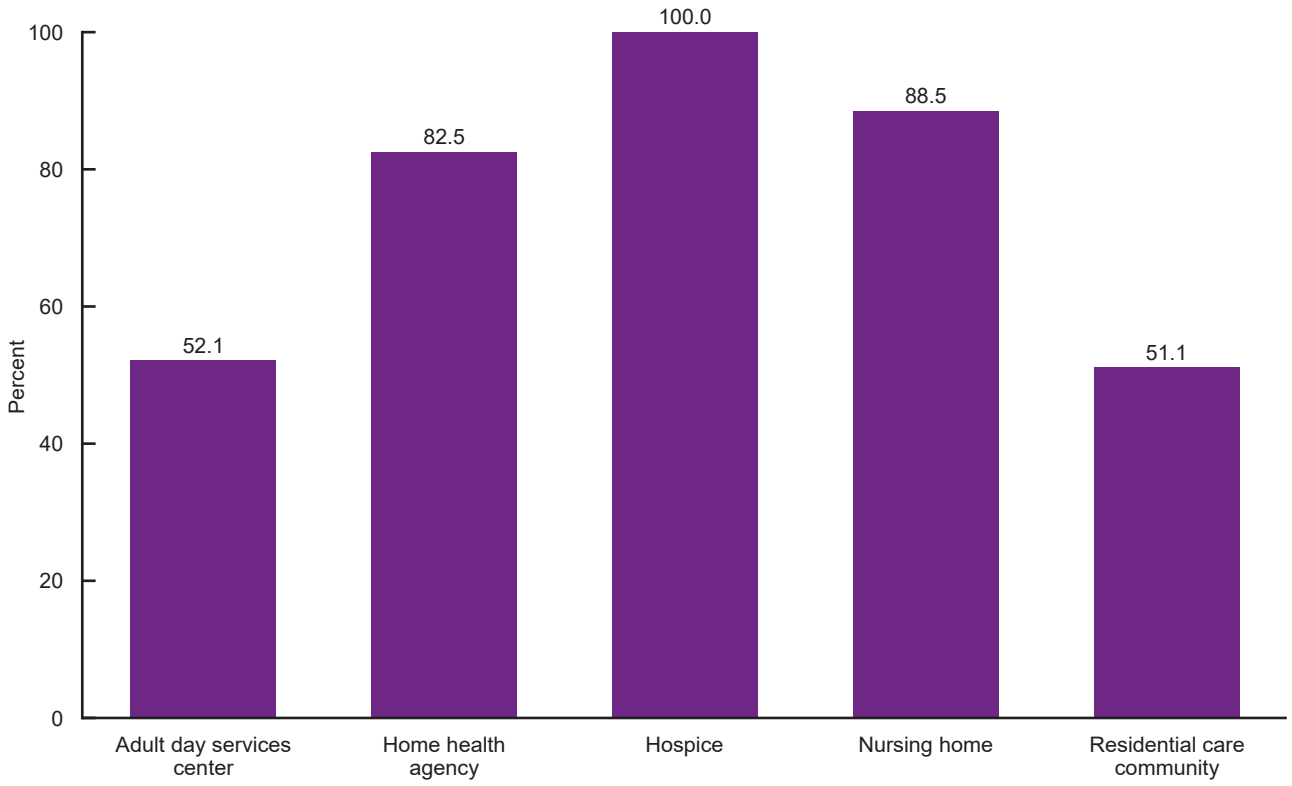
The average total nursing hours (combining RNs, LPNs or LVNs, and aides) per resident or participant per day was 3.80 (3 hours and 48 minutes) for nursing home residents, 2.64 (2 hours and 38 minutes) for residential care residents, and 1.41 (1 hour and 25 minutes) for adult day participants. The average total nursing hours per resident per day in nursing homes was more than twice the size of the ratio for adult day services centers.

Figure 11. Average staff hours per resident or participant per day, by sector and staff type: United States, 2016



NOTES: Only employees are included for all staff types; contract staff are not included. For adult day services centers and residential care communities, aides refer to certified nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides. For home health agencies and hospices, aides refer to home health aides. For nursing homes, aides refer to certified nurse aides, medication aides, and medication technicians. Social workers include licensed social workers or persons with a bachelor's or master's degree in social work in adult day services centers and residential care communities; medical social workers in home health agencies and hospices; and qualified social workers in nursing homes. For adult day services centers, average hours per participant per day was computed by multiplying the number of full-time equivalent (FTE) employees for the staff type by 35 hours, and divided by average daily attendance of participants and by 5 days. For nursing homes and residential care communities, average hours per resident per day was computed by multiplying the number of FTE employees for the staff type by 35 hours, and divided by the number of current residents and by 7 days. See the Appendix I Technical Notes for information on how outliers were identified and coded. Hours per patient per day could not be provided for home health agencies or hospices, because the administrative data available provided total number of all patients served in a year, not the number served on a given day, which is needed to produce this estimate. Rates are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VI in Appendix III.

Figure 12. Percentage of long-term care services providers that provide social work services, by sector: United States, 2016



NOTES: Social work services refer to services provided by licensed social workers or persons with a bachelor's or master's degree in social work, and include an array of services such as psychosocial assessment, individual or group counseling, and referral services. See Appendix II for definitions of the provision of social work services for each sector. See the Appendix I Technical Notes for an explanation of differences in how services were measured in 2012, 2014, and 2016. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

The average total licensed nursing hours (combining RNs with LPNs and LVNs) per resident or participant per day was 1.39 (1 hour and 23 minutes) for nursing home residents, 0.55 (33 minutes) for adult day participants, and 0.37 (22 minutes) for residential care residents. The average licensed nursing hours per resident or participant per day in nursing homes was more than twice the size of the corresponding ratios for residential care communities and adult day services centers.

Services Provided

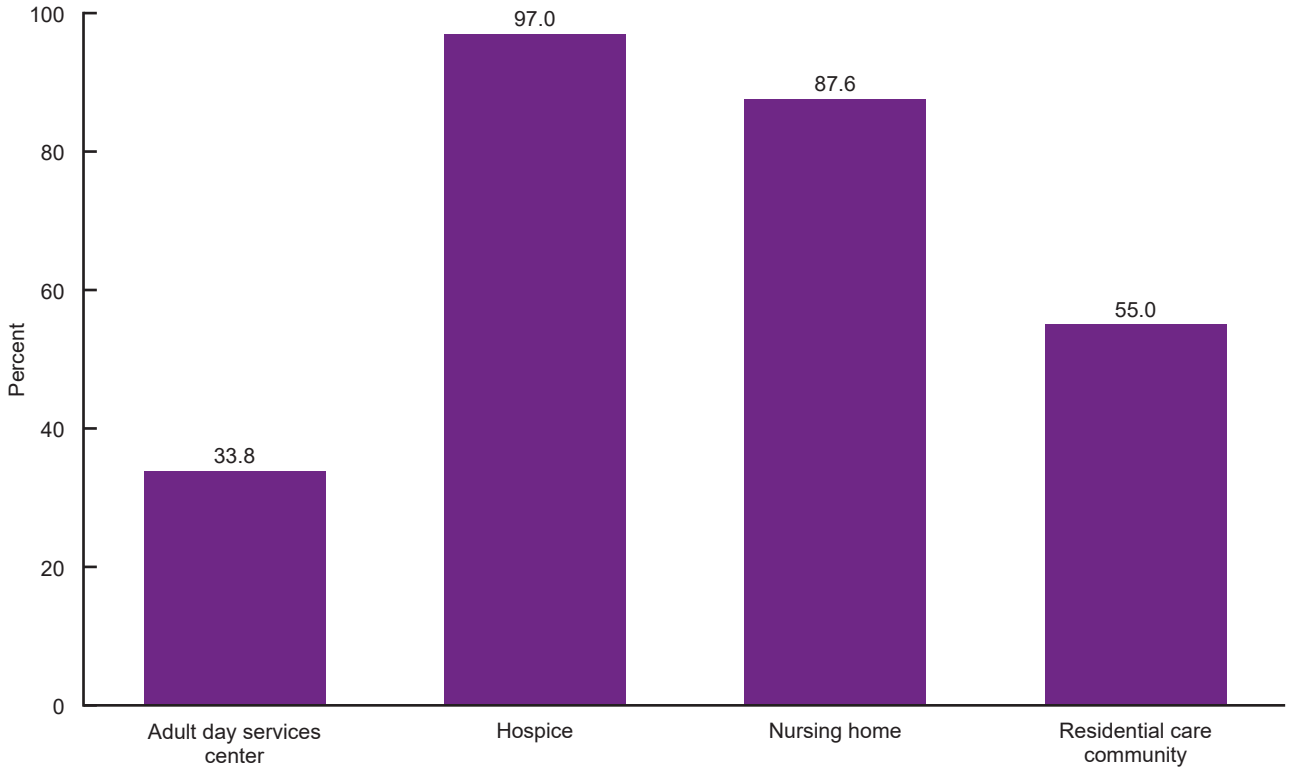
This section provides information on what percentage of providers in each sector (where data were applicable and available) offered each of seven services: social work; mental health or counseling; therapies (physical, occupational, and speech); skilled nursing or nursing; pharmacy or pharmacist; hospice; and dietary and nutrition. Services could be provided directly by the provider or by others through arrangement by the provider. These seven services were chosen because they are commonly provided by Medicare- and Medicaid-certified long-term care services providers, and administrative data were available for most sectors. However, the available administrative data did not have information on whether or not the following sectors provided mental health or counseling services (home health agencies) and pharmacy or pharmacist services (hospices). In addition to the seven services listed, the provision of dementia special care units is also included. See Appendix II for definitions of services included for each sector.

As was done for the 2014 adult day and residential care community questionnaires—but in contrast with the 2012 adult day and residential care community questionnaires—for each service in the 2016 questionnaires, if an adult day services center or residential care community reported offering only referrals to participants or residents, respectively, the provider was considered as not providing the service. See Technical Notes (Appendix I) for more information on differences in how services were measured in 2012 compared with the 2014 and 2016 adult day and residential care community questionnaires.

Social work services

The majority of providers in all sectors offered social work services (Figure 12). All hospices provided social work services (100.0%), as did most nursing homes (88.5%) and home health agencies (82.5%), likely because providing these services is required for Medicare certification.

Figure 13. Percentage of long-term care services providers that provide mental health or counseling services, by sector: United States, 2016



NOTES: Mental health services refer to services that target residents' mental, emotional, psychological, or psychiatric well being, and include diagnosing, describing, evaluating, and treating mental conditions. See Appendix II for definitions of the provision of mental health services for each sector. See the Appendix I Technical Notes for an explanation of differences in how services were measured in 2012, 2014, and 2016. The available administrative data did not have information on whether or not home health agencies provided mental health or counseling services. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

Fewer adult day services centers (52.1%) and residential care communities (51.1%) reported providing social work services.

Mental health or counseling services

Mental health or counseling services were offered by most hospices (97.0%), nursing homes (87.6%), and the majority of residential care communities (55.0%), while about one-third of adult day services centers (33.8%) reported offering these services (Figure 13).

Therapeutic services

Virtually all nursing homes (99.5%), hospices (98.2%), and home health agencies (96.3%) offered therapeutic services, as did more than seven-tenths of residential care communities (71.4%) and almost one-half of adult day services centers (46.7%) (Figure 14).

Skilled nursing or nursing services

All home health agencies, hospices, and nursing homes (100.0%) offered skilled nursing or nursing services, as did the majority of adult day services centers (64.5%) and residential care communities (66.1%) (Figure 15).

Pharmacy or pharmacist services

Nearly all nursing homes (97.2%) and more than four-fifths of residential care communities (83.6%) offered pharmacy or pharmacist services, while fewer adult day services centers (30.0%) and home health agencies (4.9%) provided these services (Figure 16).

Hospice services

About 80.7% of nursing homes offered hospice services, compared with 67.7% of residential care communities, 20.8% of adult day services centers, and 5.7% of home health agencies (Figure 17).

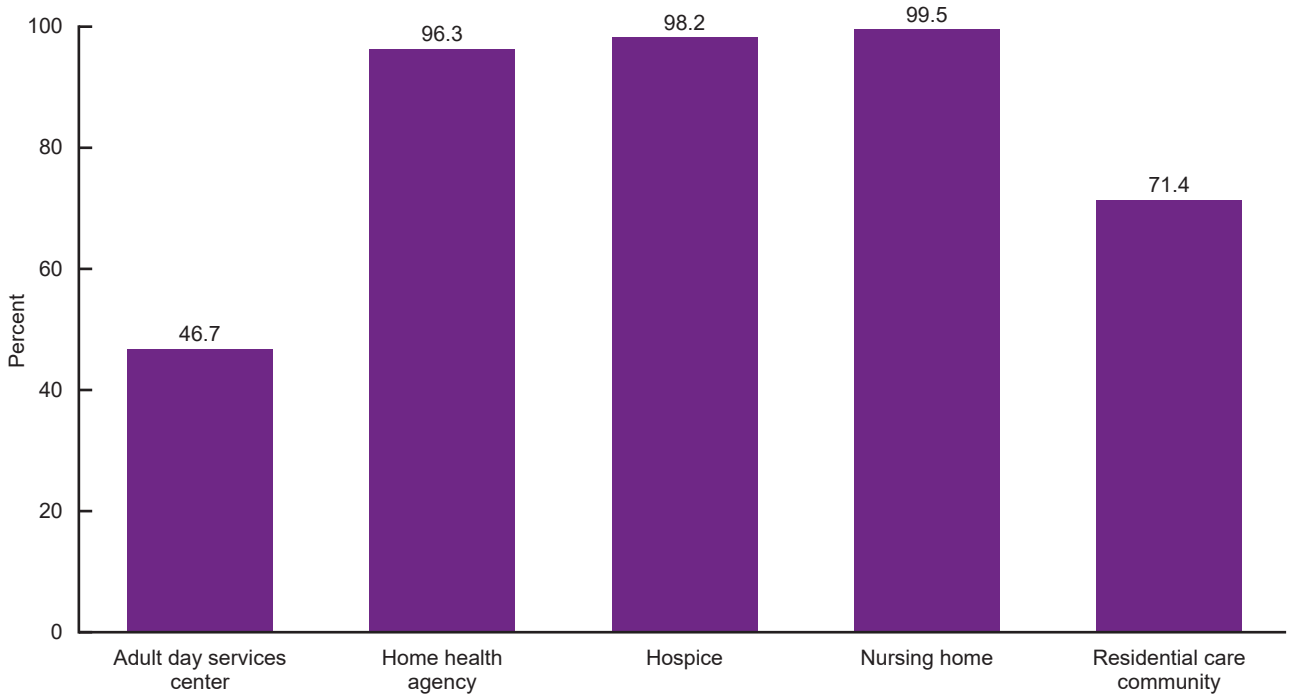
Dietary and nutritional services

All nursing homes (100.0%) and 82.8% of residential care communities offered dietary and nutritional services, while 67.8% of adult day services centers provided these services (Figure 18).

Dementia care units

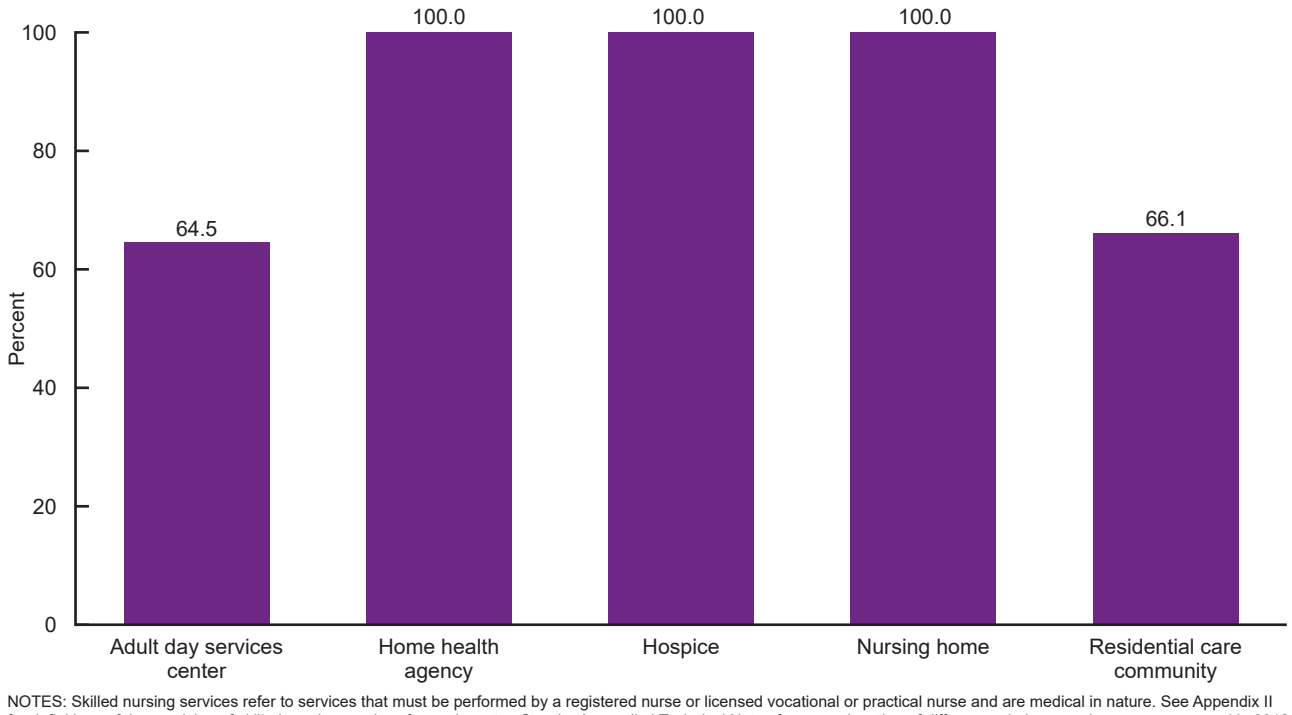
About 14.9% of nursing homes and 14.3% of residential care communities offered a dementia care unit within

Figure 14. Percentage of long-term care services providers that provide any therapeutic services, by sector: United States, 2016



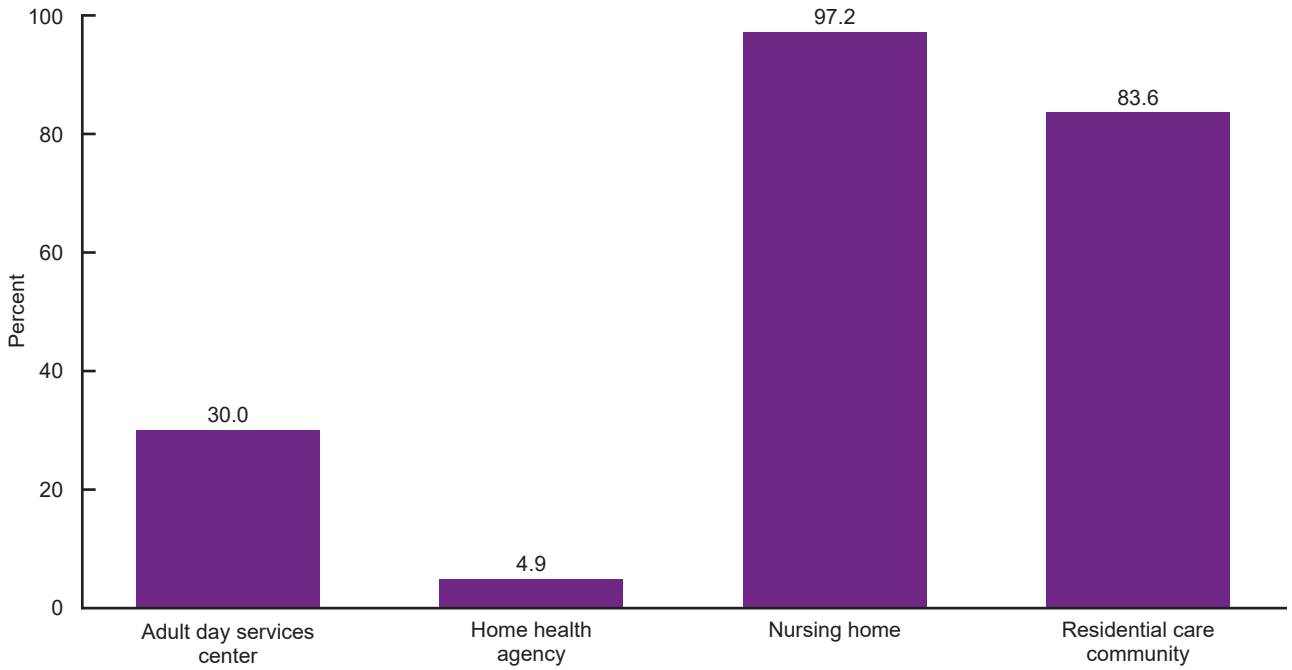
NOTES: Any therapeutic services refer to physical, occupational, or speech therapy services. See Appendix II for definitions of the provision of any therapeutic services for each sector. See the Appendix I Technical Notes for an explanation of differences in how services were measured in 2012, 2014, and 2016. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

Figure 15. Percentage of long-term care services providers that provide skilled nursing or nursing services, by sector: United States, 2016



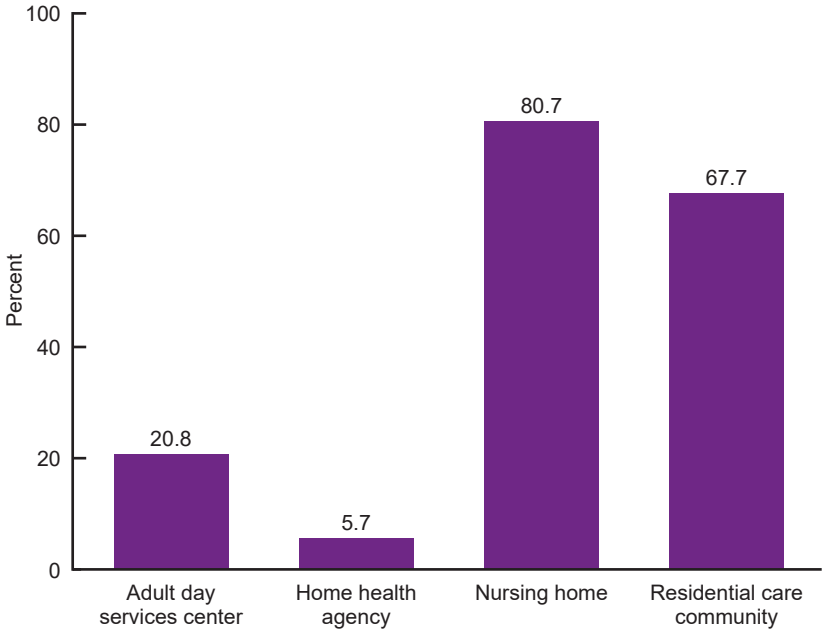
NOTES: Skilled nursing services refer to services that must be performed by a registered nurse or licensed vocational or practical nurse and are medical in nature. See Appendix II for definitions of the provision of skilled nursing services for each sector. See the Appendix I Technical Notes for an explanation of differences in how services were measured in 2012, 2014, and 2016. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

Figure 16. Percentage of long-term care services providers that provide pharmacy or pharmacist services, by sector: United States, 2016



NOTES: Pharmacy services refer to the filling and delivery of prescriptions. See Appendix II for definitions of the provision of pharmacy services for each sector. See the Appendix I Technical Notes for an explanation of differences in how services were measured in 2012, 2014, and 2016. The available administrative data did not have information on whether or not hospices provided pharmacy or pharmacist services. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

Figure 17. Percentage of long-term care services providers that provide hospice services, by sector: United States, 2016



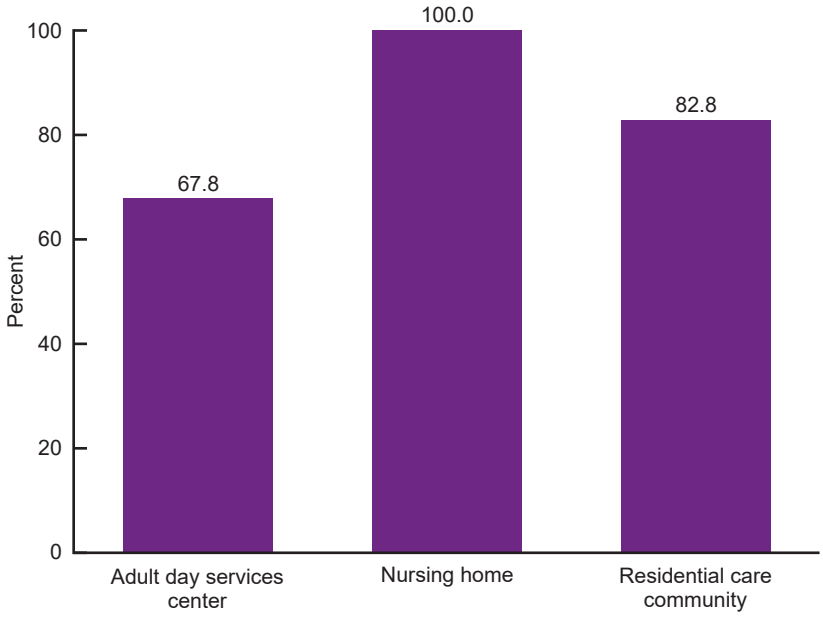
NOTES: See Appendix II for definitions of the provision of hospice services for each sector. See the Appendix I Technical Notes for an explanation of differences in how services were measured in 2012, 2014, and 2016. All hospices were expected to provide hospice services. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

a larger facility or community (Figure 19). While another 8.7% of residential care communities served only residents with dementia, few nursing homes (0.4%) did so. Dementia care units or dementia-only providers were not examined for adult day services centers, home health agencies, or hospices because these topics are more relevant for residential sectors, such as nursing homes and residential care communities.

National Profile of Long-term Care Services Users

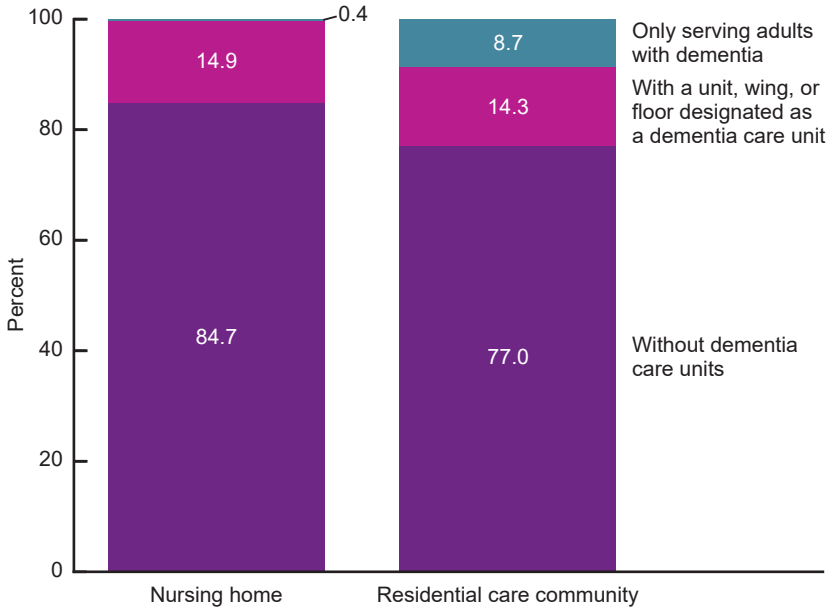
In this report, "current" participants or residents in 2016 refers to those participants enrolled in the adult day services center, or residents living in the nursing home or residential care community, on the day of data collection in 2016, rather than the total number of participants ever enrolled in the center or residents ever living in the nursing home or residential care

Figure 18. Percentage of long-term care services providers that provide dietary and nutritional services, by sector: United States, 2016



NOTES: See Appendix II for definitions of the provision of dietary and nutritional services for each sector. See the Appendix I Technical Notes for an explanation of differences in how services were measured in 2012, 2014, and 2016. The available administrative data did not have information on whether or not home health agencies or hospices provided dietary and nutritional services. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

Figure 19. Percent distribution of long-term care services providers, by sector and dementia care unit: United States, 2016



NOTES: See Appendix II for definitions of dementia care units for each sector. Dementia care units or dementia-only providers were not examined for adult day services centers, home health agencies, or hospices because these topics are more relevant for residential sectors such as nursing homes and residential care communities. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VII in Appendix III.

community at any time throughout the 2016 calendar year.

In 2016, there were an estimated 286,300 current participants enrolled in adult day services centers (of which 193,400 attended on a typical day) and 811,500 current residents living in residential care communities (Appendix III, Table VIII). Of the 1,347,600 current residents in nursing homes in 2016, about 606,800—approximately 43%—had a stay of less than 100 days (short stay), and 794,000—approximately 57%—had a stay of 100 days or longer (long stay) (Appendix III, Table IX). The number of nursing home residents by length of stay (short and long stay) is based on the number of residents in the Minimum Data Set Active Resident Episode Table (MARET) (see the Appendix I Technical Notes), but the total number of nursing home residents is based on Certification and Survey Provider Enhanced Reports (CASPER). After merging MARET and CASPER, some residents from MARET could not be matched with the CASPER file and therefore were not included in the merged data file, resulting in a difference between the estimated total number of residents in nursing homes and the estimated total derived from the sum of short- and long-stay residents. In 2015, about 4,455,700 patients received services and were discharged from home health agencies, and 1,426,000 patients received services from hospices. See the Appendix I Technical Notes for more information on the definitions of services users and data sources used for each sector.

Together these five long-term care services sectors served over 8.3 million (8,327,100) people annually. This estimate is the sum of the estimates of the people served in each of the five sectors, and is a rough approximation. The data used for each sector captured services users in different ways, and the data year used for each sector varied across sectors. The estimated number of adult day services center participants represents current participants in 2016. The estimated number of home

health patients represents patients who ended care in 2015 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2015. The estimated number of nursing home residents and residential care community residents each represent current residents on any given day in 2016. The same person may be included more than once in the sum of services users in the five sectors, if a person received care in more than one sector in a similar time period (e.g., a residential care resident receiving care from a home health agency). Given that the estimate for the number of current adult day, nursing home, and residential care services users in a given year is likely to be less than the number of all services users in these sectors throughout that year, it is expected that the estimate of all services users in all five sectors as of 2016 is at least nine million, in spite of the possibility of double counting the same person across sectors.

This section provides an overview of the demographic, health, and functional composition of users of long-term care services, and their experience of adverse events, by sector. Demographic measures include age, race and ethnicity, and sex. Medicaid as a payer source is used to measure payment characteristics. Measures of health status include diagnosis of Alzheimer disease and other dementias, arthritis, asthma, chronic kidney disease, chronic obstructive pulmonary disease (COPD), depression, diabetes, heart disease, high blood pressure or hypertension, and osteoporosis. Measures of functional status include needing assistance with selected activities of daily living (ADLs; bathing, dressing, eating, toileting, transferring in and out of a chair or bed, and walking or locomotion). Measures of adverse events include overnight hospital stays, emergency department visits, and falls.

Use of Long-term Care Services

As noted previously, participants in adult day services centers and residents in nursing homes and residential care communities are current users in 2016. Home health patients refer to patients who ended home health care anytime in 2015. Hospice patients refer to patients who received care anytime in 2015. Given the data available, daily-use rates were compared for nursing home residents, residential care residents, and adult day services center participants, while annual-use rates were compared for home health patients and hospice patients. Use of long-term care services by individuals aged 65 and over per 1,000 persons aged 65 and over varied by sector. The daily-use rate was higher for nursing homes (24 per 1,000), compared with residential care communities (15 per 1,000) and adult day services centers (4 per 1,000). The annual-use rate was higher for home health agencies (75 per 1,000) compared with hospices (27 per 1,000).

Demographic Characteristics of Long-term Care Services Users

Long-term care services users by age

The majority of long-term care services users were aged 65 and over: 94.6% of hospice patients, 93.4% of residential care residents, 83.5% of nursing home residents, 81.9% of home health patients, and 62.5% of participants in adult day services centers (Figure 20). Among nursing home residents, 81.4% of short-stay residents and 85.1% of long-stay residents were aged 65 and over (Appendix III, Table IX).

The age composition of services users varied by sector, with residential care communities (52.1%), hospices (47.8%), and nursing homes (38.6%) serving more persons aged 85 and over, and adult day services centers (37.4%) serving more persons under age 65 than other sectors. Among nursing home residents, 32.2% of short-stay residents and 43.5% of long-stay residents were aged 85 and over (Appendix III, Table IX).

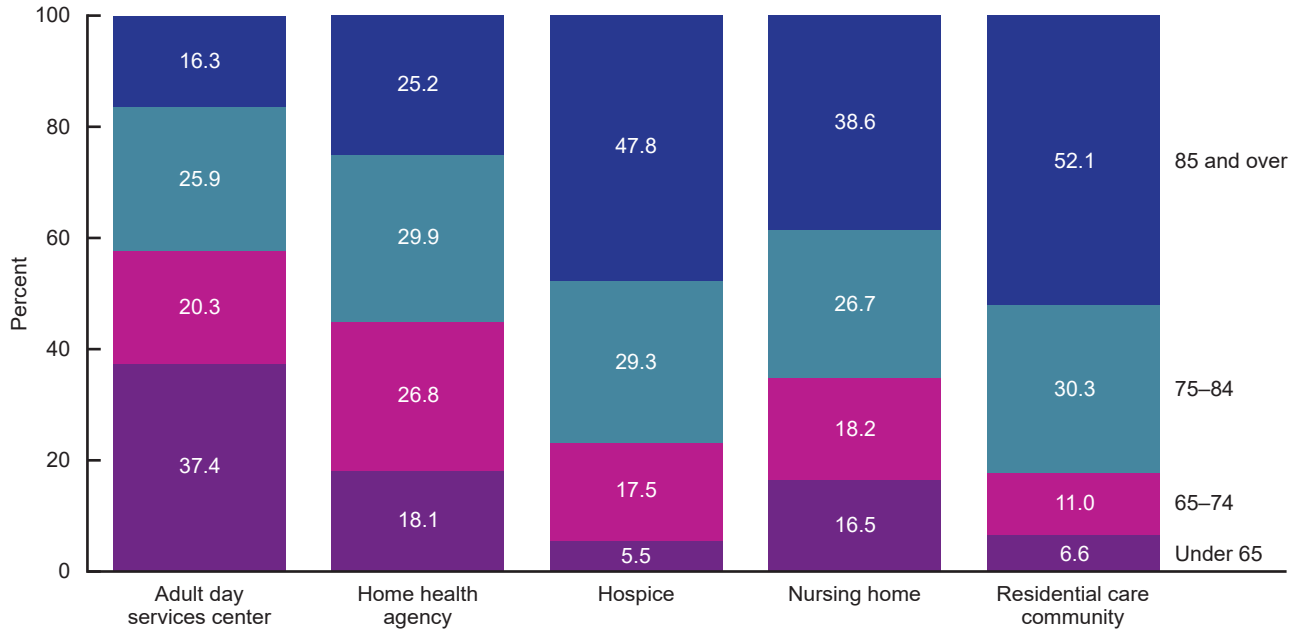
Long-term care services users by sex

In all five sectors, the users of long-term care services were overwhelmingly women, with residential care communities having the highest proportion (70.6%) (Figure 21). Among nursing home residents, 60.3% of short-stay residents and 67.9% of long-stay residents were women (Appendix III, Table IX).

Long-term care services users by race and ethnicity

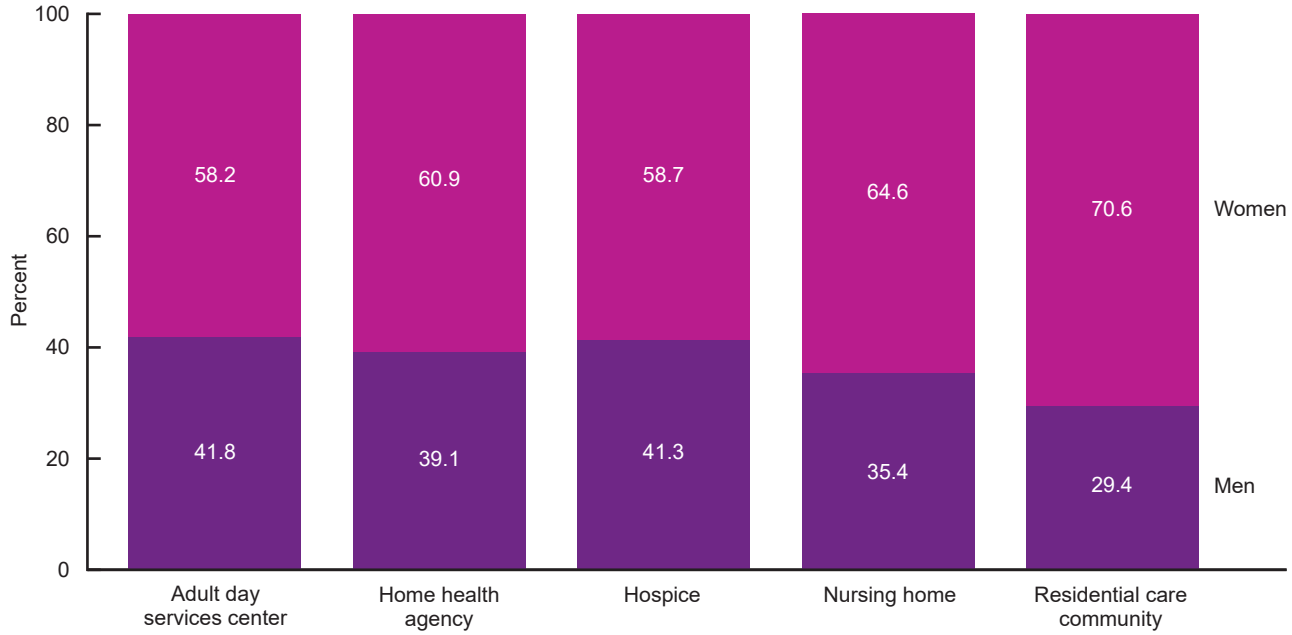
Non-Hispanic white persons accounted for at least three-quarters of users in all long-term care services sectors except adult day services centers (Figure 22). The percentage of non-Hispanic white persons was highest in hospice (83.6%) and residential care communities (81.4%), followed by home health agencies (76.1%) and nursing homes (75.1%). Less than one-half of the participants in adult day services centers were non-Hispanic white (42.0%). Adult day services centers were the most racially and ethnically diverse among the five sectors: 15.4% of center participants were non-Hispanic black and 22.7% were Hispanic. About one-tenth of home health patients (12.9%), nursing home residents (14.3%), and hospice patients (8.2%) were non-Hispanic black, while 4.1% of residential care residents were non-Hispanic black. In nursing homes, 74.6% of short-stay residents and 75.6% of long-stay residents were non-Hispanic white, followed by non-Hispanic black (14.0% and 14.6% among short- and long-stay residents, respectively) (Appendix III, Table IX).

Figure 20. Percent distribution of long-term care services users, by sector and age group: United States, 2015 and 2016



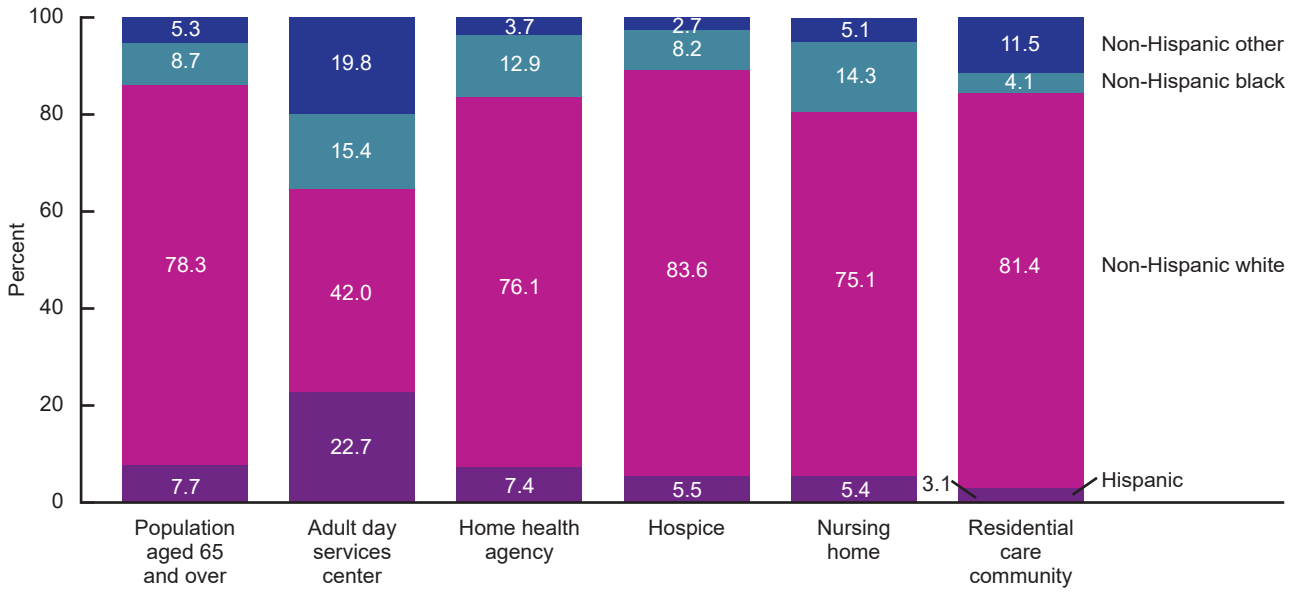
NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2016, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients whose episode of care ended at any time in 2015 and the number of patients for whom Medicare-certified hospices submitted a Medicare claim at any time in 2015, respectively. See the Appendix I Technical Notes for more information on the data sources used for each sector. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VIII in Appendix III.

Figure 21. Percent distribution of long-term care services users, by sector and sex: United States, 2015 and 2016



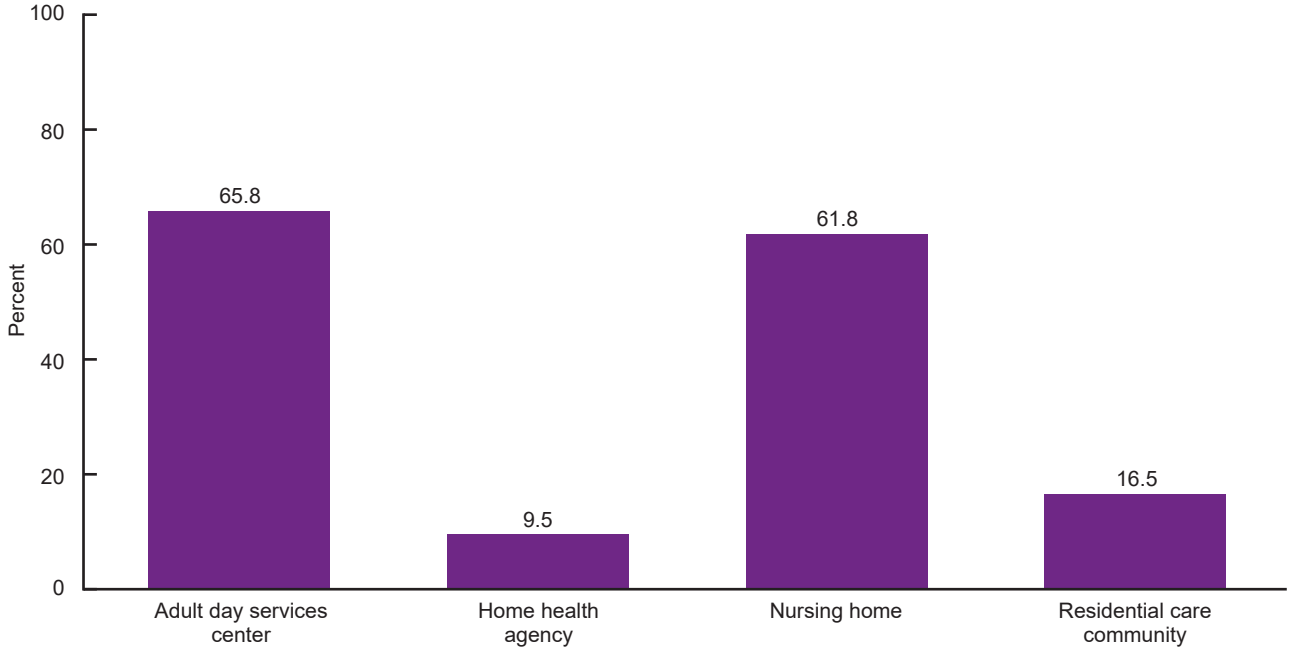
NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2016, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients whose episode of care ended at any time in 2015 and the number of patients for whom Medicare-certified hospices submitted a Medicare claim at any time in 2015, respectively. See the Appendix I Technical Notes for more information on the data sources used for each sector. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VIII in Appendix III.

Figure 22. Percent distribution of long-term care services users, by sector and race and Hispanic origin: United States, 2015 and 2016



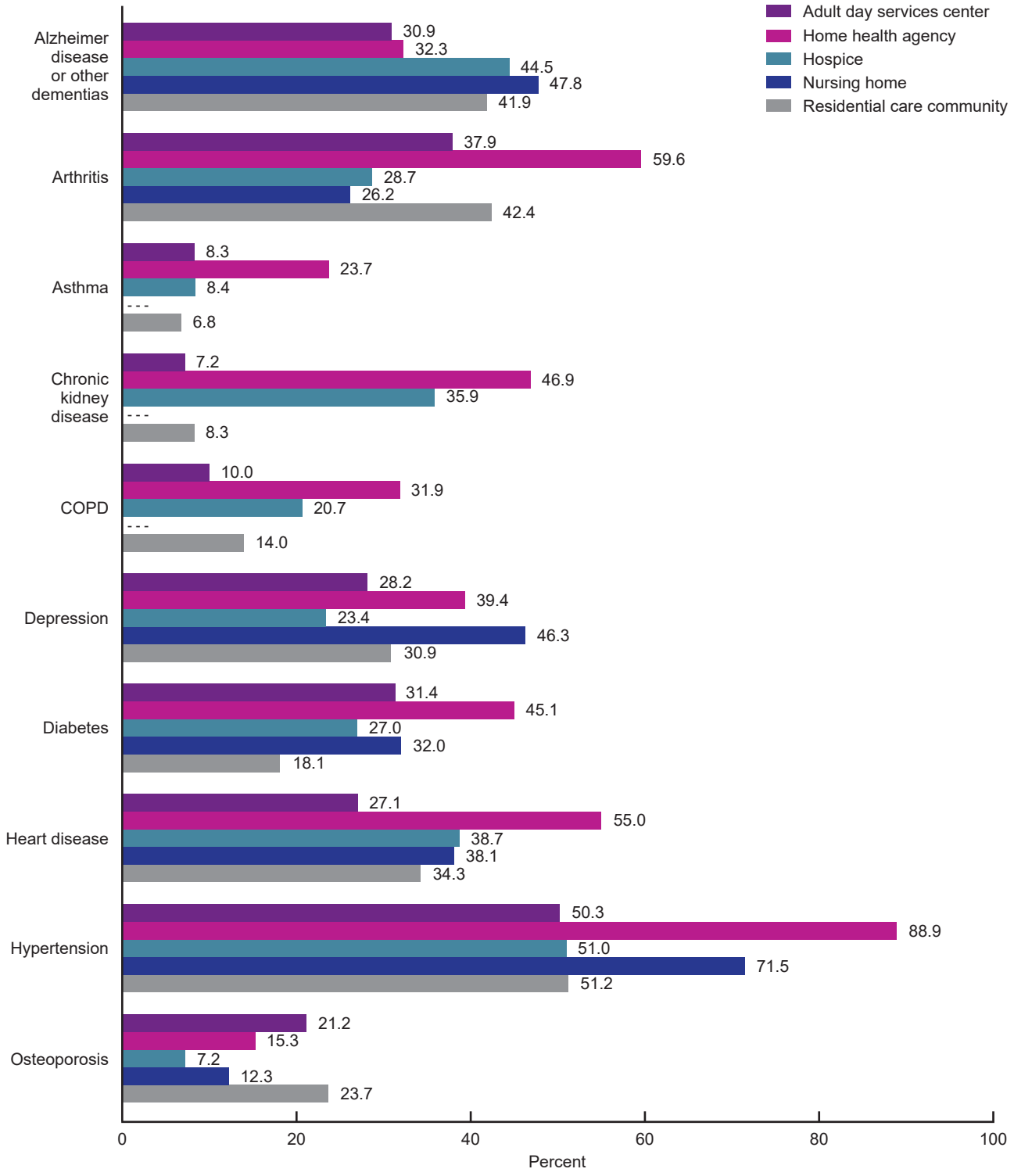
NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2016, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients for whom Medicare-certified home health agencies submitted a Medicare claim at any time in 2015 and the number of patients for whom Medicare-certified hospices submitted a Medicare claim at any time in 2015, respectively. For adult day services centers and residential care communities, includes non-Hispanic American Indian or Alaska Native, non-Hispanic Asian, non-Hispanic Native Hawaiian or Other Pacific Islander, non-Hispanic of two or more races, and unknown race and ethnicity. See the Appendix I Technical Notes for more information on the data sources used for each sector. Percentages are based on unrounded estimates. Percent distributions may not add to 100 because of rounding.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VIII in Appendix III; and U.S. Census Bureau, Population Division, Population Estimates, July 1, 2016.

Figure 23. Percentage of long-term care services users with Medicaid as payer source, by sector: United States, 2015 and 2016



NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2016, respectively. The denominator used to calculate the percentage for home health agencies was the number of patients whose episode of care ended at any time in 2015. Data on Medicaid as payer source were not available for hospice patients. See Appendix II for definitions of Medicaid as payer source for each sector. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VIII in Appendix III.

Figure 24. Percentage of long-term care services users with selected diagnoses, by sector: United States, 2015 and 2016



- - - Data not available.

NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2016, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients for whom Medicare-certified home health agencies submitted a Medicare claim at any time in 2015 and the number of patients for whom Medicare-certified hospices submitted a Medicare claim at any time in 2015, respectively. See the Appendix I Technical Notes for more information on the data sources used for each sector. See Appendix II for definitions of conditions used for each sector. Percentages are based on unrounded estimates. Available data for nursing homes could not produce estimates for asthma, chronic kidney disease, and chronic obstructive pulmonary disease (COPD), because asthma and COPD were grouped together (21.2%), and only end-stage renal disease (12.9%) was available, which accounts for only a portion of residents with chronic kidney disease.

SOURCES: NCHS, National Study of Long-Term Care Providers and Table VIII in Appendix III.

Long-term care services users by use of Medicaid as a payer source

The percentage of long-term care services users using Medicaid as a payer source was highest in adult day services centers (65.8%), followed by nursing homes (61.8%) (Figure 23). Among residential care residents, 16.5% used Medicaid as a payer source, followed by 9.5% of home health patients. Data on Medicaid as payer source were not available for hospice patients.

Health and Functional Characteristics of Long-term Care Services Users

Diagnosed chronic conditions among long-term care services users

Alzheimer disease or other dementias were most prevalent among nursing home residents (47.8%) and were least prevalent among adult day services center participants (30.9%) (Figure 24). The percentage of nursing home residents with a diagnosis of Alzheimer disease was higher among long-stay residents (58.9%) than among short-stay residents (36.7%) (Appendix III, Table IX). Arthritis was most prevalent among home health patients (59.6%) and was least prevalent among nursing home residents (26.2% overall; 25.1% among short-stay residents and 29.7% among long-stay residents). The percentage of long-term care services users with a diagnosis of asthma was highest among home health patients (23.7%) and lowest among residential care community residents (6.8%). A diagnosis of chronic kidney disease was most common among home health patients (46.9%), followed by hospice patients (35.9%), and was least common among adult day services center participants (7.2%) and residential care community residents (8.3%). Similarly, COPD was most common among home health patients (31.9%), followed by hospice patients (20.7%), residential care community residents (14.0%), and adult day services center participants (10.0%).

The percentage of long-term care services users with a diagnosis of depression was highest in nursing homes (46.3%) and lowest in hospices (23.4%) (Figure 24). Among nursing home residents, the prevalence of depression was higher among long-stay residents (53.0%) than short-stay residents (42.6%) (Appendix III, Table IX). Diabetes was most prevalent among home health patients (45.1%), followed by nursing home residents (32.0% overall; 37.0% of short-stay residents and 32.2% of long-stay residents) and adult day services center participants (31.4%), but it was least prevalent among residential care community residents (18.1%). A diagnosis of heart disease was most common among home health patients (55.0%). Over one-half of long-term care services users in all five long-term care sectors had a diagnosis of hypertension, with the highest proportion among home health patients (88.9%). The percentage of long-term care services users with a diagnosis of osteoporosis was highest in residential care communities (23.7%), followed by adult day services centers (21.2%), home health agencies (15.3%), nursing homes (12.3% overall; 9.8% of short-stay residents and 15.1% of long-stay residents), and hospices (7.2%).

Need for assistance with ADLs among long-term care services users

This report uses the need for assistance with six ADLs—bathing, dressing, toileting, walking or locomotion, transferring in and out of a chair or bed, and eating—to measure physical and cognitive functioning among residents in nursing homes and residential care communities, home health patients, and adult day services center participants. Data on need for assistance with ADLs were not available for hospice patients.

Overall, functional ability varied by sector. Within each sector except adult day services centers, the need for assistance with bathing was most common. The need for assistance with eating was least common within each of the five sectors (Figure 25). Adult day services centers had fewer participants that needed assistance with four of the six ADLs (bathing, dressing, toileting, and walking or locomotion) than services users in other sectors.

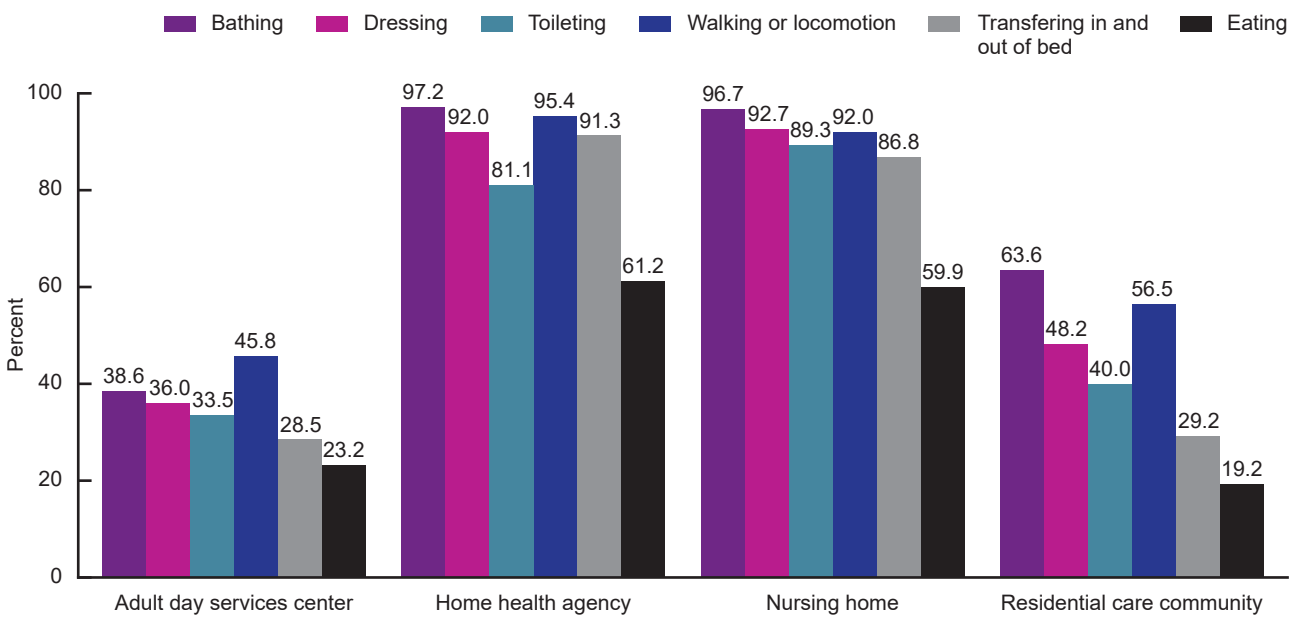
Fewer adult day services center participants needed assistance with ADLs compared with services users in the other four sectors. Among adult day services center participants, the need for assistance with walking or locomotion was most common (45.8%). Therefore, while the prevalence of ADL needs differed by sector, at a minimum, 45.8% of services users across all sectors needed assistance with at least one of the six ADLs.

Adverse events among long-term care services users

This report estimates the prevalence of overnight hospitalizations, emergency department visits, and falls as indicators of adverse, potentially avoidable events. For adult day services centers and residential care communities, adverse events refer to a period of 90 days prior to the survey. For home health agencies, adverse events refer to a period since the last Outcome and Assessment Information Set (OASIS) assessment. For nursing homes, falls refer to the period since admission or since the prior assessment, whichever is more recent. Varying reference periods by sector do not allow for direct comparisons between sectors.

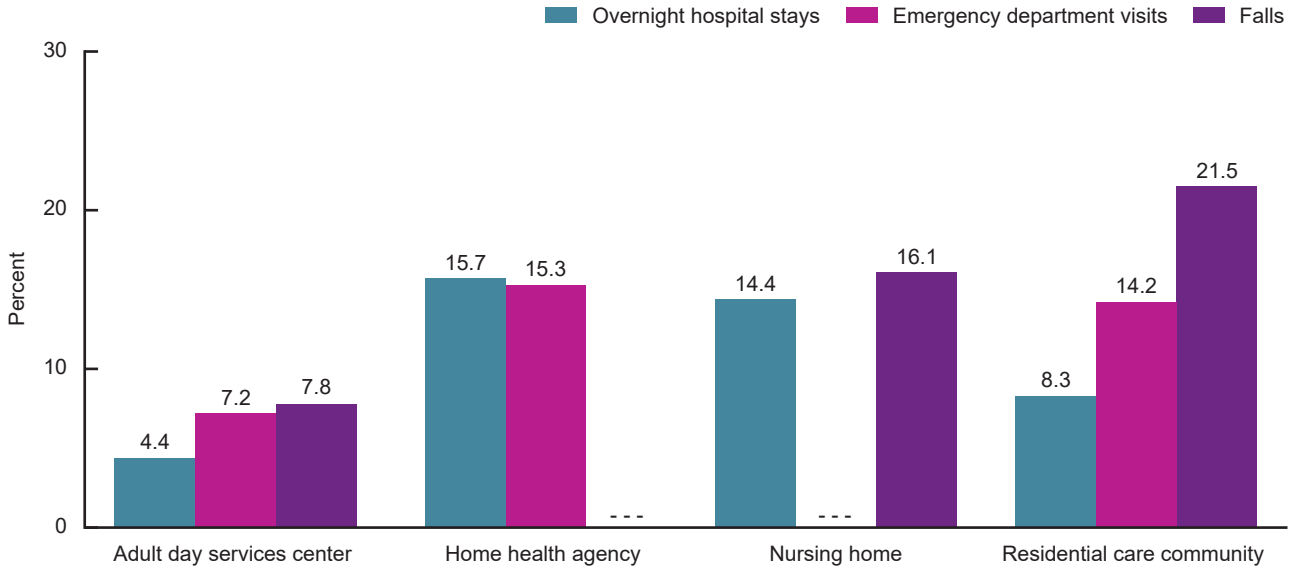
About equal percentages of home health patients had overnight hospital stays (15.7%) and emergency department visits (15.3%) (Figure 26). About 14.4% of nursing home residents had overnight hospital stays; more short-stay residents had overnight hospital stays (23.8%) than long-stay residents (8.7%) (Appendix III, Table IX). About 8.3% of residential care community residents and 4.4% of adult day services center participants had overnight hospital stays. About 7.2% of adult day services center participants

Figure 25. Percentage of long-term care services users needing any assistance with activities of daily living, by sector and activity: United States, 2015 and 2016



NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2016, respectively. The denominator used to calculate the percentage for home health agencies was the number of patients whose episode of care ended at any time in 2015. Participants, patients, or residents were considered needing any assistance with a given activity if they needed help or supervision from another person or used assistive devices to perform the activity. See Appendix II for definitions of needing any assistance with activities of daily living used for each sector. Data on needing any assistance with activities of daily living were not available for hospice patients. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VIII in Appendix III.

Figure 26. Percentage of long-term care services users with overnight hospital stays, emergency department visits, and falls, by sector: United States, 2015 and 2016



- - - Data not available.
NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2016, respectively. The denominator used to calculate the percentage for home health agencies was the number of patients whose episode of care ended at any time in 2015. For adult day services centers and residential care communities, adverse events refer to the 90 days prior to the survey. For home health agencies, adverse events refer to a period since the last Outcome and Assessment Information Set. For nursing homes, falls refer to the period since admission or since the prior assessment, whichever is more recent. For hospices, data were not available for overnight hospital stays, emergency department visits, or falls. See the Appendix I Technical Notes for more information on the data sources used for each sector. See Appendix II for definitions of each adverse event used for each sector. Percentages are based on unrounded estimates.
SOURCES: NCHS, National Study of Long-Term Care Providers and Table VIII in Appendix III.

and 14.2% of residential care residents had emergency department visits. About 21.5% of residential care community residents, 16.1% of nursing home residents, and 7.8% of adult day services center participants had falls. Among nursing home residents, more long-stay residents (19.1%) than short-stay residents (13.5%) had falls.

For home health patients, data for falls were not available. For nursing home residents, data for emergency department visits were not available, and data for hospitalizations were not reported because the timing of Medicare claims data did not match the other nursing home data sets used for this report. For hospice patients, data for emergency department visits, overnight hospital stays, and falls were not available.

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Appendix I. Technical Notes

Data Sources

This report uses data from multiple sources, including two main sources: administrative data from the Centers for Medicare & Medicaid Services (CMS) on nursing homes, home health agencies, and hospices; and cross sectional, nationally representative, establishment-based survey data from the National Center for Health Statistics (NCHS) for assisted living and similar residential care communities and for adult day services centers. Data for all five sectors were obtained for comparable time periods, where feasible, for each of the 50 states and the District of Columbia.

Administrative data: Home health agencies, hospices, and nursing homes

Provider-level data

Provider-level data files were from the Certification and Survey Provider Enhanced Reports (CASPER) system. CASPER data are collected to support the survey and certification regulatory functions of CMS; every nursing home, home health agency, and hospice in the United States that is certified to provide services under Medicare, Medicaid, or both is included. The CASPER data used in this report were from the third quarter of 2016. The number of variables in each file and frequency of certification survey data collection varies by sector because different providers are required to report different information during the survey and certification process. This report excluded providers located in American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.

Home health agency file—Included 12,208 home health agencies coded as active providers located in the United States. About 77.1% were Medicare- and Medicaid-certified, 21.6% were Medicare-certified only, and 1.3% were Medicaid-certified only. About 82.7% of these home health agencies completed a certification survey during the last 3 years (including 55.8% during the last 2 years).

Hospice file—Included 4,348 hospices coded as active providers located in the United States; information on type of certification (Medicare-only, Medicaid-only, or both) was not available. CMS requires certification surveys of Medicare hospices every 6 to 8 years, on average (54). The majority of Medicare hospices (95.5%) completed a certification survey during the last 8 years (including 75.6% during the last 3 years).

Nursing home file—Included 15,638 nursing homes coded as active providers located in the United States. About 92.7% were Medicare- and Medicaid-certified, 4.8% were Medicare-certified only, and 2.5% were Medicaid-certified only. Nearly all of these nursing homes (99.5%) completed a certification survey during the last 18 months (including 80.7% during the last 12 months).

User-level data

User-level assessment and claims data were from different sector-specific CMS data sources. These data were aggregated to the provider level (e.g., the distribution of an agency's patients or a facility's residents by age, race, and sex) using the unique provider identification (ID) number. These user-level data were then merged to the respective provider-specific CASPER data file using the provider ID number.

Home health patients

Outcome-Based Quality Improvement (OBQI) Case Mix Roll-up data (also known as Agency Patient-Related Characteristics Report data) are from the Outcome and Assessment Information Set (OASIS). OBQI data were used as the primary source of information on home health patients whose episode of care ended at any time in calendar year 2015 (i.e., discharges), regardless of payment source. These data included home health patients who received services from Medicare-certified and Medicaid-certified home health providers in states where those agencies were required to meet the Medicare Conditions of Participation. When merged with the CASPER home health agency file by provider ID number, 1,101 of the 12,208 agencies in the CASPER file (9.0%) had no patient information in the OBQI data; 440 of the 11,547 agencies in the OBQI file (3.8%) had no provider information in the CASPER data.

The total number of patients in this merged file (4,455,651) was used as the denominator when calculating percentages of home health patients in different age and sex categories; to calculate percentages of those receiving Medicaid, needing any assistance with activities of daily living (ADLs), having hospitalizations, and having emergency department visits; and to calculate the annual number of users and the annual-use rates of home health care.

Institutional Provider and Beneficiary Summary (IPBS) home health data were used because the OBQI data did not use racial and ethnic categories and information on patients' diagnoses that was comparable to those used in other data sources. The IPBS data file contained information on home health patients for whom Medicare-certified home health agencies submitted a Medicare claim at any time in calendar year 2015. When merged with the CASPER home health agency file, 1,088 of the 12,208 agencies in the CASPER file (8.9%) had no patient information in the IPBS home

health data. The total number of patients in this merged file (4,078,769) was used as the denominator when calculating percentages of home health patients in different racial and ethnic categories, and to calculate percentages of those diagnosed with the selected conditions.

Hospice patients

The **IPBS hospice data** file contained information on hospice patients for whom Medicare-certified hospice agencies submitted a Medicare claim at any time in calendar year 2015. Given that 93.0% of hospice agencies were Medicare-certified in 2007 (based on findings from the 2007 National Home and Hospice Care Survey) and that no other data source was available on hospice patients, IPBS hospice data were assumed to provide current coverage and information on most hospice patients. When merged with the CASPER hospice agency file, 309 of the 4,348 hospices in CASPER (7.1%) had no patient information in the IPBS hospice data. The total number of hospice patients in this merged file (1,426,014) was used for the annual number of users, the annual-use rates, and it was used as the denominator when calculating percentages for all aggregate patient-level measures. Data included demographic characteristics (i.e., age, sex, and racial and ethnic background) and selected diagnosed conditions.

Nursing home residents

Minimum Data Set Active Resident Episode Table (MARET) data contained information on all residents who were residing in a Medicare- or Medicaid-certified nursing home on the last day of the third quarter of 2016, regardless of payment source. Residents whose last assessment during the third quarter of 2016 was a discharge assessment were excluded. Minimum Data Set (MDS) assessment records are provided by nursing homes and maintained by CMS to create a profile of the most recent standard information for each active resident. Within MARET, CMS defines an active resident as "a resident whose most recent assessment transaction is not a discharge and whose most recent transaction has a target date (assessment reference date for an assessment record or entry date for an entry record) less than 150 days old. If a resident has not had a transaction for 150 days, then that resident is assumed to have been discharged."

The resident-level MARET data were aggregated using the provider ID number and merged to the CASPER nursing home file. There were 131 of 15,638 nursing homes in the CASPER file (0.8%) that had no resident information from the MARET data. The number of nursing home residents obtained from MARET and merged to CASPER (1,396,591) was used as the denominator when calculating the percentages of demographic characteristics (i.e., age, sex, race and ethnicity), selected diagnosed conditions, and to calculate the daily-use rates of nursing homes.

The measurement of short-stay (43.3% of residents admitted for fewer than 100 days) and long-stay (56.7% of residents admitted for 100 days or more) nursing home residents was derived from the nursing home admission and assessment dates in MARET. To estimate resident characteristics shown in Appendix III, Table IX by length of stay, MARET was not aggregated to the provider level, but was analyzed at the resident level. Thus, estimates presented in Table IX represent 1,400,810 residents by length of stay.

Medicare Provider Analysis and Review (MedPAR) inpatient claims data from calendar year 2014 were merged with 2014 MARET data using a unique beneficiary ID number to measure overnight hospitalizations among nursing home residents. This method was used because the MARET data exclude residents whose last assessment was a discharge, which contains information on hospitalizations. The time frame, calendar year 2014, is 2 years older than the 2016 MARET data used for the other estimates in this report because of the time lag in processing and releasing MedPAR. The MedPAR file contained 8,445,659 beneficiaries with at least 1, and up to 19 inpatient hospital claims. After merging MedPAR and MARET using the beneficiary ID (included in MedPAR) to the resident ID (included in MARET) crosswalk, there were 1,286,490 individuals in both the nursing home and MedPAR files. Qualifying hospitalizations were measured by having any hospital discharge that occurred after the nursing home admission date.

The **CASPER nursing home file** for the third quarter of 2016 included information on selected measures for 1,347,622 current residents of 15,638 nursing homes; this information was collected using Form CMS-672 (Resident Census and Conditions of Residents). The resident census information was designed to represent the facility at the time of the certification survey. CMS defined current residents as "residents in certified beds regardless of payer source." Because the data were provided at the provider level, file merging was unnecessary, and no nursing home had missing data on resident census items. Resident census information from the CASPER nursing home file was used for the number of current residents and the percentages of residents with ADL limitations.

Survey data: Adult day services centers and residential care communities

NCHS designed and conducted surveys for the adult day services center and residential care community components of the third wave of the National Study of Long-Term Care Providers (NSLTCP) in 2016. The 2016 NSLTCP questionnaires for adult day services centers and residential care communities are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. The NSLTCP questionnaires consist of topics common or comparable across all five sectors ("core topics") and topics that are specific to a particular sector ("sector-specific topics"). To facilitate comparisons across sectors, the core topics for the primary data collection for adult day services centers and residential care communities were designed to be as similar

as possible to the core topics and wording available through the CMS administrative data for home health agencies, hospices, and nursing homes. The adult day services center and residential care community questionnaires included questions that collected information at both the provider and aggregate-user level.

The 2016 NSLTCP surveys of adult day services centers and residential care communities were conducted between August 2016 and February 2017. The survey included mail-, web-, and telephone-administered questionnaires. The survey instruments were designed to assess study eligibility and to collect data on services offered, the staffing profile, center participant or community resident characteristics, and record keeping at adult day services centers or residential care communities. Two sets of questionnaires were used to collect data designed at the state and national level: (1) survey items that were included on both questionnaires and asked of all respondents (designed to provide national- and state-level estimates), and (2) a few selected items included on one version of the questionnaires and designed to provide only national-level estimates. This report only uses items that were included on both questionnaires and can be estimated at the state level, except for the percentages of participants or residents who had a fall.

Adult day services centers

The survey for the adult day services center component of the 2016 NSLTCP was based on a census of U.S. centers. The sampling frame obtained from the National Adult Day Services Association contained adult day services centers that self-identified as adult day care, adult day services, or adult day health services centers that were in operation as of November 2015. After removing duplicates, the final frame consisted of 5,348 adult day services centers that were included in the data collection efforts. The set of eligibility criteria for study participation was determined by self-report in the screener section of the questionnaire. Additionally, adult day services centers had to:

- Be licensed or certified by the state specifically to provide adult day services, or accredited by the Commission on Accreditation of Rehabilitation Facilities; or authorized or otherwise set up to participate in Medicaid (Medicaid state plan, Medicaid waiver, or Medicaid managed care) or part of a Program of All-Inclusive Center for the Elderly.
- Have an average daily attendance of at least one participant based on a typical week.
- Have at least one participant enrolled at the designated center at the time of the survey.

As a result of using these eligibility criteria, all responding eligible centers participated in Medicaid or were in some way regulated by the state. A total of 182 (3.4%) centers were either invalid or out of business. However, 2,041centers (38.2%) could not be contacted; therefore, the final eligibility status of these centers was unknown. Using the eligibility rate, a proportion of these centers of unknown eligibility was estimated to be eligible. Eligibility rate was calculated by the number of known eligible adult day services centers divided by the total number of adult day services centers with known eligibility status. Centers that were invalid or out of business and centers that screened out as ineligible were classified as "known ineligibles." This estimated number and the total number of eligible centers resulting from the screening process were used to estimate the total number of eligible adult day services centers in the United States.

Of the 4,586 eligible and presumed eligible centers, 2,836 completed the questionnaire, for a response rate of 61.8%. Response rates are calculated using standards set by the American Association of Public Opinion Research (AAPOR). AAPOR Response Rate #4 calculations include assumptions of eligibility among potential respondents that are not interviewed. AAPOR Response Rate #4 formula was used to calculate response rates for adult day services centers (completed questionnaires / [completed eligible questionnaires] + [eligibility rate x cases of unknown eligibility]). Response rates by state ranged from 45.5% to 93.8% and are presented in Table I.

Residential care communities

The sampling frame was constructed from lists of licensed residential care communities obtained from the state licensing agencies in each of the 50 states and the District of Columbia. The 2016 NSLTCP used the same definition of residential care community and the same approach to create the sampling frame (55) that was used for the 2010 National Survey of Residential Care Facilities (NSRCF) (56). To be eligible for the study, a residential care community must be licensed, registered, listed, certified, or otherwise regulated by the state to:

- Provide room and board with at least two meals a day and around-the-clock, onsite supervision
- Help with personal care, such as bathing and dressing or health-related services, such as medication management
- Have four or more licensed, certified, or registered beds
- Have at least one resident currently living in the community
- Serve a predominantly adult population

Residential care communities licensed to exclusively serve individuals with severe mental illness, intellectual disability, or developmental disability, and nursing homes were excluded.

The residential care community component used a combination of probability sampling and census taking. Probability samples were selected in the states that had sufficient numbers of residential care communities to enable state-level sample-based estimation. A census was taken of residential care communities in the states that did not have sufficient numbers of residential care communities to enable state-level sample-based estimation. From 42,149 communities in the sampling frame, 11,688 residential care communities were sampled and stratified by state and

Table I. Response rates for adult day services centers, by state, 2016

Area	Rate	Area	Rate
United States	61.8	Missouri	55.3
Alabama	71.4	Montana	72.7
Alaska	71.4	Nebraska	69.6
Arizona	75.0	Nevada	73.7
Arkansas	57.6	New Hampshire	68.8
California	53.0	New Jersey	53.9
Colorado	64.2	New Mexico	45.5
Connecticut	72.5	New York	59.5
Delaware	76.9	North Carolina	85.6
District of Columbia	60.0	North Dakota	61.8
Florida	61.0	Ohio	61.2
Georgia	62.9	Oklahoma	78.4
Hawaii	70.0	Oregon	64.7
Idaho	58.3	Pennsylvania	65.4
Illinois	69.1	Rhode Island	64.0
Indiana	74.5	South Carolina	65.6
Iowa	67.7	South Dakota	82.4
Kansas	60.0	Tennessee	69.5
Kentucky	61.0	Texas	58.9
Louisiana	58.0	Utah	50.0
Maine	51.6	Vermont	93.8
Maryland	71.9	Virginia	72.0
Massachusetts	61.5	Washington	65.5
Michigan	65.6	West Virginia	61.5
Minnesota	74.3	Wisconsin	66.0
Mississippi	63.6	Wyoming	83.3

SOURCE: NCHS, National Study of Long-Term Care Providers, 2016.

Table II. Response rates for residential care communities, by state, 2016

Area	Rate	Area	Rate
United States	50.7	Missouri	55.8
Alabama	48.2	Montana	58.0
Alaska	50.0	Nebraska	65.8
Arizona	47.8	Nevada	51.1
Arkansas	71.8	New Hampshire	56.8
California	43.3	New Jersey	51.7
Colorado	55.0	New Mexico	48.4
Connecticut	63.2	New York	55.1
Delaware	58.3	North Carolina	52.2
District of Columbia	33.3	North Dakota	68.8
Florida	44.3	Ohio	62.3
Georgia	46.4	Oklahoma	55.1
Hawaii	54.1	Oregon	60.1
Idaho	52.9	Pennsylvania	56.1
Illinois	49.3	Rhode Island	50.0
Indiana	52.7	South Carolina	57.0
Iowa	70.9	South Dakota	69.7
Kansas	58.5	Tennessee	59.6
Kentucky	61.0	Texas	46.9
Louisiana	59.3	Utah	60.5
Maine	58.0	Vermont	56.3
Maryland	42.7	Virginia	53.9
Massachusetts	40.4	Washington	51.1
Michigan	49.5	West Virginia	49.1
Minnesota	54.7	Wisconsin	60.3
Mississippi	45.6	Wyoming	86.7

SOURCE: NCHS, National Study of Long-Term Care Providers, 2016.

community bed size. A set of screener items in the questionnaire was used to determine eligibility: 135 (1.2% weighted) communities were invalid or out of business and an additional 1,490 (24.0% weighted) communities in the sample were determined to be ineligible during data collection because they did not meet the set eligibility criteria. However, 5,485 communities (49.3% weighted) could not be contacted by the end of data collection and, therefore, the final eligibility status of these communities was unknown.

Using the eligibility rate, a proportion of the 5,485 communities of unknown eligibility was estimated to be eligible. The eligibility rate was calculated by the number of known eligible residential care communities divided by the total number of residential care communities with known eligibility status. Communities that were invalid or out of business and communities that screened out as ineligible were classified as "known ineligibles." This estimated number and the total number of eligible communities resulting from the screening process were used to estimate the total number of eligible residential care communities in the United States. Of the 8,626 eligible and presumed eligible residential care communities, 4,643 returned the survey questionnaire, however, 65 communities (0.6%) only completed the eligibility screener questions and were coded as nonrespondents.

The number of residential care communities that fully completed the questionnaire was 4,578, with a weighted response rate (for differential probabilities of selection) of 50.7%. Response rates are calculated using standards set by AAPOR. AAPOR Response Rate #4 calculations include assumptions of eligibility among potential respondents that are not interviewed. AAPOR Response Rate #4 formula was used to calculate response rates for residential care communities (completed questionnaires / [completed eligible questionnaires] + [eligibility rate x cases of unknown eligibility]).

Response rates (weighted) by state ranged from 33.3% to 86.7% and are presented in Table II.

Differences in the number of residential care communities estimated in 2010, 2012, 2014, and 2016

Estimates of the number of residential care community providers varied between the 2010 NSRCF and the 2012 NSLTCP. NCHS assessed these differences and concluded that they were largely related to the eligibility differences between the 2010 NSRCF and the 2012 NSLTCP. While both surveys used the same eligibility criteria, overall screener-based eligibility dropped from 81.0% in the 2010 NSRCF to 67.1% in the 2012 NSLTCP (Table III). The screener-based eligibility rate was computed based on residential care communities that completed the screening questions (completed eligible / [completed eligible + completed ineligible]).

This decrease in the screener-based eligibility rate was most pronounced for providers with small bed sizes (4 to 10 beds): a decrease from 63.6% in 2010 to 45.8% estimated in 2012. Given that the 2012 NSLTCP (n = 11,690) had a much larger sample than NSRCF (n = 3,605), and that small bed size providers make up the largest proportion of all residential care communities, the lower eligibility rate in 2012 compared with 2010 among small-sized residential care communities had a large effect on the differences in the eligibility rate for the two surveys.

The discrepancy in eligibility between the 2010 NSRCF and the 2012 NSLTCP was likely due to differences in data collection modes used in 2010 (interviewer-administered computer-assisted telephone interviewing [CATI] screener followed by an in-person interview for eligible communities) and 2012 (primarily respondent self-administered screener and questionnaire completed by mail or web), and the resulting differences in how the respondents who self-administered the questionnaire interpreted the eligibility questions. In the 2012 NSLTCP, the most common eligibility criterion that providers, particularly small-bed size residential care communities, did not meet, was provision of onsite, 24-hour supervision. Some respondents using the self-administered modes (i.e., hard copy questionnaire or web questionnaire) likely did not fully comprehend this question and may have screened themselves out of the study erroneously. For more information, see "Long-Term Care Services in the United States: 2013 Overview" (available from: https://www.cdc.gov/nchs/data/nsltcp/long_term_care_services_2013.pdf) and the 2012 residential care community data file (available from: https://www.cdc.gov/nchs/data/nsltcp/NSLTCP_RCC_Readme_RDC_Release.pdf). Cognitive testing was conducted to assess these eligibility questions, and preliminary findings supported this hypothesis. To address these differences, NCHS revised the NSLTCP eligibility question asking whether the residential care community provided 24-hour supervision. The eligibility question asking whether the residential care community provided 24-hour supervision is question 4 on the 2012 questionnaire (https://www.cdc.gov/nchs/data/nsltcp/2012_NSLTCP_Residential_Care_Communities_Questionnaire.pdf) and question 6 on the 2014 questionnaire (https://www.cdc.gov/nchs/data/nsltcp/2014_NSLTCP_Residential_Care_Communities_Questionnaire.pdf).

Results from the 2014 wave indicated that the overall eligibility rate increased to 80.7%, similar to the 2010 NSRCF rate. However, the 2014 eligibility rates for all bed size categories except small providers (4–10 beds) were slightly lower compared with the 2010 NSRCF (Table III) and may be attributed to mode differences between 2010 and 2014. In 2016, the overall eligibility rate decreased to 73.8%. Decline in eligibility was observed in all bed size categories, but mostly among small and medium categories. The estimated national number of residential care communities ranged from 31,100 in 2010, 22,200 in 2012, and 30,200 in 2014, to 28,900 in 2016. The number of beds were estimated at 971,900 in 2010, 851,400 in 2012, 1,006,300 in 2014, and 996,100 in 2016 (Table IV). NCHS is currently assessing what caused the decline in eligibility between 2014 and 2016.

Population bases for computing rates

Populations used for computing rates of national supply and rates of use by state population were obtained from the U.S. Census Bureau's Population Estimates Program. The program produces estimates of the population for the United States, its states, counties, cities, and towns, and for the Commonwealth of Puerto Rico and its municipalities.

Table III. Eligibility rate among residential care communities, by bed size and survey year

Eligible community	National Study of Long-Term Care Providers			2010 National Survey of Residential Care Facilities
	2016	2014	2012	
Overall (percent)	73.8	80.7	67.1	81.0
Bed size				
Small (4–10 beds)	55.5	65.3	45.8	63.6
Medium (11–25 beds)	74.5	81.0	68.5	82.8
Large (26–100 beds)	86.9	91.7	82.4	94.5
Extra large (more than 100 beds)	91.2	93.8	85.5	95.9

SOURCES: NCHS, National Study of Long-Term Care Providers, 2016, 2014, 2012; and National Survey of Residential Care Facilities, 2010.

Table IV. Weighted number and percent distribution of residential care communities, by bed size and survey year

Characteristic	National Study of Long-Term Care Providers						2010 National Survey of Residential Care Facilities	
	2016		2014		2012			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of residential care communities	28,900	100.0	30,200	100.0	22,200	100.0	31,100	100.0
Small (4–10 beds)	13,200	45.6	14,500	47.9	9,300	41.7	15,400	50.0
Medium (11–25 beds)	4,400	15.3	4,500	14.9	3,700	16.8	4,900	16.0
Large (26–100 beds)	9,100	31.5	9,100	30.1	7,300	32.7	8,700	28.0
Extra large (more than 100 beds)	2,200	7.7	2,100	7.0	1,900	8.7	2,100	7.0
Number of beds	996,100	100.0	1,006,300	100.0	851,400	100.0	971,900	100.0
Small (4–10 beds)	81,800	8.2	89,600	8.9	64,700	7.6	96,700	9.9
Medium (11–25 beds)	76,500	7.7	76,900	7.6	86,900	10.2	86,800	8.9
Large (26–100 beds)	518,300	52.0	522,600	51.9	434,800	51.1	493,800	50.8
Extra large (more than 100 beds)	319,500	32.1	317,200	31.5	265,000	31.1	294,600	30.3

SOURCES: NCHS, National Study of Long-Term Care Providers, 2016, 2014, 2012; and National Survey of Residential Care Facilities, 2010.

Demographic components of population change (births, deaths, and migration) were produced at the national, state, and county levels of geography. Additionally, housing unit estimates were produced for the country, states, and counties. Population estimates for each state and territory were not subject to sampling variation because the sources used in the demographic analysis were complete counts. For a more detailed description of the estimates methodology, see: https://www.census.gov/popest/.

For calculating rates of national supply and rates of use by state for adult day services centers, nursing homes, and residential care communities, estimates of the population aged 65 and over for July 1, 2016, were used (57). For calculating rates for use by state for home health agencies and hospices, estimates of the population aged 65 and over for July 1, 2015, were used to match the time frame of the administrative data for these sectors (57).

Comparing NSLTCP estimates with estimates from other data sources

Administrative data

Home health agencies—Selected estimates from the 2016 merged home health file (which was created by linking the CASPER home health file, IPBS home health file, and OBQI Case Mix Roll-up file by provider ID number) were compared with estimates from different reports and data sources. These benchmark data sources included the Medicare Payment Advisory Commission's "Report to the Congress: Medicare Payment Policy" chapter on home health services (58); *Home Health Chartbook 2017* (59); and 2015 CMS Program Statistics (60). Estimates also were compared with analyses on Medicare- or Medicaid-certified home health agencies that participated in NCHS' 2007 National Home and Hospice Care Survey (NHHCS) and with data used in the 2012 and 2014 NSLTCP. Select provider and user characteristics were comparable with other data sources except certification status, age distribution of patients, and patients diagnosed with select conditions. About 1% of home health agencies in the 2014 and 2016 merged home health file were Medicaid-only certified compared with 14% from NHHCS. About 18% of patients in the 2014 and 2016 merged home health file were under age 65 compared with 31% in NHHCS. These differences in the number and age distribution of patients could be related to the 2016 home health merged file's inclusion of fewer Medicaid-only certified home health agencies, and the fact that the 2016 merged file contained discharged home health patients rather than current home health patients (on whom the 2007 NHHCS collected data).

Hospices—Selected estimates from the 2016 merged hospice file (which was created by linking the CASPER hospice file and IPBS hospice file by provider ID number) were compared with estimates on hospice care services provided in the MedPAC (58) report. Estimates also were compared with analyses on Medicare- or Medicaid-certified hospice agencies that participated in the 2007 NHHCS and with data used in the 2012 and 2014 NSLTCP. Select provider and user characteristics were comparable with other data sources except age distribution of patients; about 6% of hospice patients in the merged file were under age 65 compared with 17% in NHHCS. Estimates for age distribution of patients varied due to differences in the patient population each data source covered. NHHCS collected information on patients (not just Medicare beneficiaries) discharged from hospices in 2007 that were Medicare- or Medicaid-certified, pending certification, or state licensed; the 2016 merged hospice file included Medicare beneficiaries who received hospice services from Medicare-certified hospices in 2015.

Nursing homes—Estimates from the merged 2016 CASPER nursing home and MARET files were compared with estimates on skilled nursing facilities from the MedPAC report (58), the Nursing Home Data Compendium (61), and the LTCFocus 2015 data (62). Provider-related estimates using the 2016 merged nursing home file were comparable with these other data sources.

Survey data

Estimates from the 2016 adult day services center and residential care community components of NSLTCP were compared with the 2010 MetLife National Study of Adult Day Services (53) and findings from the 2010 National Survey of Residential Care Facilities, respectively. Differences between 2010, 2012, 2014, and 2016 estimates for the number of residential care communities, beds, and residents were discussed previously in this appendix. The 2016 estimates for select provider and user characteristics for both adult day services centers and residential care communities were found to be comparable with these other data sources.

Differences between survey waves

The adult day and residential care components of NSLTCP have evolved over the three waves of the study, in terms of new questions, changes in question wording and response categories, as well as data editing. A comparison of the questions used in the three waves lists all the new items added to NSLTCP (https://www.cdc.gov/nchs/data/nsltcp/NSLTCP_2012-2016_crosswalk.pdf). In addition to new questions, the question wording and response categories for several questions were revised in the 2016 wave, as listed below. Some of these differences may have led to differences in data editing methods, as well as differences in estimates between the waves.

- Response categories for the revenue source question in the adult day services center questionnaires (Question 11 in 2012, Question 9 in 2014, and Question 10 in 2016) were revised after each wave. The 2012 and 2014 questions included six response categories: Medicaid, Medicare, other government, out-of-pocket payment by the participant family, private insurance, and other. In 2014, a brief definition was added to the Medicaid response category to specify that this category include Medicaid managed care programs. In 2016, the number of response categories increased to eight, with the "other government" category broken into three separate categories: Older Americans Act, Veterans Administration, and other federal, state, or local government. Also, the Medicaid category definition was revised to include revenue from a Medicaid state plan, Medicaid waiver, Medicaid managed care, or California regional center.
- Response categories for questions on services provided in the adult day services center questionnaires (Questions 19 in 2012, 12 in 2014, and 30 in version A and 27 in version B in 2016) and the residential care community questionnaires (Questions 16 in 2012, 15 in 2014, and 28 in version A and 29 in version B in 2016) were revised after each wave. In 2012, each service item had four response categories indicating that the service was "not provided," "provided only by residential care community/adult day services center employees," "provided only by others through arrangement," or "provided by both residential care community/adult day services center employees and others through arrangement." In 2014, respondents were asked to mark one or more of five categories indicating that the service was provided by "paid residential care community/adult day services center employees," "arranging for and paying outside vendors," "arranging for outside vendors paid by others," "referral," or "none of these apply/not provided." In 2016, the response options were revised to four categories indicating that a residential care community or adult day services center "provides the service by paid residential care community/adult day services center employees," "arranges for the service to be provided by outside services," "refers residents/participants or family to outside service providers," or "does not provide, arrange, or refer for this service."
- Formatting and wording for staffing questions in the adult day services center (Questions 23 in 2012, 14 in 2014, and 31–33 in version A and 28–30 in version B in 2016) and residential care community (Questions 26 in 2012, 17 in 2014, and 29–31 in version A and 30–32 in version B in 2016) questionnaires changed between the three waves. In 2012, respondents had the option of providing either the separate numbers of full-time and part-time staff or the number of full-time equivalent (FTE) staff. In 2014, the response categories only included number of full-time staff and number of part-time staff (not FTEs). In both 2012 and 2014, the staffing questions were formatted as a block to include both employees and contract staff. In 2016, respondents continued to provide the number of full-time and part-time staff (not FTEs), but the questions were formatted into two separate blocks for employees and contract staff. Also in 2016, respondents could skip the contract staff block if they answered "no" to a stem question about having any contract or agency staff.

The differences in formatting in 2016 led to some methodological changes to the staffing data edits in 2016 compared with previous waves. Details about differences in how the staffing data were edited in 2014 and 2016 are provided in the "Data Description and Usage (Readme)" documents for the adult day services center survey (https://www.cdc.gov/nchs/data/nsltcp/NSLTCP_2016_ADSC_Readme_RDC.pdf) and the residential care community survey (https://www.cdc.gov/nchs/data/nsltcp/NSLTCP_2016_RCC_Readme_RDC.pdf).

- The ADL question about walking or locomotion in the adult day services center (Questions 32g in 2012, 19f in 2014, and 16f in 2016) and residential care community (Questions 34g in 2012, 22f in 2014, and 17f in 2016) questionnaires changed. The 2012 and 2016 waves

included a brief description stating that assistance with locomotion or walking included using a cane, walker, wheelchair, or help from another person; this description was not included in the 2014 wave.

- The question on falls in the adult day services center (Questions 22 in 2014 and 25 in version A in 2016) and residential care community (Questions 25 in 2014 and 23 in version A in 2016) questionnaires changed. The 2014 wave asked about the number of falls (any) in the last 90 days and directed respondents to include onsite and offsite falls. The 2016 wave added instructions for respondents to include falls that occurred in the residential care community or adult day services center or offsite, whether or not the resident or participant was injured, and whether or not anyone saw the resident/participant fall or caught them. Respondents also were asked to only count one fall per resident or participant who fell, even if the resident or participant fell more than one time, and to include a resident or participant who had a fall in the last 90 days even if they were currently in a hospital or rehabilitation facility.

Data Analysis

Results describing providers and services users were analyzed at the individual agency or facility level. Findings from administrative data on nursing homes, home health agencies, and hospices were treated as sample based, and population standard errors were calculated to account for some random variability associated with the files. For the survey data for residential care communities and adult day services centers, point estimates and standard errors were calculated using appropriate design and weight variables to account for complex sampling, when applicable.

For survey data, statistical analysis weights were computed as the product of two components: the sampling weight (only for residential care communities in states where they were sampled) and adjustment for unknown eligibility due to nonresponse. Sampling weights were used only for residential care communities where a sample was drawn; sampling weights were not used for adult day services centers or for residential care communities in states where a census was taken. To adjust the adult day services center and residential care community weights for unknown eligibility, the SUDAAN procedure WTADJUST (63) was used; the procedure uses a constrained logistic model to predict known eligibility and to compute the unknown eligibility adjustment factors for the weights. Standard errors for survey data were computed using Taylor series linearization.

Variance estimates

Administrative data: Home health agencies, hospices, and nursing homes

The home health, hospice, and nursing home data files were created using CMS administrative data. The files represented 100% of the CMS population at the specific time that the data set was constructed, and they were not subject to sampling variability. Thus, the standard errors could be seen as being zero. However, there might be some random variability associated with the numbers. For example, if the administrative data were drawn at a different time, the estimates might be different. Also, the data are subject to potential data entry and other reporting errors. To account for these types of variability, the administrative data estimates were treated as a simple random sample, providing conservative standard errors for the random variation that might be associated with the files.

Survey data: Adult day services centers and residential care communities

Although a census of all adult day services centers was attempted, estimates were subject to variability due to the amount of nonresponse. Although the records that comprise the adult day services center file were not sampled, the variability associated with the nonresponse was treated as if it were from a stratified (by state) sample without replacement.

Data from residential care communities included a mix of sampled communities from states that had enough residential care communities to produce reliable state estimates and a census of residential care communities in states that did not have enough communities to produce reliable state estimates. Consequently, the residential care community estimates were subject to sampling variability and nonresponse variability. The variability for the residential care communities estimates was treated as if it were from a stratified (by state and size) sample without replacement.

Statistical significance tests

All statements in this report describing differences in estimates indicate that statistical testing was performed, and the differences between two point estimates were determined to be statistically significant at the 0.05 level. Differences among sectors were evaluated using *t* tests. All statistical significance tests were two sided using $p < 0.05$ as the significance level. Lack of comment regarding the difference between any two statistics does not necessarily mean that the difference was tested and found not to be statistically significant. Data analyses were performed using SAS version 9.3, the SAS-callable SUDAAN version statistical package (63), and STATA/SE 14.0 (64). Individual estimates may not sum to totals because estimates were rounded.

Data editing

Data files were examined for missing values and inconsistencies. To minimize cases with missing values and inconsistencies, residential care community and adult day services center survey instruments were programmed to show critical items with missing values in the CATI and web applications, to inform respondents that an answer

was required, and to include data validations such as asking respondents to check an answer if it was not the expected number. For instance, if responses to items that needed to total the number of residential care community residents or adult day services center participants did not match the total, respondents were reminded to check their responses.

For the adult day services center and residential care community survey data, selected aggregate resident- or participant-level variables were imputed (i.e., age, race, and sex). Although administrative data were also reviewed for missing values and inconsistencies, the files did not go through the same data cleaning and editing as the survey data.

For both survey and administrative data, staffing information was edited in the same manner. Outliers were defined as values two standard deviations above or below the size-specific mean for a given staff type, where size was defined as number of people served. When calculating the size-specific mean for a given staff type, cases were coded as missing if the number of FTE registered nurse employees was greater than 999, if the number of FTE licensed practical or vocational nurse employees was greater than 999, if the number of FTE personal care aide employees was greater than 999, if the number of FTE social work employees was greater than 99, or if the number of FTE activities director or staff employees was greater than 99. Additional edits were made to the staffing variables, some of which were different from earlier waves of NSLTCP. For the definitions and categories of number of people served for each sector, see Appendix II.

Cases with missing data were excluded from analyses on a variable-by-variable basis. For administrative data used to estimate characteristics of nursing home residents and home health patients, individual user-level information was rolled up to provider-level data. If a nursing home or home health agency had missing data on a given variable for 20% or more of its residents or patients, it was considered to not have enough data to provide an estimate representative of that nursing home or home health agency, and was coded as having missing data on the variable. Variables used in this report had a percentage (weighted if survey data, unweighted if administrative data) of cases with missing data ranging between 0.2% and 15.8%. The range of cases with missing data for each sector is as follows:

- Adult day services center: 0.2% (Medicaid participation status) to 15.8% (number of participants diagnosed with osteoporosis).
- Home health agency: 8.9% to 9.1% were missing data on all patient measures (e.g., number of patients aged 65 and over) due to agencies with no patient information available in the IPBS data and the OBQI home health data, respectively. In addition, 10.4% of home health agencies had no information on the number of patients who had utilized a hospital emergency department, including 9.1% of agencies with no patient information available in the OBQI data and 1.3% of agencies with missing data on the variable for 20% or more of its patients.
- Hospice: 7.1% were missing data for all patient measures (e.g., number of patients diagnosed with depression) due to agencies with no patient information available in the IPBS hospice data.
- Nursing home: 0.8% were missing data for all resident demographic information due to nursing homes with no resident information available in the MARET data. In addition, 10.2% of nursing homes had no information on the number of residents who had osteoporosis and arthritis, including 0.8% of nursing homes with no resident information available in the MARET data and 9.4% of nursing homes with missing data on the variable for 20% or more of its residents.
- Residential care community: 1.9% (e.g., Medicaid status) to 15.6% (e.g., number of residents diagnosed with asthma).

Limitations

Differences in question wording among data sources

While every effort was made to match question wording in the NSLTCP surveys to the administrative data available through CMS, some differences remained and may affect comparisons between these two data sources (e.g., capacity and reference periods used for adverse events). When possible (i.e., when available and appropriate), findings were presented on a given topic for all five sectors. However, due to two types of data-related differences, for some topics in the report, information was provided for some but not all five sectors.

The first type of data-related difference was due to the settings served by the five sectors. For example, home health agencies were not residential and, therefore, it was not relevant to discuss the number of beds in this sector, whereas it was relevant for nursing homes and residential care communities. As a result, information on capacity as measured by the number of beds was presented for nursing homes and residential care communities only.

The second difference was attributable to differences among the administrative data sources used for nursing homes, home health agencies, and hospices. For example, the CASPER data did not include information on whether home health agencies offered mental health or counseling services, but they did include this information for nursing homes and hospices. The NSLTCP residential care community and adult day services center surveys included additional content that was not presented in this report because no comparable data existed in the CMS administrative data (e.g., electronic health records and health information exchange). NCHS produced *Data Briefs* and weighted estimates tables that presented additional results on adult day services centers and

residential care communities, using survey data not included in this overview report. These latest reports are available from: http://www.cdc.gov/nchs/nsltcp/nsltcp_products.htm.

Differences in time frames among data sources

Different data sources had different time frames or reference periods. For instance, user-level data used for home health agencies (i.e., OBQI and IPBS home health data) and hospices (i.e., IPBS hospice data) were from patients who received home health or hospice care services at any time in calendar year 2015. In contrast, survey data on residential care community residents and adult day services center participants and CMS data on nursing home residents were from current services users in 2016. In this report, "current" participants or residents in 2016 refers to those participants enrolled in the adult day services center, or residents living in the nursing home or residential care community, on the day of data collection in 2016, rather than the total number of participants ever enrolled in the center or residents ever living in the nursing home or residential care community at any time throughout the 2016 calendar year. In other words, the estimated number of adult day services center participants represents current participants in 2016. The estimated number of home health patients represents patients who ended care in 2015 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2015. The estimated number of nursing home residents represents current residents in 2016. The estimated number of residential care community residents represents current residents in 2016. Given these differences in denominator, comparisons across all five sectors were not feasible for some variables.

Age of administrative data

The administrative data for home health agencies, hospices, and nursing homes were collected to support the survey and certification function of CMS in these different sectors; both the content and the frequency with which the certification surveys were conducted differ across these three provider sectors. Consistent with the required frequency for the recertification survey, CASPER data on virtually all nursing homes were under 18 months old: 82.7% of CASPER home health agency data were no more than 3 years old, and 95.5% of CASPER hospice data were no more than 8 years old. When these relatively older home health agency and hospice data were linked to user-level data of calendar year 2015, 9.0% of home health agencies and 7.1% of hospices in the CASPER files did not match with provider ID numbers in OBQI and IPBS hospice data, respectively. It is possible that home health agencies and hospices with missing patient-level information might no longer be operational or might have begun operating in 2016, so their patient information was not captured in the user-level data from 2015. Of 888 home health agencies that did not match with provider numbers in OBQI data, about 62% had completed the agency's initial certification survey in 2014.

Appendix II. Crosswalk of Definitions by Sector

Supply of long-term care services providers, by sector

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Number of providers[1]	Number of paid, regulated long-term care services providers	Number of adult day services centers based on 2016 National Survey of Long-Term Care Providers (NSLTCP) survey of adult day services centers	Number of assisted living and similar residential care communities based on 2016 NSLTCP survey of residential care communities	Number of home health agencies certified to provide services under Medicare, Medicaid, or both in the third quarter of 2016	Number of hospices certified to provide services under Medicare, Medicaid, or both in the third quarter of 2016	Number of nursing homes certified to provide services under Medicare, Medicaid, or both in the third quarter of 2016
Region	Grouping of conterminous states into geographic areas corresponding to groups used by the United States Census Bureau. A map showing the states included in each of the four U.S. Census regions is available from: https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.	Four census regions 1= Northeast 2= Midwest 3= South 4= West	Four census regions 1= Northeast 2= Midwest 3= South 4= West	Derived from: [STATE_CD] 1= Northeast 2= Midwest 3= South 4= West	Derived from: [STATE_CD] 1= Northeast 2= Midwest 3= South 4= West	Derived from: [STATE_CD] 1= Northeast 2= Midwest 3= South 4= West
Metropolitan statistical area (MSA) and micropolitan statistical area[2]	Geographic entities delineated by the Office of Management and Budget (OMB) for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics. A metropolitan area contains a core urban area of 50,000 or more population, and a micropolitan area contains an urban core of at least 10,000 (but less than 50,000) population. Each area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.	Metropolitan statistical area status 1= Metropolitan 2= Micropolitan 3= Neither	Metropolitan statistical area status 1= Metropolitan 2= Micropolitan 3= Neither	Derived from: [ZIP_CD] 1= Metropolitan 2= Micropolitan 3= Neither	Derived from: [ZIP_CD] 1= Metropolitan 2= Micropolitan 3= Neither	Derived from: [ZIP_CD] 1= Metropolitan 2= Micropolitan 3= Neither

See footnotes at end of section.

Supply of long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Capacity[3]	Used to quantify the supply of long-term care services provided in the community (i.e., adult day services center or residential care community) or in an institutional setting (i.e., nursing home).	Q4. What is the maximum number of participants allowed at this adult day services center at this location? This may be called the allowable daily capacity and is usually determined by law or by fire code, but may also be a program decision.	Q2. At this residential care community, what is the number of licensed, registered, or certified residential care beds? Include both occupied and unoccupied beds.	…	…	Derived from: [CRTFD_BED_CNT] Number of beds in Medicare- or Medicaid-certified areas within a facility.

… Category not applicable.
[1]Study-specific eligibility criteria were used to define residential care communities. See the Appendix I Technical Notes for information on eligibility criteria.
[2]All provider types used the 2013 OMB standards for delineating metropolitan and micropolitan statistical areas.
[3]For NH, the number of certified beds was used because current residents in the Certification and Survey Provider Enhanced Reports (CASPER) (CNSUS_RSDNT_CNT) are defined as those in certified beds regardless of payer source.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in National Study of Long-Term Care Providers (NSLTCP) questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is the Centers for Medicare & Medicaid's (CMS') CASPER.

Organizational characteristics of long-term care services providers, by sector

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Ownership	Classified into three categories: for profit, nonprofit, and government and other. Publicly traded company or limited liability company (LLC) was categorized as for profit.	1= For profit 2= Nonprofit 3= Government and other Derived from: [OWNERSHP] Q9. What is the type of ownership of this adult day services center? 1= Private, nonprofit 2= Private, for profit 3= Publicly traded company or limited liability company (LLC) 4= Government—federal, state, county, local If OWNERSHP= 3, code OWN as 2. Else if OWNERSHP= 1, code OWN= 1; Else OWN= 3.	1= For profit 2= Nonprofit 3= Government and other Derived from: [OWNERSHP] Q8. What is the type of ownership of this residential care community? 1= Private, nonprofit 2= Private, for profit 3= Publicly traded company or limited liability company (LLC) 4= Government—federal, state, county, local If OWNERSHP= 3, code OWN as 2. Else if OWNERSHP= 1, code OWN= 1; Else OWN= 3.	1= For profit 2= Nonprofit 3= Government and other Derived from: [GNRL_CNTL_TYPE_CD] 01= Voluntary NP, religious affiliation 02= Voluntary NP, private 03= Voluntary NP, other 04= Proprietary 05= Government, state/county 06= Government, Combination Government and Voluntary 07= Government, local If GNRL_CNTL_TYPE_CD= ’01’, ‘02,’ ‘03’, code HHA as OWN= 2; Else if GNRL_CNTL_TYPE_CD= ’04’, code HHA as OWN= 1; Else OWN= 3;	1= For profit 2= Nonprofit 3= Government and other Derived from: [GNRL_CNTL_TYPE_CD] 01= Nonprofit, church 02= Nonprofit, private 03= Nonprofit, other 04= Proprietary, individual 05= Proprietary, partnership 06= Proprietary, corporation 07= Proprietary, other 08= Government, state 09= Government, county 10= Government, city 11= Government, city/county 12= Combination Government and NP 13= Other If GNRL_CNTL_TYPE_CD= ’01’, ‘02,’ ‘03’, code HOS as OWN= 2; Else if GNRL_CNTL_TYPE_CD= ’04’,’05’, ‘06’, ‘07’, code HOS as OWN= 1; Else OWN= 3;	1= For profit 2= Nonprofit 3= Government and other Derived from: [GNRL_CNTL_TYPE_CD] 01= For profit, individual 02= For profit, partnership 03= For profit, corporation 04= Nonprofit, church related 05= Nonprofit, corporation 06= Nonprofit, other 07= Government, state 08= Government, county 09= Government, city 10= Government, city/county 11= Government, hospital district 12= Government, federal 13= Limited Liability Company If GNRL_CNTL_TYPE_CD= ’01’, ‘02,’ ‘03’,’13’, OWN= 1; Else if GNRL_CNTL_TYPE_CD= ’04’,‘05’, ‘06’, OWN= 2; Else OWN= 3;

See footnotes at end of section.

Organizational characteristics of long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Number of people served	Categorizes providers into three categories based on the number of current participants or residents (adult day services centers, nursing homes, and residential care communities), the number of patients receiving care at any time in calendar year 2015 (hospices), or the number of patients who ended an episode of care at any time in calendar year 2015 (home health agencies).	1= 1–25 2= 26–100 3= 101 or more Derived from: [AVGPART] Q2. Based on a typical week, what is the approximate average daily attendance at this adult day services center at this location?	1= 1–25 2= 26–100 3= 101 or more Derived from: [TOTRES] Q5. What is the total number of residents currently living at this residential care community? Please include residents for whom a bed is being held while in the hospital. If you have respite care residents, please include them.	1= 1–100 2= 101–300 3= 301 or more Derived from: [TOTPAT from Outcome-Based Quality Improvement (OBQI) Case Mix Roll-up data] Number of home health patients whose episode of care ended at any time in calendar year 2015 (i.e., discharges), regardless of payment source.	1= 1–100 2= 101–300 3= 301 or more Derived from: [BENE_CNT in Institutional Provider and Beneficiary Summary (IPBS) hospice data] Number of hospice care patients for whom Medicare-certified hospice care agencies submitted a Medicare claim at any time in calendar year 2015.	1= 1–25 2= 26–100 3= 101 or more Derived from: [CNSUS_RSDNT_CNT] Number of current residents reported in CASPER, defined as those in certified beds regardless of payer source.
Medicare certification	Refers to Medicare certification status of home health agencies, hospices, and nursing homes	...	...	1= Certified 2= Not certified Derived from: [PGM_PRTCPTN_CD] Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID	1= Certified 2= Not certified All hospices included in CASPER are assumed to be Medicare-certified.	1= Certified 2= Not certified Derived from: [PGM_PRTCPTN_CD] Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID

See footnotes at end of section.

Organizational characteristics of long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Medicaid certification	Refers to Medicaid certification or participation status	1= Certified 2= Not certified Derived from: [MEDICAID] Q1_b. Is this adult day services center authorized or otherwise set up to participate in Medicaid (Medicaid state plan, Medicaid waiver, or Medicaid managed care) or part of a Program of All-Inclusive Care for the Elderly (PACE)?	1= Certified 2= Not certified Derived from: [MEDICAID] Q9. Is this residential care community authorized or otherwise set up to participate in Medicaid?	1= Certified 2= Not certified Derived from: [PGM_PRTCPTN_CD] Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID	- - -	1= Certified 2= Not certified Derived from: [PGM_PRTCPTN_CD] Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID
Chain affiliation	Refers to chain affiliation status of adult day services centers, residential care communities, and nursing homes	Q5. Is this center owned by a person, group, or organization that owns or manages two or more adult day services centers? This may include a corporate chain.	Q13. Is this residential care community owned by a person, group, or organization that owns or manages two or more residential care communities? This may include a corporate chain.	- - -	- - -	Derived from: [MLT_OWND_FAC_ORG_SW] Owned or leased by multifacility organization Check “yes” if the facility is owned or leased by a multifacility organization, otherwise check “no.” A Multifacility organization is an organization that owns two or more long-term care facilities. The owner may be an individual or a corporation. Leasing of facilities by corporate chains is included in this definition.

... Category not applicable.
- - - Data not available.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in NSL TCP questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is CMS' CASPER.

Staffing: Nursing, social work, and activities employees, by sector

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Registered nurse[1]	Number of full-time equivalent (FTE) registered nurse (RN) employees (based on a 35-hour work week)	Derived RNFTE1 from: [RNFT1, RNPT1] Q31a/Q28a. RNs: Number of full-time employees; Number of part-time employees.	Derived RNFTE1 from: [RNFT1, RNPT1] Q29a/Q30a. RNs: Number of full-time employees; Number of part-time employees.	Derived RNFTE1 from: [RN_CNT] Number of FTE registered professional nurses employed by a provider.	Derived RNFTE1 from: [RN_CNT] Number of FTE registered professional nurses employed by a provider.	Derived RNFTE1 from: [RN_FLTM_CNT, RN_PRTM_CNT] Number of FTE registered nurses employed by a facility on a full-time basis; Number of FTE registered nurses employed by a facility on a part-time basis.
Licensed practical nurse (LPN) or licensed vocational nurse (LVN)[1]	Number of FTE licensed practical nurse or licensed vocational nurse (LPN/LVN) employees (based on a 35-hour work week)	Derived LPNFTE1 from: [LPNFT1, LPNPT1] Q31b/Q28b. LPNs/LVNs: Number of full-time employees; Number of part-time employees.	Derived LPNFTE1 from: [LPNFT1, LPNPT1] Q29b/Q30b. LPNs/LVNs: Number of full-time employees; Number of part-time employees.	Derived LPNFTE1 from: [LPN_LVN_CNT] Number of FTE licensed practical or vocational nurses employed by a provider.	Derived LPNFTE1 from: [LPN_LVN_CNT] Number of FTE licensed practical or vocational nurses employed by a provider.	Derived LPNFTE1 from: [LPN_LVN_FLTM_CNT, LPN_LVN_PRTM_CNT] Number of FTE licensed practical or vocational nurses employed by a facility on a full-time basis; Number of FTE licensed practical or vocational nurses employed by a facility on a part-time basis.

See footnotes at end of section.

Staffing: Nursing, social work, and activities employees, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Aide[1]	Number of FTE aide employees (based on a 35-hour work week) Aides refer to paid staff providing direct care and assistance to residents, participants, or patients with a broad range of activities. Different terms are used to describe aides in different data sources. For adult day services centers and residential care communities, aides include certified nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides who are employees of a community or center. For home health agencies and hospices, aides refer to home health aides employed by the agency. For nursing homes, aides refer to certified nurse aides, and medication aides or technicians who are facility employees.	Derived AIDEFTE1 from: [AIDEFT1, AIDEPT1] Q31c/Q28c Certified nursing assistants, nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides: Number of full-time employees; Number of part-time employees.	Derived AIDEFTE1 from: [AIDEFT1, AIDEPT1] Q29c/Q30c Certified nursing assistants, nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides: Number of full-time employees; Number of part-time employees.	Derived AIDEFTE1 from: [HH_AIDE_CNT] Number of FTE home health aides employed by a provider.	Derived AIDEFTE1 from: [HH_AIDE_EMPLEE_CNT] Number of FTE home health aides employed by a provider.	Derived AIDFTE1 from: [NRS_AIDE_FLTM_CNT, NRS_AIDE_PRTM_CNT, MDCTN_AIDE_FLTM_CNT, MDCTN_AIDE_PRTM_CNT] Number of FTE certified nurse aides employed by a facility on a full-time basis; Number of FTE certified nurse aides employed by a facility on a part-time basis; Number of FTE medication aides or technicians employed by a facility on a full-time basis; Number of FTE medication aides or technicians employed by a facility on a part-time basis.

See footnotes at end of section.

Staffing: Nursing, social work, and activities employees, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Social worker[1]	Number of FTE social worker employees (based on a 35-hour work week)	Derived SOCWFTE1 from: [SOCWFT1, SOCWPT1] Q31d/Q28d Social workers—licensed social workers or persons with a bachelor's or master's degree in social work: Number of full-time employees; Number of part-time employees.	Derived SOCWFTE1 from: [SOCWFT1, SOCWPT1] Q29d/Q30d. Social workers—licensed social workers or persons with a bachelor's or master's degree in social work: Number of full-time employees; Number of part-time employees.	Derived SOCWFTE1 from: [SCL_WORKR_CNT] Number of FTE social workers employed by a provider.	Derived SOCWFTE1 from: [MDCL_SCL_WORKR_ CNT] Number of FTE medical social workers employed by a provider.	Derived SOCWFTE1 from: [SCL_WORKR_FLTM_CNT, SCL_WORKR_PRTM_CNT] Number of FTE social workers employed by a facility on a full-time basis; Number of FTE social workers employed by a facility on a part-time basis.
Activities directors or activities staff[1]	Number of FTE activities directors or activities staff employees (based on a 35-hour work week)	Derived ACTFTE1 from: [ACTFT1, ACTPT1] Q31e/Q28e. Activities directors or activities staff: Number of full-time employees; Number of part-time employees.	Derived ACTFTE1 from: [ACTFT1, ACTPT1] Q29e/Q30e. Activities directors or activities staff: Number of full-time employees; Number of part-time employees.	- - -	- - -	Derived ACTFTE1 from: [ACTVTY_PROFNL_FLTM_ CNT, ACTVTY_PROFNL_ PRTM_CNT, ACTVTY_ STF_OTHR_FLTM_CNT, ACTVTY_STF_OTHR_PRTM_ CNT) Number of FTE activity professionals employed full time by a facility; Number of FTE activity professionals employed part time by a facility; Number of FTE other activities staff providing therapeutic services employed full time by a facility; Number of FTE other activities staff providing therapeutic services employed part time by a facility.

See footnotes at end of section.

Staffing: Nursing, social work, and activities employees, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Hours per resident or participant per day (HPPD)[2]	Refers to the number of hours providing care for one resident or participant per day for a given staff type. For adult day services centers, HPPD for a given staff type was computed by multiplying the number of FTEs for the staff type by 35 hours, and dividing the total number of hours for the staff type by average daily attendance of participants and by 5 days. For nursing homes and residential care communities, the number of FTEs for a given staff was converted into hours by multiplying by 35 hours for the staff type, and dividing the total number of hours for the staff type by the number of current residents in the facility, and by 7 days, to calculate the HPPD.	Derived from: [RNFTE1, LPNFTE1, AIDEFTE1, SOCWFTE1, ACTFTE1/ AVGPART] RNHPPD1= (RNFTE1*35)/ AVGPART/5 days; LPNHPPD1= (LPNFTE1*35)/ AVGPART/5 days; AIDEHPPD1= (AIDEFTE1 *35)/AVGPART/5 days; SOCWHPPD1= (SOCWFTE1*35)/ AVGPART/5 days; ACTHPPD1= (ACTFTE1*35)/ AVGPART/5 days	Derived from: [RNFTE1, LPNFTE1, AIDEFTE1, SOCWFTE1, ACTFTE1/ TOTRES] RNHPPD1= (RNFTE1*35)/ TOTRES/7 days; LPNHPPD1= (LPNFTE1*35)/ TOTRES/7 days; AIDEHPPD1= (AIDEFTE1*35)/ TOTRES/7 days; SOCWHPPD1= (SOCWFTE1*35)/ TOTRES/7 days; ACTHPPD1= (ACTFTE1*35)/ TOTRES/7 days	- - -	- - -	Derived from: [RNFTE, LPNFTE, AIDEFTE, SOCWFTE/ CNSUS_ RSDNT_ CNT] RNHPPD1= (RNFTE1*35)/ CNSUS_ RSDNT_CNT/7 days; LPNHPPD1= (LPNFTE1*35)/ CNSUS_ RSDNT_CNT/7 days; AIDEHPPD1= AIDEFTE1*35)/ CNSUS_ RSDNT_CNT/7 days; SOCWHPPD1= (SOCWFTE1 *35)/ CNSUS_ RSDNT_CNT/7 days; ACTHPPD1= (ACTFTE1*35)/ CNSUS_ RSDNT_CNT/7 days

- - - Data not available.

[1]For ADSC and RCC, the number of full-time and part-time employees for a given staff type were converted into FTEs with an assumption that full time is 1.0 FTE and part time is 0.5 FTE. For HHA and HOS, the number of FTE employees by staff type is provided in data. For NH, data report the number of hours for a given staff type during the 2 weeks prior to their annual survey. CMS converts the number of hours into FTEs (based on a 35-hour work week). For all provider types, outliers are defined as cases with FTEs that are two standard deviations above or below the mean for a given size category, and recoded as the size-specific mean of FTE for the given staff type. See the Appendix I Technical Notes for more information on editing of the staffing data.

[2]Residential settings (i.e., nursing homes and residential care communities) and adult day services centers operate and staff differently to serve the needs of their residents or participants; these differences between provider types are reflected in using average daily attendance and 5 days (as opposed to number of current residents and 7 days) when computing HPPD for staff working at adult day services centers.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in NSLTCP questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is CMS' CASPER.

Services provided by long-term care services providers, by sector

Characteristic	Definition	Survey data: Adult day services center (ADSC)	Survey data: Residential care community (RCC)	Administrative data: Home health agency (HHA)	Administrative data: Hospice (HOS)	Administrative data: Nursing home (NH)
Social work services[1]	In survey data, refers to services provided by licensed social workers or persons with a bachelor's or master's degree in social work, and may include an array of services such as psychosocial assessment, individual or group counseling, and referral services. In administrative data, refers to qualified social workers services in nursing homes, and medical social services in home health agencies and hospices.	1= Provided 2= Not provided (includes referral only) Derived from: [SERVSOCW1, SERVSOCW2, SERVSOCW3, SERVSOCW4] Q30_b/Q27_b. Social work services—provided by licensed social workers or persons with a bachelor's or master's degree in social work, and may include an array of services such as psychosocial assessment, individual or group counseling, and referral services 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided (includes referral only) Derived from: [SERVSOCW1, SERVSOCW2, SERVSOCW3, SERVSOCW4] Q28_b/Q29_b. Social work services—provided by licensed social workers or persons with a bachelor's or master's degree in social work, and may include an array of services such as psychosocial assessment, individual or group counseling, and referral services 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided Derived from: [MDCL_SCL_SRVC_CD] Indicates how medical social services are provided. 0= NOT PROVIDED 1= PROVIDED BY STAFF 2= PROVIDED UNDER ARRANGEMENT 3= COMBINATION If MCDL_SCL_SRVC_CD= 0, SERVSOCW= 2; else if MDCL_SCL_SRVC_CD>0, SERVSOCW= 1;	1= Provided 2= Not provided Derived from: [MDCL_SCL_SRVC_CD] Indicates how medical social services are provided. 0= NOT PROVIDED 1= PROVIDED BY STAFF 2= PROVIDED UNDER ARRANGEMENT 3= COMBINATION If MCDL_SCL_SRVC_CD= 0, SERVSOCW= 2; else if MDCL_SCL_SRVC_CD>0, SERVSOCW= 1;	1= Provided 2= Not provided Derived from: [SCL_WORK_SRVC_ONST_RSDNT_SW, SCL_WORK_SRVC_ONST_NRSDNT_SW, SCL_WORK_SRVC_OFSITE_RSDNT_SW] Qualified social workers services 1) Services provided onsite to residents, either by employees or contractors; 2) Services provided onsite to nonresidents; 3) Services provided to residents offsite/or not routinely provided onsite If "No" to 1), 2), and 3), SERVSOCW= 2; Else SERVSOCW= 1;

See footnotes at end of section.

Services provided by long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Mental health or counseling services[1]	Mental health services in survey data refer to services that target a person's mental, emotional, psychological, or psychiatric well-being, and may include diagnosing, describing, evaluating, and treating mental conditions. For hospices, counseling services are provided to the patient and family to assist them in "minimizing the stress and problems that arise from the terminal illness, related conditions, and the dying process" (https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf).	1= Provided 2= Not provided (includes referral only) Derived from: [SERVMH1, SERVMH2, SERVMH3, SERVMH4] Q30_c/Q27_c. Mental health services—target participants' mental, emotional, psychological, or psychiatric well-being and may include diagnosing, describing, evaluating, and treating mental conditions 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided (includes referral only) Derived from: [SERVMH1, SERVMH2, SERVMH3, SERVMH4] Q28_c/Q29_c. Mental health services—target residents' mental, emotional, psychological, or psychiatric well-being and may include diagnosing, describing, evaluating, and treating mental conditions 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	- - -	1= Provided 2= Not provided Derived from: [CNSLNG_SRVC_CD] Counseling services 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination If CNSLNG_SRVC_CD= 0, SERVMH= 2; else if CNSLNG_SRVC_CD>0, SERVMH= 1;	1= Provided 2= Not provided Derived from: [MENTL_HLTH_ ONST_RSDNT_SW, MENTL_ HLTH_ONST_NRSDNT_SW, MENTL_HLTH_OFSITE_RSDNT_ SW] Mental health services 1) Services provided onsite to residents, either by employees or contractors; 2) Services provided onsite to nonresidents; 3) Services provided to residents offsite/or not routinely provided onsite If "No" to 1), 2), and 3), SERVMH= 2; Else SERVMH= 1;

See footnotes at end of section.

Services provided by long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Therapeutic services[1]	Refers to providing any of the three therapeutic services: physical therapy, occupational therapy, or speech therapy or pathology.	1= Provided 2= Not provided (includes referral only) Derived from: [SERVTX1, SERVTX2, SERVTX3, SERVTX4] Q30_d/Q27_d. Any therapeutic services—physical, occupational, or speech 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided (includes referral only) Derived from: [SERVTX1, SERVTX2, SERVTX3, SERVTX4] Q28_d/Q29_d. Any therapeutic services—physical, occupational, or speech 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided Derived from: [PT_SRVC_CD, OT_ SRVC_CD, SPCH_ THRPY_ SRVC_CD] Physical therapy, occupational therapy, or speech therapy 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination If PT_SRVC_CD= 0 AND OT_SRVC_CD= 0 AND SPCH_THRPY_SRVC_CD= 0, SERVTX= 2; Else SERVTX= 1;	1= Provided 2= Not provided Derived from: [PT_SRVC_CD, OT_SRVC_CD, SPCH_ PTHLGY_SRVC_CD] Physical therapy, occupational therapy, or speech pathology 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination If PT_SRVC_CD= 0 AND OT_SRVC_CD= 0 AND SPCH_PTHLGY_SRVC_CD= 0, SERVTX= 2; Else SERVTX= 1;	1= Provided 2= Not provided Derived from: [PT_ONST_ RSDNT_SW, PT_ONST_ NRSDNT_SW, PT_OFSITE_ RSDNT_SW, OT_SRVC_ ONST_RSDNT_SW, OT_ SRVC_ONST_NRSDNT_SW, OT_SRVC_OFSITE_RSDNT_ SW, SPCH_PTHLGY_ ONST_RSDNT_SW, SPCH_PTHLGY_ONST_ NRSDNT_SW, SPCH_ PTHLGY_OFSITE_RSDNT_ SW] Physical therapist services, occupational therapist services, or speech or language pathologists 1) Services provided onsite to residents, either by employees or contractors; 2) Services provided onsite to non-residents; 3) Services provided to residents offsite/ or not routinely provided onsite If “No” to all 9 variables, SERVTX= 2; Else SERVTX= 1;

See footnotes at end of section.

Services provided by long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Pharmacy services[1]	Includes filling of or delivery of prescriptions.	1= Provided 2= Not provided (includes referral only) Derived from: [SERVRX1, SERVRX2, SERVRX3, SERVRX4] Q30_e/Q27_e. Pharmacy services—including filling of or delivery of prescriptions 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided (includes referral only) Derived from: [SERVRX1, SERVRX2, SERVRX3, SERVRX4] Q28_e/Q29_e. Pharmacy services—including filling of or delivery of prescriptions 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided Derived from: [PHRMCY_ SRVC_CD] Pharmaceutical services 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination If PHRMCY_SRVC_CD= 0, SERVRX_RC= 2; else if PHRMCY_SRVC_CD>0, SERVRX= 1;	- - -	1= Provided 2= Not provided Derived from: [PHRMCY_ SRVC_ONST_RSDNT_SW, PHRMCY_SRVC_ONST_ NRSDNT_SW, PHRMCY_ SRVC_ OFSITE_RSDNT_SW] Pharmacist services 1) Services provided onsite to residents, either by employees or contractors; 2) Services provided onsite to non-residents; 3) Services provided to residents offsite/or not routinely provided onsite If “No” to 1), 2), and 3), SERVRX= 2; Else SERVRX= 1;

See footnotes at end of section.

Services provided by long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Skilled nursing services[1]	In survey data, refers to services that must be performed by an RN or LPN and are medical in nature. For home health agencies, the definition for nursing services is not provided in CMS' "State Operations Manual." For hospices, nursing services are "routinely available on a 24-hour basis, 7 days a week," and hospices must "provide nursing care and services by or under the supervision of a registered nurse" (available from: https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf). Nursing services in nursing homes refer to "coordination, implementation, monitoring and management of resident care plans. Includes provision of personal care services, monitoring resident responsiveness to environment, range-of-motion exercises, application of sterile dressings, skin care, naso-gastric tubes, intravenous fluids, catheterization, administration of medications, etc." (CMS form 671).	1= Provided 2= Not provided (includes referral only) Derived from: [SERVNURS1, SERVNURS2, SERVNURS3, SERVNURS4] Q30_g/Q27_g. Skilled nursing services—must be performed by an RN or LPN and are medical in nature 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided (includes referral only) Derived from: [SERVNURS1, SERVNURS2, SERVNURS3, SERVNURS4] Q28_g/Q29_g. Skilled nursing services—must be performed by an RN or LPN and are medical in nature 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided Derived from: [NRSNG_SRVC_CD] Nursing care 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination If NURSNG_SRVC_CD= 0, SERVNURS= 2; Else if NURSNG_SRVC_CD>0, SERVNURS= 1;	1= Provided 2= Not provided Derived from: [NRSNG_SRVC_CD] Nursing services 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination If NURSNG_SRVC_CD= 0, SERVNURS= 2; Else if NURSNG_SRVC_CD>0, SERVNURS= 1;	1= Provided 2= Not provided Derived from: [NRSNG_SRVC_ ONST_RSDNT_SW, NRSNG_ SRVC_ONST_NRSDNT_SW, NRSNG_SRVC_OFSITE_RSDNT_ SW] Nursing services 1) Services provided onsite to residents, either by employees or contractors; 2) Services provided onsite to non-residents; 3) Services provided to residents offsite/or not routinely provided onsite If "No" to 1), 2), and 3), SERVNURS= 2; Else SERVNURS= 1;

See footnotes at end of section.

Services provided by long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency HHA)	Hospice (HOS)	Nursing home (NH)
Hospice services[1]	For home health agencies, the agency was coded as providing hospice services if the agency also participates in the Medicare program as a hospice. If nursing homes have at least one bed identified and dedicated for residents needing hospice services or have one or more residents receiving hospice care benefits, they were coded as providing hospice services.	1= Provided 2= Not provided (includes referral only) Derived from: [SERVHOS1, SERVHOS2, SERVHOS3, SERVHOS4] Q30_a/Q27_a. Hospice services 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided (includes referral only) Derived from: [SERVHOS1, SERVHOS2, SERVHOS3, SERVHOS4] Q28_a/Q29_a. Hospice services 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided Derived from: [MDCR_ HOSPC_SW] Indicates if the agency also participates in the Medicare program as a hospice provider. If MDCR_HOSPC_SW= 'Y', SERVHOS= 1; Else if MDCR_HOSPC_SW= 'N', SERVHOS= 2;	…	1= Provided 2= Not provided Derived from: [HOSPC_BED_CNT, CNSUS_HOSPC_CARE_CNT] 1) Number of beds in a unit identified and dedicated by a facility for residents needing hospice services; 2) Number of residents receiving hospice care benefit If HOSPC_BED_CNT>0 or CNSUS_HOSPC_CARE_ CNT>0, SERVHOS= 1; Else if HOSPC_BED_CNT= 0 AND CNSUS_HOSPC_CARE_ CNT= 0, SERVHOS= 2;
Dietary and nutritional services[1]	Refers to dietary and nutritional services	1= Provided 2= Not provided (includes referral only) Derived from: [SERVDIET1, SERVDIET2, SERVDIET3, SERVDIET4] Q30_f /Q27_f. Dietary and nutritional services 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	1= Provided 2= Not provided (includes referral only) Derived from: [SERVDIET1, SERVDIET2, SERVDIET3, SERVDIET4] Q28_f/Q29_f. Dietary and nutritional services 1= Provides the service by paid center employees 2= Arranges for the service to be provided by outside service providers 3= Refers participants or family to outside service providers 4= Does not provide, arrange, or refer for this service	- - -	- - -	1= Provided 2= Not provided Derived from: [DTRY_ ONST_RSDNT_SW, DTRY_ONST_NRSDNT_SW, DTRY_OFSITE_RSDNT_SW] Dietary services 1) Services provided onsite to residents, either by employees or contractors; 2) Services provided onsite to non-residents; 3) Services provided to residents offsite/or not routinely provided onsite If "No" to 1), 2), and 3), SERVDIET= 2; Else SERVDIET= 1.

See footnotes at end of section.

Services provided by long-term care services providers, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Dementia care units	Refers to the provision of dementia care units	…	1= Serves only residents with dementia 2= Provides dementia care units within larger community Derived from: [ONLYDEM, DEMWING] [Questions only in Version B] Q27. Does this residential care community only serve adults with dementia or Alzheimer's disease? Q28. [If no to Q27] Does this residential care community have a distinct unit, wing, or floor that is designated as a dementia or Alzheimer's care unit?	…	…	1= Serves only residents with dementia 2= Provides dementia care units within larger facility Derived from: [CRTFD_BED_CNT, ALZHMR_BED_CNT] Number of certified beds; Number of beds in a unit identified and dedicated by the facility for residents with Alzheimer's disease if CRTFD_BED_CNT= ALZHMR_BED_CNT then DSU= 1; else if ALZHMR_BED_CNT>0 then DSU= 2; else DSU= 0;

- - - Data not available.
… Category not applicable.
[1]For ADSC and RCC, the 2016 questionnaires used "mark all that apply" questions to ask about different services provided. Respondents indicated as many as three different ways that the ADSC or RCC provided a given service. For each service, four binary variables were created: three separate variables corresponding to three different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for service to be provided by outside providers, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, or arranging for service to be provided by outside providers, in addition to referral; 2) Not provided or provide only by referral.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in NSLTCP questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is CMS' CASPER.

Use of long-term care services, by sector

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Number of services users	Number of users of services provided by paid, regulated long-term care services providers	Q3. What is the total number of participants currently enrolled at this adult day services center at this location? Average daily attendance of participants (AVGPART) was used to create SIZE variable (number of people served), while this data item (TOTPART) was used to estimate the number of adult day services center participants in the United States; TOTPART was used as the denominator when computing percentages for all aggregate, participant-level measures.	Q5. What is the total number of residents currently living at this residential care community? Please include residents for whom a bed is being held while in the hospital. If you have respite care residents, please include them. This data item (TOTRES) was used to create SIZE variable (number of people served) and to estimate the number of residents in residential care communities in the United States; TOTRES was used as the denominator when computing percentages for all aggregate, resident-level measures.	Derived from: [patient ID from OBQI Case Mix Roll-up data] Number of home health patients whose episode of care ended at any time in CY (calendar year) 2015 (i.e., discharges), regardless of payment source; 1,101 agencies (9.1%) with missing OBQI Case Mix Roll-up data; This data item (TOTPAT) was used to create SIZE variable (number of people served) and to obtain the number of home health patients in the United States; TOTPAT was used as the denominator when computing percentages for selected aggregate, patient-level measures (i.e., age, sex, and patients needing any assistance with activities of daily living).	Derived from: [BENE_CNT from IPBS hospice data] Number of hospice patients for whom Medicare-certified hospice submitted a Medicare claim at any time in CY 2015; 309 agencies (7.1%)with missing IPBS hospice data; This data item (BENE_CNT) was used to create SIZE variable (number of people served) and to obtain the number of hospice patients in the United States; BENE_CNT was used as the denominator when computing percentages for all aggregate patient-level measures.	Number of current residents in certified beds in CASPER nursing home data. This data item (CNSUS_RSDNT_CNT) was used to create SIZE variable and to obtain the number of current nursing home residents in the United States; CNSUS_RSDNT_CNT was used when computing percentages for selected aggregate, resident-level measures (i.e., residents needing any assistance with activities of daily living).

See footnotes at end of section.

Use of long-term care services, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Number of services users—Con.	Additional data on home health patients and nursing home residents were available; these data contain information on a smaller number of home health patients (who are Medicare beneficiaries receiving services from Medicare-certified home health agencies) and current nursing home residents (who were residing in a Medicare- or Medicaid-certified nursing home on the last day of the third quarter of 2016, regardless of payment source. Residents whose last Minimum Data Set [MDS] assessment was a discharge assessment were excluded).	…	…	Derived [from: [BENE_CNT from IPBS home health data] Number of home health patients for whom Medicare-certified home health care agencies submitted a Medicare claim at any time in CY 2015; 1,088 agencies (8.9%) with missing IPBS home health data. This data item (BENE_CNT) was used as the denominator when computing percentages for selected aggregate, patient-level measures (i.e., race and ethnicity, diagnosed with chronic conditions).	…	Derived from: [resident ID from Minimum Data Set Active Resident Episode Table (MARET) data] Number of active nursing home residents; 131 nursing homes (0.8%) in CASPER was missing MARET data. This data item (NUMRES) was used as the denominator when computing percentages for selected aggregate, resident-level measures (i.e., age, sex, race and ethnicity, diagnosed with chronic conditions).

… Category not applicable.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in NSL TCP questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is CMS' CASPER.

Demographic characteristics of long-term care services users, by sector

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Age[1]	Number of long-term care services users under age 65	Derived from: [AG17LESSRC, AG18TO44RC, AG45TO54RC, AG55TO64RC] Q15. Of the participants currently enrolled at this center, what is the age breakdown? a. 17 years or younger? b. 18–44 years? c. 45–54 years? d. 55–64 years?	Derived from: [AG17LESSRC, AG18TO44RC, AG45TO54RC, AG55TO64RC] Q16. Of the residents currently living in this residential care community, what is the age breakdown? a. 17 years or younger? b. 18–44 years? c. 45–54 years? d. 55–64 years?	Derived from: [MSR_201_ VAL/ TOTPAT from OBQI Case Mix Roll-up data] Calculated age at the time of episode of care.	Derived from: [AGE_ LESS_65/ BENE_CNT from IPBS hospice data] Number of beneficiaries under age 65 utilizing the provider.	Derived from: [C_RSDNT_ AGE_NUM from MARET data] Calculated age at the time of nursing home assessment.
	Number of long-term care services users between ages 65 and 74	Q15. Of the participants currently enrolled at this center, what is the age breakdown?: e. 65–74 years?	Q16. Of the residents currently living in this residential care community, what is the age breakdown? e. 65–74 years?	Derived from: [MSR_201_ VAL/ TOTPAT from OBQI Case Mix Roll-up data] Calculated age at the time of episode of care.	Derived from: [AGE_65_69, AGE_70_74/ BENE_CNT from IPBS hospice data] Number of beneficiaries between ages 65 and 69 utilizing the provider; Number of beneficiaries between ages 70 and 74 utilizing the provider.	Derived from: [C_RSDNT_ AGE_NUM from MARET data] Calculated age at the time of nursing home assessment.
	Number of long-term care services users between ages 75 and 84	Q15. Of the participants currently enrolled at this center, what is the age breakdown? f. 75–84 years?	Q16. Of the residents currently living in this residential care community, what is the age breakdown? f. 75–84 years?	Derived from: [MSR_201_ VAL/ TOTPAT from OBQI Case Mix Roll-up data] Calculated age at the time of episode of care.	Derived from: [AGE_75_79, AGE_80_84/ BENE_CNT from IPBS hospice data] Number of beneficiaries between ages 75 and 79 utilizing the provider; Number of beneficiaries between ages 80 and 84 utilizing the provider.	Derived from: [C_RSDNT_ AGE_NUM from MARET data] Calculated age at the time of nursing home assessment.
	Number of long-term care services users aged 85 and over	Q15. Of the participants currently enrolled at this center, what is the age breakdown? g. 85 years and older?	Q16. Of the residents currently living in this residential care community, what is the age breakdown? g. 85 years and older?	Derived from: [MSR_201_ VAL/ TOTPAT from OBQI Case Mix Roll-up data] Calculated age at the time of episode of care.	Derived from: [AGE_ OVER_84/ BENE_CNT from IPBS hospice data] Number of beneficiaries over age 84 utilizing the provider.	Derived from: [C_RSDNT_ AGE_NUM from MARET data] Calculated age at the time of nursing home assessment.

See footnotes at end of section.

Demographic characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Race and ethnicity[2]	Number of long-term care services users of Hispanic or Latino origin	Q13. Of the participants currently enrolled at this center, what is the racial-ethnic breakdown? a. Hispanic or Latino, of any race?	Q14. Of the residents currently living in this residential care community, what is the racial-ethnic breakdown? a. Hispanic or Latino, of any race?	Derived from: [RACE_ HISPN/ BENE_CNT from IPBS home health data] Number of Hispanic beneficiaries utilizing the provider.	Derived from: [RACE_ HISPN/ BENE_CNT from IPBS hospice data] Number of Hispanic beneficiaries utilizing the provider.	Derived from: [A1000D_ HSPNC_CD/ TOTRES from MARET data] Number of Hispanic residents. Coded so that indicator includes all Hispanic, regardless of race indicator.
	Number of long-term care services users who are non-Hispanic white	Q13. Of the participants currently enrolled at this center, what is the racial-ethnic breakdown? f. White, not Hispanic or Latino?	Q14. Of the residents currently living in this residential care community, what is the racial-ethnic breakdown? f. White, not Hispanic or Latino?	Derived from: [RACE_ WHITE/ BENE_CNT from IPBS home health data] Number of non-Hispanic white beneficiaries utilizing the provider.	Derived from: [RACE_ WHITE/ BENE_CNT from IPBS hospice data] Number of non-Hispanic white beneficiaries utilizing the provider.	Derived from: [A1000F_ WHT_CD/ TOTRES from MARET data] Number of white residents. Coded so that indicator includes only non-Hispanic white.
	Number of long-term care services users who are non-Hispanic black	Q13. Of the participants currently enrolled at this center, what is the racial-ethnic breakdown? d. Black, not Hispanic or Latino?	Q14. Of the residents currently living in this residential care community, what is the racial-ethnic breakdown? d. Black, not Hispanic or Latino?	Derived from: [RACE_ BLACK/ BENE_CNT from IPBS home health data] Number of non-Hispanic black beneficiaries utilizing the provider.	Derived from: [RACE_ BLACK/ BENE_CNT from IPBS hospice data] Number of non-Hispanic black beneficiaries utilizing the provider.	Derived from: [A1000C_ AFRCN_AMRCN_CD/ TOTRES from MARET data] Number of African-American residents. Coded so that indicator includes only non-Hispanic African American.

See footnotes at end of section.

Demographic characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Race and ethnicity[2]—Con.	Number of long-term care services users who are of a race other than white or black	Derived from: [AIANRC, ASIANRC, NHOPIRC, MULTIRACERC, OTHERRC, UNKNOWNRC] Q13. Of the participants currently enrolled at this center, what is the racial-ethnic breakdown? b. American Indian or Alaska Native, not Hispanic or Latino? c. Asian, not Hispanic or Latino? e. Native Hawaiian or Other Pacific Islander, not Hispanic or Latino? g. Two or more races, not Hispanic or Latino? h. Some other category reported in this center's system? i. Not reported (race and ethnicity unknown)?	Derived from: [AIANRC, ASIANRC, NHOPIRC, MULTIRACERC, OTHERRC, UNKNOWNRC] Q14. Of the residents currently living in this residential care community, what is the racial-ethnic breakdown? b. American Indian or Alaska Native, not Hispanic or Latino? c. Asian, not Hispanic or Latino? e. Native Hawaiian or Other Pacific Islander, not Hispanic or Latino? g. Two or more races, not Hispanic or Latino? h. Some other category reported in this residential care community's system? i. Not reported (race and ethnicity unknown)?	Derived from: [RACE_ NATIND, RACE_ API, RACE_ OTHER/ BENE_CNT from IPBS home health] Number of American Indian or Alaska Native, Asian Pacific Islander, and other beneficiaries not elsewhere classified utilizing the provider.	Derived from: [RACE_ NATIND, RACE_ API, RACE_ OTHER/ BENE_CNT from IPBS hospice data] Number of American Indian or Alaska Native, Asian Pacific Islander, and other beneficiaries not elsewhere classified utilizing the provider.	Derived from: [A1000A_ AMRCN_INDN_AK_NTV_CD, A1000B_ASN_CD, A1000E_ NTV_HI_PCFC_ISLNDR_CD/ TOTRES from MARET data] Number of American Indian or Alaska Native, Asian, and Native Hawaiian or Pacific Islander residents. Coded so that indicator includes only non-Hispanic "other" races.

See footnotes at end of section.

Demographic characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Sex[1]	Number of long-term care services users who are male	Q14. Of the participants currently enrolled at this center, what is the sex breakdown? a. Male?	Q15. Of the residents currently living in this residential care community, what is the sex breakdown? a. Male?	Derived from: [MSR_202_VAL/TOTPAT from OBQI Case Mix Roll-up data] "Patient History, Demographics, Gender: Male".	Derived from: [MALE/BENE_CNT from IPBS hospice data] Number of male beneficiaries utilizing the provider.	Derived from: [A0800_GNDR_CD/ TOTRES from MARET data] Identifies the resident's sex: 1= Male
	Number of long-term care services users who are female	Q14. Of the participants currently enrolled at this center, what is the sex breakdown? b. Female?	Q15. Of the residents currently living in this residential care community, what is the sex breakdown? b. Female?	Derived from: [MSR_202_VAL/TOTPAT from OBQI Case Mix Roll-up data] "Patient History, Demographics, Gender: Female".	Derived from: [FEMALE/BENE_CNT from IPBS hospice data] Number of female beneficiaries utilizing the provider.	Derived from: [A0800_GNDR_CD/ TOTRES from MARET data] Identifies the resident's sex: 1= Female
Medicaid as payer source[3]	Number of long-term care users with Medicaid paying for some or all long-term care services received	Q18. During the last 30 days, for how many of the participants currently enrolled at this adult day services center did Medicaid pay for some or all of their services received at this center? Please include any participants that received funding from a Medicaid state plan, Medicaid waiver, Medicaid managed care, or California regional center.	Q10. During the last 30 days, for how many of the residents currently living in this residential care community, did Medicaid pay for some or all of their services received at this center? If none, enter "0."	Derived from: [MSR_207_VAL/TOTPAT from OBQI Case Mix Roll-up data] Number of patients coded as having Medicaid as payer source if they had any Medicaid as traditional fee-for-service or HMO (health maintenance organization) or managed care as current payment sources for home care at start of care or resumption of care.	- - -	Derived from: [CNSUS_MDCD_CNT/ TOTRES] Number of residents whose primary payer source is Medicaid.

- - - Data not available.

[1]For ADSC and RCC, cases with missing data were imputed. For HHA and NH, MARET data are individual resident-level data, and OBQI Case Mix Roll-up data are also individual patient-level data. When rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching (HHA–9.1%; NH–0.8%), no facilities or agencies had missing data. For HOS, the IPBS–Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (7.1%), no agencies had missing data.

[2]For ADSC and RCC, cases with missing data were imputed. For NH, MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 0.9% of facilities, including facilities with missing data due to nonmatching (NH–0.8%), had missing data. For HHA and HOS, IPBS home health data were used; race and ethnicity data in OBQI Case Mix Roll-up do not match race and ethnicity categories used in other data sources. IPBS home health data and IPBS hospice data contain information on home health patients and hospice patients at the provider level, respectively; other than cases with missing data due to nonmatching (HHA–8.9%; HOS–7.1%), no agencies had missing data.

[3]For HHA, OBQI Case Mix Roll-up data are individual patient-level data; when rolling up individual user-level data to provider ID, agencies with 20.0% or more of their patient information missing for a given data item were coded as missing. Other than 9.1% of cases missing due to nonmatching, no agencies had missing data.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in NSLTCP questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is CMS' CASPER.

Health and functional characteristics of long-term care services users, by sector

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Diagnosed with Alzheimer disease or dementia[1]	Number of long-term care services users diagnosed with Alzheimer disease or dementia	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? a. Alzheimer's disease or other dementias	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? a. Alzheimer's disease or other dementias	Derived from: [ALZRDSD_ BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for Alzheimer's broad classification, including dementia and utilizing the provider (Alzheimer's disease and related disorders or senile dementia).	Derived from: [ALZRDSD_ BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for Alzheimer's broad classification, including dementia and utilizing the provider (Alzheimer's disease and related disorders or senile dementia).	Derived from: [I4200_ ALZHMR_CD, I4800_ DMNT_CD/ TOTRES from MARET data] Indicates whether the resident had an active diagnosis of Alzheimer's disease in the last 7 days or indicates whether the resident had an active diagnosis of non-Alzheimer's dementia such as vascular or multi-infarct dementia; mixed dementia; or frontotemporal dementia such as Pick's disease and dementia related to stroke, Parkinson's disease, or Creutzfeldt-Jakob disease in the last 7 days.
Diagnosed with depression[1]	Number of long-term care services users diagnosed with depression	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? g. Depression	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? g. Depression	Derived from: [DEPR_BENE_ CNT / BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for depression utilizing the provider.	Derived from: [DEPR_BENE_ CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for depression utilizing the provider.	Derived from: [I5800_ DPRSN_CD/ TOTRES from MARET data] Indicates if the resident had an active diagnosis of depression (other than bipolar) in the last 7 days.
Diagnosed with diabetes[1]	Number of long-term care services users diagnosed with diabetes	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? h. Diabetes	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? h. Diabetes	Derived from: [DIAB_BENE_ CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for diabetes utilizing the provider.	Derived from: [DIAB_BENE_ CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for diabetes utilizing the provider.	Derived from: [I2900_DM_ CD/ TOTRES from MARET data] Indicates whether the resident had an active diagnosis of diabetes mellitus (diabetic retinopathy or neuropathy) in the last 7 days.

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Diagnosed with arthritis[1]	Number of long-term care services users diagnosed with arthritis	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? b. arthritis	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? b. arthritis	Derived from: [RAOA_BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for rheumatoid or osteoarthritis and utilizing the provider.	Derived from: [RAOA_BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for rheumatoid or osteoarthritis and utilizing the provider.	Derived from: [I3700_ARTHTS_CD/ TOTRES from MARET data] Indicates whether the resident had an active diagnosis of arthritis in the last 7 days.
Diagnosed with asthma[1]	Number of long-term care services users diagnosed with asthma	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? c. asthma	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? c. asthma	Derived from: [ASTHMA_BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for asthma and utilizing the provider.	Derived from: [ASTHMA_BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for asthma and utilizing the provider.	---
Diagnosed with chronic kidney disease[1]	Number of long-term care services users diagnosed with chronic kidney disease	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? e. chronic kidney disease	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? e. chronic kidney disease	Derived from: [CKD_BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for chronic kidney disease and utilizing the provider.	Derived from: [CKD_BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for chronic kidney disease and utilizing the provider.	---
Diagnosed with chronic obstructive pulmonary disease (COPD)[1]	Number of long-term care services users diagnosed with COPD	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? f. COPD (chronic bronchitis or emphysema)	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? f. COPD (chronic bronchitis or emphysema)	Derived from: [COPD_BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for COPD and utilizing the provider.	Derived from: [COPD_BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for COPD and utilizing the provider.	---

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Diagnosed with heart disease[1]	Number of long-term care services users diagnosed with heart disease	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? i. heart disease (for example, congestive heart failure, coronary or ischemic heart disease, heart attack, stroke)	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? i. heart disease (for example, congestive heart failure, coronary or ischemic heart disease, heart attack, stroke)	Derived from: [IHD_BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for ischemic heart disease and utilizing the provider.	Derived from: [IHD_BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for ischemic heart disease and utilizing the provider.	Derived from: [I0400_CAD_CD, I0600_HRT_FAILR_CD, I4500_STRK_CD/ TOTRES from MARET data] Indicates whether the resident had an active diagnosis of coronary artery disease, congestive heart failure, or stroke (CVA or TIA or Stroke) in the last 7 days.
Diagnosed with high blood pressure or hypertension[1]	Number of long-term care services users diagnosed with high blood pressure or hypertension	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? j. high blood pressure or hypertension	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? j. high blood pressure or hypertension	Derived from: [HYPERT_BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for hypertension and utilizing the provider.	Derived from: [HYPERT_BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for hypertension and utilizing the provider.	Derived from: [I0700_HYPRTNSN_CD/ TOTRES from MARET data] Indicates whether the resident had an active diagnosis of hypertension in the last 7 days.
Diagnosed with osteoporosis[1]	Number of long-term care services users diagnosed with osteoporosis	Q17. Of the participants currently enrolled at this center, about how many have been diagnosed with each of the following conditions? o. osteoporosis	Q18. Of the residents currently living in this residential care community, about how many have been diagnosed with each of the following conditions? o. osteoporosis	Derived from: [OST_BENE_CNT/ BENE_CNT from IPBS home health data] Number of beneficiaries meeting the chronic condition algorithm for osteoporosis and utilizing the provider.	Derived from: [OST_BENE_CNT/ BENE_CNT from IPBS hospice data] Number of beneficiaries meeting the chronic condition algorithm for osteoporosis and utilizing the provider.	Derived from: [I3800_OSTPRS_CD/ TOTRES from MARET data] Indicates whether the resident had an active diagnosis of osteoporosis in the last 7 days.

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Assistance with eating[2]	Number of long-term care services users needing any assistance with eating. Assistance refers to needing any help or supervision from another person or use of assistive devices.	Q16. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? b. With eating, like cutting up food	Q17. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? b. With eating, like cutting up food	Derived from: [MSR_342_ VAL/ TOTPAT from OBQI Case Mix Roll-up data] Number of patients coded as needing any assistance with eating if they: are able to feed self independently but require meal setup or intermittent assistance or supervision from another person; require a liquid, pureed, or ground meat diet; are unable to feed self and must be assisted or supervised throughout the meal or snack; are able to take in nutrients orally and receive supplemental nutrients through a nasogastric tube or gastrostomy; are unable to take in nutrients orally and are fed nutrients through a nasogastric tube or gastrostomy; or are unable to take in nutrients orally or by tube feeding.	- - -	Derived from: [CNSUS_ EATG_ ASTD_CNT, CNSUS_ EATG_ DPNDNT_CNT/ CNSUS_RSDNT_CNT] Number of residents coded as needing any assistance with eating if they require supervision, limited or extensive assistance from staff, or full staff performance every time during entire 7-day period. If the facility routinely provides “setup” activities (e.g., opening containers, buttering bread, and organizing the tray) and if this is the extent of assistance provided for the resident, the resident was coded as not needing any assistance with eating.

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Assistance with dressing[2]	Number of long-term care services users needing any assistance with dressing. Assistance refers to needing any help or supervision from another person or use of assistive devices.	Q16. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? c. With dressing	Q17. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? c. With dressing	Derived from: [MSR_335_VAL & MSR_336_VAL/ TOTPAT from OBQI Case Mix Roll-up data] Number of patients coded as needing any assistance with dressing if: they are able to dress upper and lower body without assistance, if clothing and shoes are laid out or handed to the patient; someone must help the patient put on upper body clothing or undergarments, slacks, socks or nylons, and shoes; or patient depends entirely upon another person to dress the upper and lower body.	- - -	Derived from: [CNSUS_DRS_ASTD_CNT; CNSUS_DRS_DPNDNT_CNT/ CNSUS_RSDNT_CNT] Number of residents coded as needing any assistance with dressing if they require supervision, limited or extensive assistance from staff, or full staff performance every time during entire 7-day period. If the facility routinely set out clothes for all residents, and this is the only assistance the resident receives, the resident was coded as not needing any assistance with dressing.

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Assistance with toileting[2]	Number of long-term care services users needing any assistance with using bathroom. Assistance refers to needing any help or supervision from another person or use of assistive devices.	Q16. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? e. With using the bathroom (toileting)	Q17. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? e. With using the bathroom (toileting)	Derived from: [MSR_339_ VAL/ TOTPAT from OBQI Case Mix Roll-up data] Number of patients coded as needing any assistance with toileting if: the patient is able to manage toileting hygiene and clothing management without assistance if supplies or implements are laid out for the patient; someone must help the patient to maintain toileting hygiene or adjust clothing; or the patient depends entirely upon another person to maintain toileting hygiene. Toileting hygiene refers to the patient's current ability to maintain perineal hygiene safely, or adjust clothes or incontinence pads before and after using toilet, commode, bedpan, and urinal. If managing ostomy, it includes cleaning area around stoma, but not managing equipment.	- - -	Derived from: [CNSUS_ TOILT_ ASTD_CNT, CNSUS_ TOILT_ DPNDNT_CNT/ CNSUS_RSDNT_CNT] Number of residents coded as needing any assistance with toileting if they require supervision, limited or extensive assistance from staff, or full staff performance every time during entire 7-day period. If all that is done for the resident is to open a package (e.g., a clean sanitary pad), the resident was coded as not needing any assistance with toileting.

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Assistance with bathing[2]	Number of long-term care services users needing any assistance with bathing or showering. Assistance refers to needing any help or supervision from another person or use of assistive devices.	Q16. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? d. With bathing or showering	Q17. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? d. With bathing or showering	Derived from: [MSR_337_VAL from OBQI Case Mix Roll-up data] Number of patients coded as needing any assistance with bathing if the patient is: with the use of devices, able to bathe self in shower or tub independently, including getting in and out of the tub or shower; able to bathe in shower or tub with the intermittent assistance of another person; able to participate in bathing self in shower or tub, but requires presence of another person throughout the bath for assistance or supervision; unable to use the shower or tub, but able to bathe self independently with or without the use of devices at the sink, in chair, or on commode; unable to use the shower or tub, but able to participate in bathing self in bed, at the sink, in bedside chair, or on commode, with the assistance or supervision of another person throughout the bath; or unable to participate effectively in bathing and is bathed totally by another person.	- - -	Derived from: [CNSUS_BATHG_ASTD_CNT, CNSUS_BATHG_DPNDNT_CNT/CNSUS_RSDNT_CNT] Number of residents coded as needing any assistance with bathing if they require supervision, physical help limited to transfer only or in part of bathing activity, or full staff performance every time during entire 7-day period. If the facility provides setup assistance to all residents, such as drawing water for a tub bath or laying out bathing materials, and the resident requires no other assistance, the resident was coded as not needing any assistance with bathing.

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Assistance with walking or locomotion[2]	Number of long-term care services users needing any assistance with walking or locomotion. Assistance refers to needing any help or supervision from another person or use of assistive devices.	Q16. Of the participants currently enrolled at this center, about how many now need any assistance at their usual residence or this center in each of the following activities? f. With locomotion or walking—this includes using a cane, walker, or wheelchair, or help from another person	Q17. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? f. With locomotion or walking—this includes using a cane, walker, or wheelchair, or help from another person	Derived from: [MSR_341_VAL from OBQI Case Mix Roll-up data] Number of patients coded as needing any assistance with ambulation or locomotion if they are: able to independently walk on even and uneven surfaces and negotiate stairs with or without railings without use of an assistive device, with the use of a one-handed assistive device, or with the use of a two-handed device; able to walk only with the assistance of another person at all times; chairfast, unable to ambulate but are able to wheel self independently; chairfast, unable to ambulate and unable to wheel self; or bedfast, unable to ambulate or be up in a chair.	- - -	Derived from: [CNSUS_INDPNDNT_MBLTY_CNT, CNSUS_RSDNT_CNT] Number of residents who require no help or oversight; or help or oversight was provided only one or two times during the past 7 days. Do not include residents who use a cane, walker, or crutch. Subtracted from CNSUS_RSDNT_CNT.

See footnotes at end of section.

Health and functional characteristics of long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Assistance with transferring[2]	Number of long-term care services users needing any assistance with transferring. Assistance refers to needing any help or supervision from another person or use of assistive devices.	Q16. Of the participants currently enrolled at this center, about how many now need any assistance at their usual residence or this center in each of the following activities? a. With transferring in and out of a chair	Q17. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? a. With transferring in and out of a bed or chair	Derived from: [MSR_340_ VAL from OBQI Case Mix Roll-up data] Number of patients coded as needing any assistance with transferring if they are: able to transfer with minimal human assistance or with use of an assistive device; able to bear weight and pivot during the transfer process but unable to transfer self; unable to transfer self and are unable to bear weight or pivot when transferred by another person; bedfast, unable to transfer but are able to turn and position self in bed; bedfast, unable to transfer and are unable to turn and position self.	- - -	Derived from: [CNSUS_ TRNSFR_ASTD_CNT, CNSUS_ TRNSFR_DPNDNT_ CNT/ CNSUS_RSDNT_CNT] Number of residents who require help moving between surfaces, including, to or from bed, chair, wheelchair, or standing positions. Excludes transfers to or from the bath or toilet. If the facility routinely provides "setup" assistance to all residents, such as handing the equipment (e.g., sliding board) to the resident, and this is the only assistance required, the resident was coded as not needing assistance with transferring.

- - - Data not available.

[1]For NH, MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. From 8.6% (for diabetes) to 10.2% (for osteoporosis and arthritis) of facilities (including 0.8% of missing data due to nonmatching) had missing data. For HHA and HOS, IPBS home health data and IPBS hospice data contain information on home health patients and hospice patients at the provider level, respectively; other than cases with missing data due to nonmatching (HHA–8.9%, HOS–7.1%), no agencies had missing data.

[2]For HHA, OBQI Case Mix Roll-up data are individual patient-level data; when rolling up individual user-level data to provider ID number, agencies with 20.0% or more of their patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching, (HHA–9.1%), no agencies had missing data.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in NSLTCP questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is CMS' CASPER.

Adverse events among long-term care services users, by sector

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Overnight hospital stay[1]	Number of long-term care users who were discharged from an overnight hospital stay	Q20. Of the participants currently enrolled at this center, about how many were discharged from an overnight hospital stay in the last 90 days? Exclude trips to the hospital emergency department that did not result in an overnight hospital stay.	Q20. Of the residents currently living in this residential care community, about how many were discharged from an overnight hospital stay in the last 90 days? Exclude trips to the hospital emergency department that did not result in an overnight hospital stay.	Derived from: [MSR_447_VAL from OBQI Case Mix Roll-up data] To which inpatient facility has the patient been admitted? 1= Hospital	- - -	Derived from: [PRVDRNUM hospital codes and DSCHRGDT from 2014 Medicare Provider Analysis and Review (MedPAR) inpatient claims data merged to MARET] Overnight hospital stay defined as residents with at least one inpatient hospitalization claim discharged after the nursing home admission date within the 2014 calendar year.
Emergency department visits[2]	Number of long-term care users who had emergency department visits	Q19. Of the participants currently enrolled at this center, about how many were treated in a hospital emergency department in the last 90 days?	Q19. Of the residents currently living in this residential care community, about how many were treated in a hospital emergency department in the last 90 days?	Derived from: [MSR_426_VAL from OBQI Case Mix Roll-up data] Since the last time Outcome and Assessment Information Set data were collected, has the patient utilized a hospital emergency department (includes holding or observation)?	- - -	- - -

See footnotes at end of section.

Adverse events among long-term care services users, by sector—Con.

Characteristic	Definition	Survey data		Administrative data		
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)
Falls[3]	Number of long-term care users who had falls	Q25. As best you know, about how many of your current participants had a fall in the last 90 days? Please include falls that occurred in your center or off-site, whether or not the participant was injured, and whether or not anyone saw the participant fall or caught them. Please just count one fall per participant who fell, even if the participant fell more than one time. If one of your participants fell during the last 90 days, but is currently in the hospital or rehabilitation facility, please include that person in your count. [Question only in Version A]	Q23. As best you know, about how many of your current residents had a fall in the last 90 days? [Question only in Version A]	- - -	- - -	Derived from: [J1800_FALL_LAST_ASMT_CD/ TOTRES from MARET data] Has the resident had any falls since admission or the prior assessment, whichever is more recent?
Length of stay[4]	Short-stay residents had been admitted less than 100 days from assessment date and long-stay residents had been admitted for 100 days or more	- - -	- - -	- - -	- - -	Derived from: [LAST_TRGT_DT and A1600_ENTRY_DT from MARET data] if LOS<= 100 then SHORTSTAY_100= 1; else if LOS>100 then SHORTSTAY_100= 0;

- - - Data not available.
[1]For HHA, OBQI Case Mix Roll-up data are individual patient-level data; when rolling up individual user-level data to provider ID, facilities or agencies with 20.0% or more of their patient information missing for a given data item were coded as missing. About 9.5% of agencies (including 9.1% of missing data due to nonmatching) had missing data.
[2]For HHA, OBQI Case Mix Roll-up data are individual patient-level data; when rolling up individual user-level data to provider ID, facilities or agencies with 20.0% or more of their patient information missing for a given data item were coded as missing. About 10.4% of agencies (including 9.1% of missing data due to nonmatching) had missing data.
[3]For NH, MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 8.6% of facilities (including 0.8% of missing data due to nonmatching) had missing data.
[4]For NH, MARET data are individual resident-level data that were not rolled up to the user-level data. This variable was used to compare short- and long-stay nursing home residents on various user characteristics.

NOTES: For survey data, (ADSC and RCC), question numbers refer to the order in NSLTCP questionnaires. Questionnaires and detailed documentation on survey variables are available from: https://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm. For administrative data (HHA, HOS, and NH), when the data source is not specified, the source is CMS' CASPER.

SOURCE: NCHS, National Study of Long-Term Care Providers, 2015–2016.

Appendix III. Detailed Tables

Table V. Long-term care services providers, by geographical and organizational characteristics and sector: United States, 2015–2016

Characteristic	Adult day services center	Standard error	Home health agency	Standard error	Hospice	Standard error	Nursing home	Standard error	Residential care community	Standard error
					Number					
Number of providers[1]	4,600	3	12,200	. . .	4,300	. . .	15,600	. . .	28,900	68
Number of beds or licensed maximum capacity[1]	298,400	2,883	. . .	. . .	. . .	. . .	1,660,400	. . .	996,100	8,787
Average number of beds or licensed maximum capacity[2,3]	66.0	0.6	- - -	- - -	- - -	- - -	106.0	0.5	35.0	0.3
Average number of people served[3,4]										
Daily	42.0	0.4	. . .	. . .	. . .	. . .	86.0	0.4	28.0	0.3
Annually	. . .	. . .	401.0	9.8	353.0	10.7	. . .	. . .	. . .	. . .
Region					Percent distribution					
Northeast	20.1	0.0	8.6	0.3	10.4	0.5	16.8	0.3	8.6	0.1
Midwest	16.9	0.0	27.4	0.4	21.8	0.6	33.0	0.4	22.6	0.1
South	32.2	0.0	45.6	0.5	39.4	0.7	34.8	0.4	28.0	0.1
West	30.8	0.0	18.4	0.4	28.6	0.7	15.4	0.3	40.8	0.1
Metropolitan statistical area status										
Metropolitan	84.8	0.4	84.8	0.3	79.0	0.6	71.5	0.4	82.5	0.6
Micropolitan	10.2	0.3	8.1	0.3	12.8	0.5	13.9	0.3	10.6	0.5
Neither	5.0	0.2	7.2	0.2	8.2	0.4	14.6	0.3	6.9	0.4
Ownership										
For profit	44.7	0.6	80.6	0.4	63.0	0.7	69.3	0.4	81.0	0.7
Nonprofit	50.8	0.6	14.8	0.3	22.8	0.6	23.5	0.3	17.7	0.7
Government and other	4.6	0.2	4.6	0.2	14.1	0.5	7.2	0.2	1.3	0.2
People served[5]					Number					
Category 1	45.0	0.5	44.8	0.5	34.2	0.8	5.7	0.2	65.0	0.3
Category 2	48.6	0.6	25.8	0.4	34.0	0.8	63.7	0.4	30.7	0.4
Category 3	6.4	0.3	29.4	0.4	31.8	0.7	30.6	0.4	4.3	0.2
Certification					Percent					
Medicare-certified	. . .	. . .	98.7	0.1	- - -	- - -	97.5	0.1	. . .	. . .
Medicaid-certified	76.9	0.5	78.4	0.4	- - -	- - -	95.2	0.2	48.3	0.8
Chain-affiliated	42.6	0.6	- - -	- - -	- - -	- - -	57.6	0.4	57.2	1.0

. . . Category not applicable.
- - - Data not available.
0.0 Quantity more than zero but less than 0.05.
[1]Estimates are rounded as whole numbers to the nearest hundred.
[2]For adult day services centers, capacity is based on licensed maximum capacity. For nursing homes and residential care communities, capacity is based on number of licensed or certified beds.
[3]Averages are based on unrounded numbers.
[4]The estimated number of adult day services center participants represents current participants in 2016.The estimated number of home health patients represents patients who ended care in 2015 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2015. The estimated number of nursing home residents represents current residents in 2016. The estimated number of residential care community residents represents current residents in 2016.
[5]For adult day services centers, nursing homes, and residential care communities, number of people served is based on current users on any given day in 2016, and the categories are 1–25, 26–100, and 101 or more. For home health agencies and hospices, number of people served is based on number of patients in 2015, and categories are 1–100, 101–300, and 301 or more. Home health patients are patients who received and ended care anytime in 2015. Hospice patients are patients who received care anytime in 2015.

NOTES: Percent distributions may not add to 100 because of rounding. Percentages are based on unrounded estimates.

SOURCE: NCHS, National Study of Long-Term Care Providers, 2015–2016.

Table VI. Staffing characteristics of long-term care services providers, by staff type and sector: United States, 2016

Characteristic	Adult day services center	Standard error	Home health agency	Standard error	Hospice	Standard error	Nursing home	Standard error	Residential care community	Standard error
					Number					
Total number of nursing and social work employee FTEs	19,900	228	145,000	1,572	85,600	1,521	945,700	4,158	298,800	3,969
Total nursing and social work employee FTEs					Percent distribution					
Registered nurse	20.6	0.3	53.0	0.4	48.0	0.3	11.9	0.1	6.1	0.2
Licensed practical nurse or licensed vocational nurse	11.3	0.2	19.5	0.3	8.8	0.2	22.4	0.1	9.9	0.2
Aide	56.8	0.4	25.1	0.4	31.8	0.3	63.9	0.1	83.3	0.3
Social worker	11.3	0.2	2.5	0.0	11.4	0.1	1.8	0.0	0.8	0.0
Providers with one or more employee FTEs					Percent					
Registered nurse	62.1	0.6	99.7	0.1	100.0	0.0	99.1	0.1	39.4	0.8
Licensed practical nurse or licensed vocational nurse	45.8	0.6	70.7	0.4	62.5	0.7	98.3	0.1	35.7	0.7
Aide	67.3	0.6	89.9	0.3	97.8	0.2	98.8	0.1	81.7	0.9
Social worker	39.9	0.6	46.7	0.5	99.3	0.1	76.8	0.3	10.2	0.5
Activities director or staff	84.8	0.5	---	---	---	---	96.7	0.1	58.3	0.9
Employee hours per resident or participant per day					Mean					
Registered nurse	0.34	0.01	---	---	---	---	0.54	0.01	0.20	0.01
Licensed practical nurse or licensed vocational nurse	0.21	0.01	---	---	---	---	0.85	0.01	0.17	0.01
Aide	0.86	0.02	---	---	---	---	2.41	0.01	2.27	0.10
Social worker	0.13	0.00	---	---	---	---	0.08	0.00	0.03	0.00
Activities director or staff	0.67	0.01	---	---	---	---	0.19	0.00	0.31	0.02

0.0 or 0.00 Quantity more than zero but less than 0.05.
- - - Data not available.

NOTES: FTE is full-time equivalent. Percent distributions may not add to 100 because of rounding. Percentages are based on unrounded estimates.

SOURCE: NCHS, National Study of Long-Term Care Providers, 2015–2016.

Table VII. Provision of services by long-term care services providers, by type of service and sector: United States, 2016

Service provided	Adult day services center	Standard error	Home health agency	Standard error	Hospice	Standard error	Nursing home	Standard error	Residential care community	Standard error
					Percent					
Social work	52.1	0.6	82.5	0.3	100.0	—	88.5	0.3	51.1	1.1
Mental health or counseling	33.8	0.6	- - -	- - -	97.0	0.3	87.6	0.3	55.0	1.1
Therapeutic	46.7	0.6	96.3	0.2	98.2	0.2	99.5	0.1	71.4	1.0
Skilled nursing or nursing	64.5	0.6	100.0	—	100.0	—	100.0	—	66.1	1.0
Pharmacy or pharmacist	30.0	0.6	4.9	0.2	- - -	- - -	97.2	0.1	83.6	0.8
Hospice	20.8	0.5	5.7	0.2	. . .	. . .	80.7	0.3	67.7	1.0
Dietary and nutritional	67.8	0.6	- - -	- - -	- - -	- - -	100.0	—	82.8	0.9
Dementia-specific units										
Only serve residents with dementia	. . .	. . .	. . .	. . .	. . .	. . .	0.4	0.1	8.7	0.8
Have a distinct unit, wing, or floor designated for dementia special care	. . .	. . .	. . .	. . .	. . .	. . .	14.9	0.3	14.3	0.8

— Quantity zero.
- - - Data not available.
. . . Category not applicable.

NOTES: Percent distributions may not add to 100 because of rounding. Percentages are based on unrounded estimates.

SOURCE: NCHS, National Study of Long-Term Care Providers, 2015–2016.

Table VIII. Long-term care services users, by selected characteristics and sector: United States, 2015–2016

Characteristic[1]	Adult day services center	Standard error	Home health agency	Standard error	Hospice	Standard error	Nursing home	Standard error	Residential care community	Standard error
					Number					
Users[2]	286,300	3,180	4,455,700	109,617	1,426,000	43,639	1,347,600	6,769	811,500	8,343
Age					Percent					
Under 65	37.4	0.6	18.1	0.2	5.5	0.1	16.5	0.1	6.6	0.3
65 and over	62.5	0.6	81.9	0.2	94.6	0.1	83.5	0.1	93.4	0.3
65–74	20.3	0.2	26.8	0.1	17.5	0.1	18.2	0.1	11.0	0.3
75–84	25.9	0.4	29.9	0.1	29.3	0.1	26.7	0.1	30.3	0.5
85 and over	16.3	0.3	25.2	0.2	47.8	0.2	38.6	0.2	52.1	0.7
Sex					Percent distribution					
Men	41.8	0.2	39.1	0.1	41.3	0.1	35.4	0.1	29.4	0.3
Women	58.2	0.2	60.9	0.1	58.7	0.1	64.6	0.1	70.6	0.3
Race and ethnicity										
Hispanic	22.7	0.5	7.4	0.2	5.5	0.4	5.4	0.1	3.1	0.2
Non-Hispanic white	42.0	0.6	76.1	0.3	83.6	0.5	75.1	0.3	81.4	0.8
Non-Hispanic black	15.4	0.3	12.9	0.2	8.2	0.2	14.3	0.2	4.1	0.2
Other[3]	18.1	0.6	3.7	0.1	2.7	0.1	5.1	0.1	3.7	0.3
Diagnosis[4]					Percent					
Alzheimer disease or other dementias	30.9	0.5	32.3	0.2	44.5	0.3	47.8	0.1	41.9	0.7
Arthritis	37.9	0.7	59.6	0.2	28.7	0.2	26.2	0.1	42.4	0.8
Asthma	8.3	0.2	23.7	0.1	8.4	0.1	---	---	6.8	0.2
Chronic kidney disease	7.2	0.2	46.9	0.1	35.9	0.2	---	---	8.3	0.3
COPD	10.0	0.3	31.9	0.2	20.7	0.2	---	---	14.0	0.4
Depression	28.2	0.5	39.4	0.1	23.4	0.2	46.3	0.1	30.9	0.6
Diabetes	31.4	0.4	45.1	0.2	27.0	0.2	32.0	0.1	18.1	0.3
Disease[5]	27.1	0.5	55.0	0.2	38.7	0.3	38.1	0.1	34.3	0.6
High blood pressure or hypertension	50.3	0.6	88.9	0.1	51.0	0.3	71.5	0.1	51.2	0.7
Osteoporosis	21.2	0.6	15.3	0.1	7.2	0.1	12.3	0.1	23.7	0.6
Need assistance in physical functioning										
Eating	23.2	0.5	61.2	0.4	---	---	59.9	0.3	19.2	0.5
Bathing	38.6	0.7	97.2	0.1	---	---	96.7	0.1	63.6	0.8
Dressing	36.0	0.6	92.0	0.2	---	---	92.7	0.1	48.2	0.7
Toileting	33.5	0.6	81.1	0.4	---	---	89.3	0.1	40.0	0.7
Walking or locomotion	45.8	0.6	95.4	0.1	---	---	92.0	0.1	56.5	0.8
Transferring in and out of a chair or bed	28.5	0.6	91.3	0.2	---	---	86.8	0.1	29.2	0.7

See footnotes at end of table.

Table VIII. Long-term care services users, by selected characteristics and sector: United States, 2015–2016—Con.

Characteristic[1]	Adult day services center	Standard error	Home health agency	Standard error	Hospice	Standard error	Nursing home	Standard error	Residential care community	Standard error
					Percent					
Medicaid as payer source	65.8	0.7	9.5	0.3	---	---	61.8	0.2	16.5	0.6
Adverse event										
Overnight hospital stay[6]	4.4	0.1	15.7	0.1	---	---	14.4	0.0	8.3	0.2
Emergency department visit	7.2	0.1	15.3	0.1	---	---	---	---	14.2	0.3
Fall	7.8	0.4	---	---	---	---	16.1	0.1	21.5	0.7

- - - Data not available.
0.0 Quantity more than zero but less than 0.05.
[1]All cases with missing data were removed from the denominator when calculating percentages. For variables that had missing data for more than 10% of all cases, the percentage missing is reported in a footnote.
[2]Estimates are rounded as whole numbers to the nearest hundred. The estimated number of adult day services center participants represents current participants in 2016. The estimated number of home health patients represents patients who ended care in 2015 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2015. The estimated number of nursing home residents represents current residents in 2016. The estimated number of residential care community residents represents current residents in 2016.
[3]For adult day services centers and residential care communities, includes non-Hispanic American Indian or Alaska Native, non-Hispanic Asian, non-Hispanic Native Hawaiian or Other Pacific Islander, non-Hispanic of two or more races, and unknown race and ethnicity.
[4]For adult day services centers, the percentage of missing data was 11.2% for Alzheimer disease, 14.3% for arthritis, 14.8% for asthma, 15.0% for chronic kidney disease, 15.3% for chronic obstructive pulmonary disease (COPD), 13.1% for depression, 11.8% for diabetes, 14.1% for heart disease, 13.1% for hypertension, and 15.8% for osteoporosis. For residential care communities, the percentage of missing was 14.1% for arthritis, 15.6% for asthma, 15.3% for chronic kidney disease, 13.6% for COPD, 12.6% for depression, 12.5% for diabetes, 13.0% for heart disease, 11.5% for hypertension, and 15.0% for osteoporosis.
[5]For adult day services center participants and residential care community residents, heart disease includes congestive heart failure, coronary or ischemic heart disease, heart attack, and stroke. For home health and hospice patients, heart disease refers to ischemic heart disease. For nursing home residents, heart disease refers to coronary artery disease, congestive heart failure, and stroke.
[6]For nursing home residents, overnight hospital stay is defined as any resident in the 2014 Minimum Data Set Active Resident Episode Table 3rd quarter file having any inpatient hospital stay as determined in the 2014 Medicare Provider Analysis and Review data file.

NOTES: Percent distributions may not add to 100 because of rounding. Percentages are based on unrounded estimates.

SOURCE: NCHS, National Study of Long-Term Care Providers, 2015–2016.

Table IX. Nursing home residents, by selected characteristics and length of stay: United States, 2016

Characteristic	Short stay (less than 100 days)[1]	Standard error	Long stay (100 days or more)[1]	Standard error
		Number		
Users[2]	606,800	586	794,000	586
Age		Percent		
Under 65	18.6	0.1	14.9	0.0
65 and over	81.4	0.1	85.1	0.0
65–74	20.8	0.1	16.1	0.0
75–84	28.4	0.1	25.5	0.1
85 and over	32.2	0.1	43.5	0.1
Sex		Percent distribution		
Men	39.7	0.1	32.1	0.1
Women	60.3	0.1	67.9	0.1
Race and ethnicity				
Hispanic	5.4	0.0	5.4	0.0
Non-Hispanic white	74.6	0.1	75.6	0.1
Non-Hispanic black	14.0	0.0	14.6	0.0
Other	6.0	0.0	4.5	0.0
Diagnosis		Percent		
Alzheimer disease or other dementias	36.7	0.1	58.9	0.1
Arthritis	25.1	0.1	29.7	0.1
Depression	42.6	0.1	53.0	0.1
Diabetes	37.0	0.1	32.2	0.1
Heart disease[3]	35.8	0.1	38.8	0.1
High blood pressure or hypertension	76.8	0.1	75.8	0.1
Osteoporosis	9.8	0.0	15.1	0.0
Need assistance in physical functioning				
Eating	---	---	---	---
Bathing	---	---	---	---
Dressing	---	---	---	---
Toileting	---	---	---	---
Walking or locomotion	---	---	---	---
Transferring in and out of a chair or bed	---	---	---	---
Medicaid as payer source	---	---	---	---
Adverse event				
Overnight hospital stay[4]	23.8	0.1	8.7	0.0
Emergency department visit	---	---	---	---
Fall	13.5	0.1	19.1	0.0

0.0 Quantity more than zero but less than 0.05.
- - - Data not available.
[1]Average length of stay among all residents is 485 days; 43% of residents are short-stay and 57% are long-stay.
[2]Estimates are rounded as whole numbers to the nearest hundred. The estimated number of nursing home residents represents current residents in 2016.
[3]Heart disease refers to coronary artery disease, congestive heart failure, and stroke.
[4]Overnight hospital stay is defined as any resident in the 2014 Minimum Data Set Active Resident Episode Table 3rd quarter file having any inpatient hospital stay as determined in the 2014 Medicare Provider Analysis and Review data file.

NOTES: Percent distributions may not add to 100 because of rounding. Percentages are based on unrounded estimates.

SOURCE: NCHS, National Study of Long-Term Care Providers, 2015–2016.

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DHHS Publication No. (PHS) 2019–1427, Series 3, No. 43
CS294600