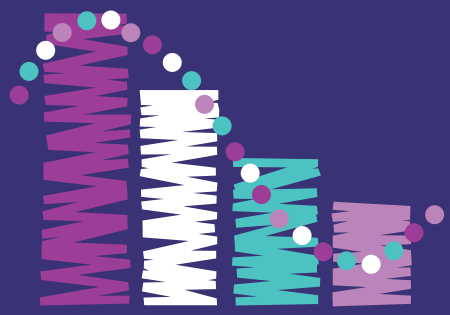

Long-Term Care Services in the United States: 2013 Overview

National Center for Health Statistics

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Long-Term Care Services in the United States: 2013 Overview

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Executive Summary

Long-term care services include a broad range of services that meet the needs of frail older people and other adults with functional limitations. Long-Term care services provided by paid, regulated providers are a significant component of personal health care spending in the United States. This report presents descriptive results from the first wave of the National Study of Long-Term Care Providers (NSLTCP), which was conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS). Data presented in this report are drawn from five sources: NCHS surveys of adult day services centers and residential care communities, and administrative records obtained from the Centers for Medicare & Medicaid Services on home health agencies, hospices, and nursing homes. This report provides information on the supply, organizational characteristics, staffing, and services offered by providers of long-term care services; and the demographic, health, and functional composition of users of these services. Service users include residents of nursing homes and residential care communities, patients of home health agencies and hospices, and participants of adult day services centers.

Keywords: aging • disability • long-term services and supports (LTSS) • National Study of Long-Term Care Providers

Key Findings

In 2012, about 58,500 paid, regulated long-term care services providers served about 8 million people in the United States. Long-term care services were provided by 4,800 adult day services centers, 12,200 home health agencies, 3,700 hospices, 15,700 nursing homes, and 22,200 assisted living and similar residential care communities. Each day in 2012, there were 273,200 participants enrolled in adult day services centers, 1,383,700 residents in nursing homes, and 713,300 residents in residential care communities; in 2011, about 4,742,500 patients received services from home health agencies, and 1,244,500 patients received services from hospices.

Provider sectors differed in ownership, and average size and supply varied by region. The majority of providers in four of the five sectors were for profit, whereas the majority of adult day services centers were nonprofit. The average size of a provider, based on the number of people served, varied by sector. On average, a nursing home served more than twice as many people daily as an adult day services center or residential care community. On an annual basis, a home health agency served more patients on average than a hospice. In the West, the supply of residential care beds and nursing home beds per 1,000 persons aged 65 and over was comparable, whereas nursing home beds far outnumbered residential care beds in all other regions. The supply of nursing home and residential care beds and the capacity of adult day services centers varied by region, suggesting geographic differences in access for consumers of long-term care services. For example, the supply of residential care beds 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 South.

Provider sectors differed in their nursing staffing levels, use of social workers, and variety of services offered. For every measure of nursing staff type examined, the average daily staff hours per resident or participant day was higher in nursing homes than in residential care communities and adult day services centers. This difference may reflect the higher functional needs of nursing home residents relative to service users in other sectors. Sectors varied in their use of social workers, ranging from most hospices employing at least one social worker, to just over one-tenth of residential care communities doing so. In terms of services offered, more hospices and nursing homes offered mental health and counseling services compared with adult day services centers and residential care communities.

Rates of use of long-term care services varied by sector and state. Reflecting similar differences found when comparing supply, the daily-use rate 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; the lowest rate was for adult day services centers. However, in about a dozen states, the nursing home daily-use rate was similar to or lower than the residential care daily-use rate. Within each of the five sectors, the use rate varied by state. For example, average adult day daily-use rates ranged from a low of less than 1 participant per 1,000 persons in West Virginia, to a high of 12 participants in New Jersey. Average residential care community daily-use rates ranged from as few as 2 residents per 1,000 persons in Iowa, to 40 residents in North Dakota.

Users of long-term care services varied by sector in their demographic and health characteristics and functional status. Adult day services center participants and home health patients tended to be younger than users in other sectors. Adult day services center participants were the most racially and ethnically diverse among the five sectors: 20.1% were Hispanic and 16.7% were non-Hispanic black. Alzheimer's disease and other dementias ranged in prevalence from 30.1% among home health patients, to 48.5% among nursing home residents. Depression ranged in prevalence from 22.2% among hospice patients, to 48.5% of nursing home residents. Although the need for assistance with activities of daily living was common in all sectors, functional ability varied by sector. A higher percentage of nursing home residents needed assistance in bathing, dressing, toileting, and eating compared to users in other sectors.

The NSLTCP findings in this report provide a current national picture of providers and users of five major sectors of paid, regulated long-term care services in the United States. These findings can inform policy and planning to meet the needs of an aging population. NCHS plans to conduct NSLTCP every 2 years to monitor trends. Future NSLTCP products will be available from the NSLTCP website: http://www.cdc.gov/nchs/nsltcp.htm.

Chapter 1

Introduction

Chapter 1. Introduction

Long-Term Care Services

Long-term care services[1] 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 (HHS, 2013). Long-term care services include assistance with activities of daily living [(ADLs) e.g., dressing, bathing, and toileting]; instrumental activities of daily living [(IADLs) e.g., medication management and housework]; and health maintenance tasks.[2] Long-term care services assist people in maintaining or improving an optimal level of physical functioning and quality of life, and can include help from other people and special equipment and assistive devices.

Individuals may receive long-term care services in a variety of settings: in the home from a home health agency or from family and friends, in the community from an adult day services center, in residential settings from assisted living communities, or in institutions from nursing homes, for example. Long-term care services provided by paid, regulated providers are a significant component of personal health care spending in the United States (O'Shaughnessy, 2013). Estimates of expenditures for long-term care services vary, depending on what types of providers, populations, and services are included. Recent estimates for the amount spent annually on paid, long-term care services are between $210.9 billion (O'Shaughnessy, 2013) and $306 billion (Colello, Girvan, Mulvey, & Talaga, 2012; Genworth Financial, 2012; MetLife Mature Market Institute, 2012).[3]

Finding a way to pay for long-term care services is a growing concern for older adults, persons with disabilities, and their families, and is a major challenge facing state and federal governments (Commission on Long-Term Care, 2013; Reinhard, Kassner, Houser, & Mollica, 2011). Medicaid finances a major portion of paid, long-term care services,[4] followed by Medicare and out-of-pocket payments by individuals and

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[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.

[2] 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.

[3] This $306 billion estimate for 2010 is based on analysis by the Congressional Research Service of National Health Expenditure Account data obtained from the Centers for Medicare & Medicaid Services, Office of the Actuary, prepared November 15, 2011. Excluding Medicare spending on home health and skilled nursing facilities, total long-term care services spending was $237.7 billion in 2010. The $210.9 billion estimate for 2011 is based on analysis by the National Health Policy Forum using published (Hartman, Martin, Benson, Caitlin, & National Health Expenditure Accounts Team, 2013) and unpublished data from the National Health Expenditure Account.

[4] Medicaid finances a variety of long-term care services through multiple mechanisms (e.g., Medicaid State Plan, home- and community-based services waiver programs, and other options for community-based long-term care

families (Colello et al., 2012; O'Shaughnessy, 2013).[5] However, the distribution of financing sources varies by provider sector and by population. For example, most residents pay out-of-pocket for assisted living (Mollica, 2009), with a small percentage using Medicaid to help pay for services (Caffrey et al., 2012). 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, post-acute care in skilled nursing facilities for Medicare beneficiaries (Federal Interagency Forum on Aging-Related Statistics, 2012; The SCAN Foundation, 2013).

The number of people using nursing facilities, alternative residential care places, or home care services is projected to increase from 15 million in 2000 to 27 million in 2050. Most of this increase will be due to growth in the older adult population who need such services (HHS, 2003). Although people of all ages may need long-term care services, the risk of needing these services increases with age. Recent projections estimate that over two-thirds of individuals who reach age 65 will need long-term care services during their lifetime (Kemper, Komisar, & Alecxih, 2005–2006). Largely due to aging baby boomers, the population is expected to become much older, with the number of Americans over age 65 projected to more than double, from 40.2 million in 2010 to 88.5 million in 2050 (Vincent & Velkoff, 2010). The estimated increase in the number of the "oldest old"—those aged 85 and over—is even more striking. The oldest old are projected to almost triple, from 6.3 million in 2015 to 17.9 million in 2050, accounting for 4.5% of the total population (U.S. Census Bureau, 2012).

This oldest old population tends to have the highest disability rate and need for long-term care services, and they also are more likely to be widowed and without assistance with ADLs (Feder & Komisar, 2012; Houser, Fox-Grage, & Ujvari, 2012). 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 (Congressional Budget Office, 2004). Among persons who need long-term care services, adults aged 65 and over are more likely than younger adults to receive paid help (Kaye, Harrington, & LaPlante, 2010). Recent studies project that the number of older adults using paid, long-term care services will grow substantially (Johnson, Toohey, & Wiener, 2007; Kaye, 2013; Stone, 2006; The Lewin Group, 2010). A substantial share of paid, long-term care services is publicly funded through programs such as Medicaid and Medicare; accurate, timely statistical information can help guide those programs and inform relevant policy decisions.

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 is growing use of skilled nursing facilities for short-term, post-acute care and rehabilitation (Decker, 2005). Further, consumers' desire to stay in their own homes, and federal and state policy developments (e.g., the Supreme Court's Olmstead ruling, introduction of the Medicare Prospective Payment System, and balancing Medicaid-financed services from institutional to noninstitutional settings) have led to growth in a variety of home- and community-based alternatives (Doty, 2010; Wiener, 2013). 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.

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services), including an array of home and community-based services and institutional services (Scully et al., 2013; Watts, Musumeci, & Reaves, 2013). 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.

[5] Experts disagree on whether Medicare expenditures for skilled nursing facilities and home health agencies should be considered long-term care services, because they are post-acute services. This report includes Medicare-certified skilled nursing facilities and home health agencies. See Technical Notes for details on the types of providers included.

In 2011, the National Center for Health Statistics (NCHS) launched the National Study of Long-Term Care Providers (NSLTCP)—an integrated strategy for efficiently obtaining and providing statistical information about the supply and use of major sectors of paid, regulated long-term care services providers in the United States. NSLTCP provides relevant, timely, and credible information to monitor trends and examine the effects of policy changes on the supply, use, and characteristics of the major sectors of long-term care services providers.

NSLTCP has these main goals:

- Estimate the supply of paid, regulated long-term care services providers
- Estimate key policy-relevant characteristics of these providers
- Estimate the number of long-term care services users
- Estimate key policy-relevant characteristics of these users
- Compare provider sectors
- Produce national and state estimates, where feasible
- Monitor trends over time

NSLTCP replaces NCHS' periodic National Nursing Home Survey and National Home and Hospice Care Survey, and the one-time National Survey of Residential Care Facilities. The NSLTCP core is designed to (1) broaden NCHS' ongoing coverage of paid, regulated long-term care services providers beyond nursing homes, home health agencies, and hospices to include assisted living or similar residential care communities (referred to in this report as residential care communities) and adult day services centers; (2) broaden the study over time to add other types of paid, regulated long-term care services providers (e.g., home care agencies); (3) use national administrative data from the Centers for Medicare & Medicaid Services (CMS) on nursing homes, home health agencies, and hospices; (4) collect primary data every other year from cross-sectional, nationally representative, establishment-based surveys of adult day services centers and residential care communities (administrative data do not exist); and (5) monitor trends more frequently than in the past decade.

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

This descriptive overview report provides a baseline, and is intended to serve as an information resource for use by policy makers, providers, researchers, advocates, and others to inform planning for long-term care services. The report includes two chapters that present findings: Chapter 2 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); and Chapter 3 presents findings on users of long-term cares services. Chapter 4 reviews major findings, and Chapter 5 describes the data sources used to present provider and user information, outlines the approach used for data analyses, and discusses study limitations. Appendix A defines each provider type and variable used in the study, and Appendix B presents data tables.

This overview report presents results from the first wave of NSLTCP, using data from surveys of residential care communities and adult day services centers fielded by NCHS between September 2012 and February

2013, and using administrative records on nursing homes, home health agencies, and hospices obtained from CMS between 2011 and 2012.[6] This report mainly provides national results.[7] Forthcoming products will complement this national overview report, including additional state estimates on providers and users of long-term care services, and reports on characteristics of adult day services centers and residential care communities using survey data not included here. NCHS plans to field the second wave of NSLTCP surveys between June 2014 and December 2014, obtain the next wave of administrative data during a similar time frame, and produce future reports to examine trends over time. Future NSLTCP products will be available from the NSLTCP website: http://www.cdc.gov/nchs/nsltcp.htm.

[6] See Technical Notes for definitions of the five provider sectors and the corresponding data sources used in this report.

[7] See Chapter 3 for state estimates on the use of long-term care services in the five provider sectors.

Chapter 2

National Profile of Providers of Long-Term Care Services

Chapter 2. National Profile of Providers of Long-Term Care Services

Introduction

As of 2012 in the United States, there were an estimated 4,800 adult day services centers, 12,200 home health agencies, 3,700 hospices, 15,700 nursing homes, and 22,200[1] residential care communities. Of these approximately 58,500[2] regulated,[3] long-term care services providers, about two-thirds provided care in residential settings (26.8% were nursing homes and 37.9% were residential care communities), and about one-third provided care in home- and community-based settings (8.2% were adult day services centers, 20.9% were home health agencies, and 6.3% were hospices).

This chapter provides an overview of the supply, organizational characteristics, staffing, and services of regulated providers of long-term care services for these five provider sectors. Supply information is provided nationally, by metropolitan statistical area (MSA) status and by census geographic region. Organizational characteristics include capacity, type of ownership, number of people served, and Medicare and Medicaid certification. Staffing measures focus on nursing and social work employees, and include number and distribution of employees, percentage of providers employing such staff, 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, and hospice services.

[1] See Technical Notes for a discussion about the differences between the 2010 and 2012 estimates of the number of residential care communities.

[2] Estimates are rounded as whole numbers to the nearest hundred; estimates may not add to totals because of rounding.

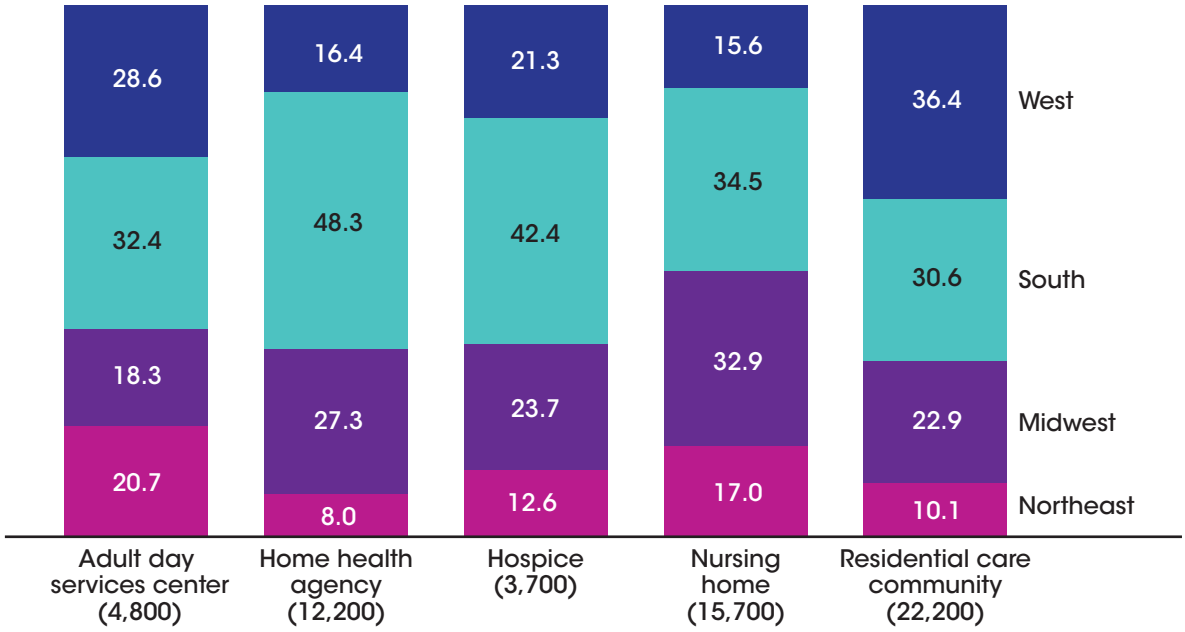
[3] The report includes only providers that are in some way regulated by federal or state government. Adult day services centers and residential care communities were state-regulated, home health agencies and nursing homes were Medicare- or Medicaid-certified, and hospices were Medicare-certified. Based on the 2007 National Home and Hospice Care Survey, 93% of hospice agencies were Medicare-certified. See Technical Notes for details on the Institutional Provider and Beneficiary Summary hospice data that were used to provide the most coverage of and information on hospice patients.

Supply of Long-Term Care Services Providers

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 (32.4%), home health agencies (48.3%), hospices (42.4%), and nursing homes (34.5%) was in the South, while the largest share of residential care communities (36.4%) was in the West (Figure 1).

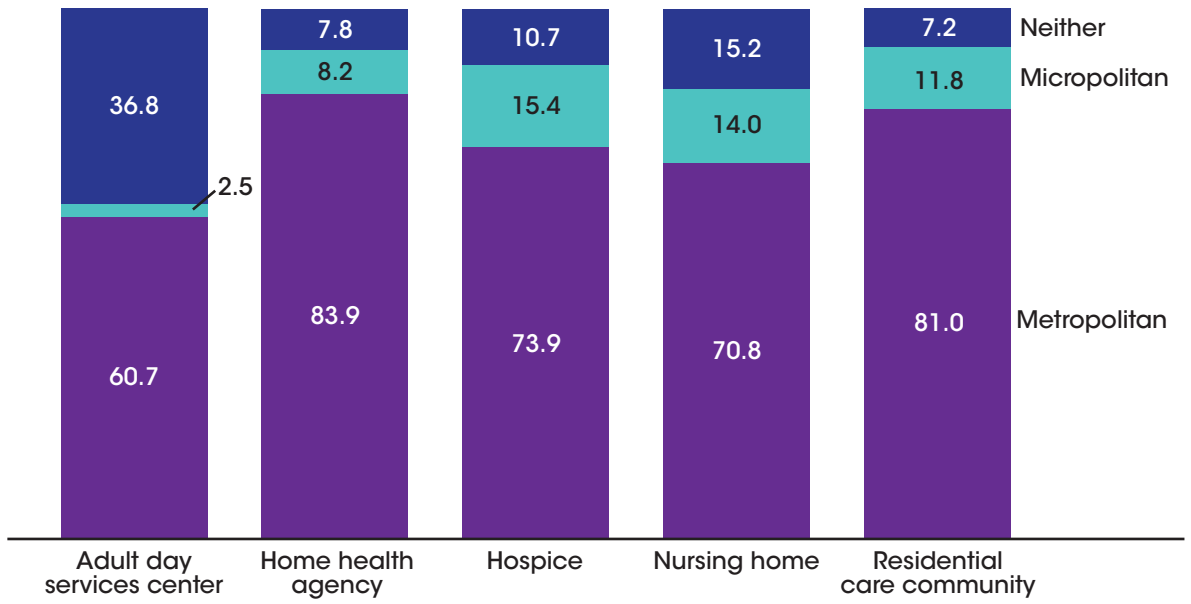
Figure 1. Percent distribution of long-term care services providers, by provider type and region: United States, 2012



NOTE: Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 1 in Appendix B.

The vast majority of providers in all five long-term care services sectors were in MSAs (Figure 2). This distribution reflects the higher population density in these areas. The proportion of adult day services centers (36.8%) located in areas that were neither metropolitan nor micropolitan was two to five times as large as the proportion of providers in the other four sectors located in these areas.

Figure 2. Percent distribution of long-term care services providers, by provider type and metropolitan statistical area status: United States, 2012



NOTES: Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 1 in Appendix B.

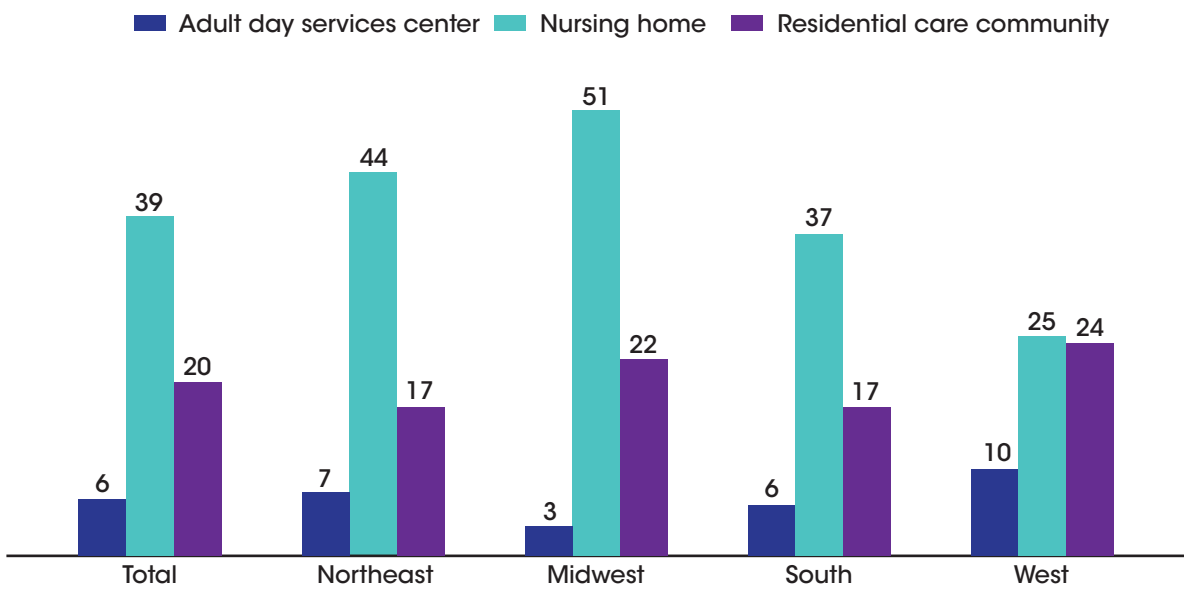
Capacity

Based on the maximum number of participants allowed, the 4,800 adult day services centers in the country together could serve 276,500 participants daily (Appendix B, Table 1). The allowable daily capacity of adult day services centers ranged from 1 to 780, with an average of 58 participants. The 15,700 nursing homes in the country provided a total of 1,669,100 certified beds. Nursing homes ranged in capacity from 2 to 1,389 certified beds, with an average of 106 certified beds. The 22,200 residential care communities in the United States provided 851,400 licensed beds. Residential care communities ranged in capacity from 4 to 582 licensed beds, with an average of 38 licensed beds.[4]

The supply of nursing home and residential care beds and adult day services center capacity varied by region (Figure 3). Compared with other regions, the Midwest had the largest supply of nursing home beds (51) and the smallest supply of adult day services center capacity (3) per 1,000 persons aged 65 and over.

In the West, the supply of residential care beds (24) and nursing home beds (25) per 1,000 persons aged 65 and over was comparable, whereas nursing home beds far outnumbered residential care beds in all other regions.

Figure 3. Capacity of long-term care services providers, by provider type and region: United States, 2012



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. Capacity of providers is per 1,000 persons aged 65 and over. See Appendix A for definitions of capacity for each provider type.
SOURCE: CDC/NCHS, National Study of Long-Term Care Providers.

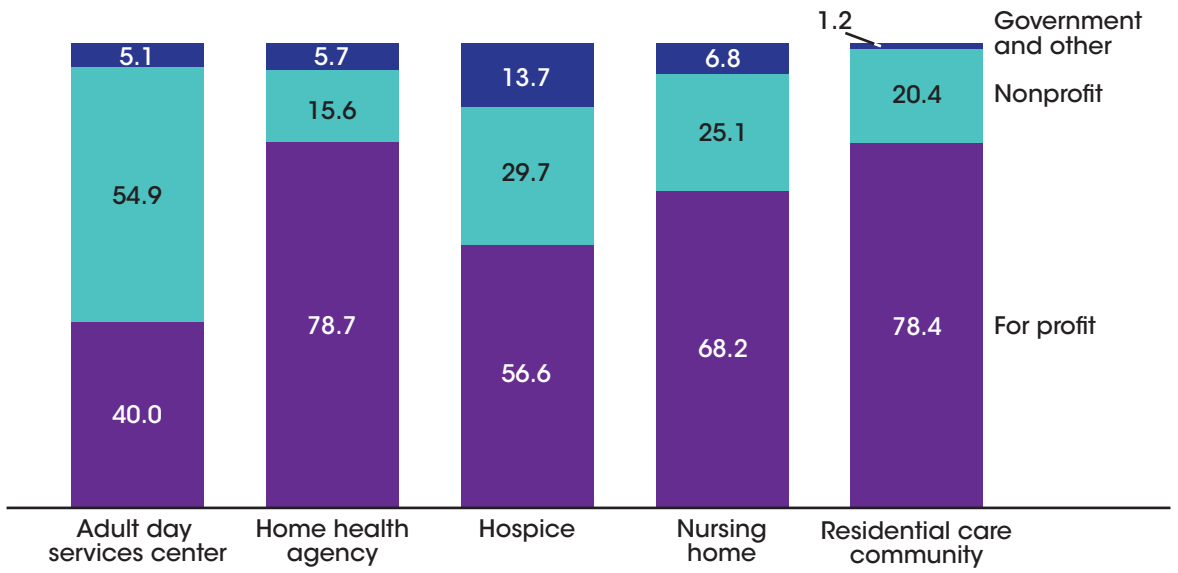
[4] Capacity for home health agencies and hospices was not examined because licensed maximum capacity or a similar metric was not available.

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 (78.7%) and residential care communities (78.4%) had the highest proportion of for-profit ownership, while adult day services centers (40.0%) had the lowest proportion. The majority of adult day services centers were nonprofit (54.9%).

Figure 4. Percent distribution of long-term care services providers, by provider type and ownership: United States, 2012



NOTES: Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers. See Appendix A for definitions of ownership for each provider type.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 1 in Appendix B.

Medicare and Medicaid certification

All data on nursing homes and home health agencies used in this report were only for Medicare- or Medicaid-certified providers, and all data on hospices were only for Medicare-certified hospices. Almost all nursing homes (95.0%), about three-quarters of adult day services centers (77.1%) and home health agencies (77.5%), and one-half of residential care communities (51.8%) were authorized or certified to participate in Medicaid. Information was not available on whether any of the Medicare-certified hospices were also certified by Medicaid. Virtually all home health agencies (98.6%), hospices (100.0%), and nursing homes (96.5%) were Medicare certified (data not shown). Medicare does 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.

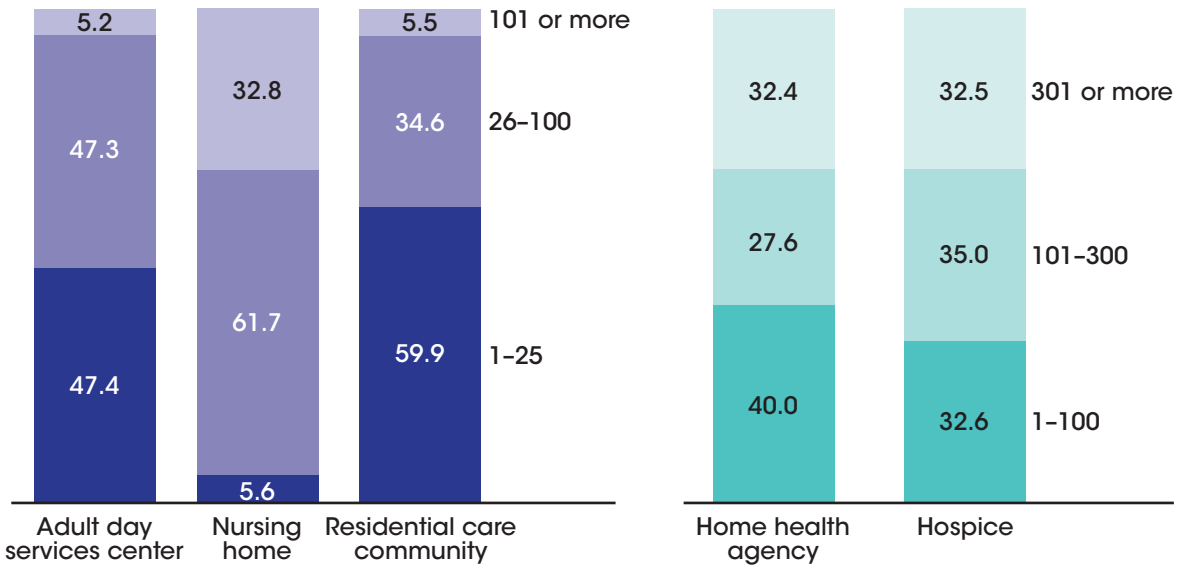
Number of people served

In terms of persons actually served,[5] a nursing home served on average, more than twice the number of people daily as an adult day services center or a residential care community. A nursing home housed an average of 88 current residents, while an adult day services center had a mean weekday daily attendance of 39 participants, and a residential care community served an average of 32 residents daily (Appendix B, Table 1).

The majority of nursing homes (61.7%) served between 26 and 100 residents daily, while the majority of residential care communities (59.9%) served 25 or fewer residents daily (Figure 5). Adult day services centers were about evenly split between those serving 25 or fewer participants daily (47.4%) and those serving 26 to 100 participants daily (47.3%).

The proportion of nursing homes (32.8%) serving more than 100 persons daily was about six times as large as the proportion of adult day services centers (5.2%) and residential care communities (5.5%) doing so.

Figure 5. Percent distribution of long-term care services providers, by provider type and number of people served: United States, 2011 and 2012



NOTES: Number of people served categorizes the number of residents on a given day (nursing homes and residential care communities) or the average daily attendance of participants on a typical week (adult day services centers). For home health agencies and hospices, number of people served categorizes the number of patients whose episode of care in a home health agency ended at any time in 2011, and the number of patients who received care from Medicare-certified hopices at any time in 2011. See Appendix A for more information on how number of people served was defined for each provider type. Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 1 in Appendix B.

[5] See Appendix A for how number of people served was defined for each provider type.

Staffing: Nursing and Social Work Employees

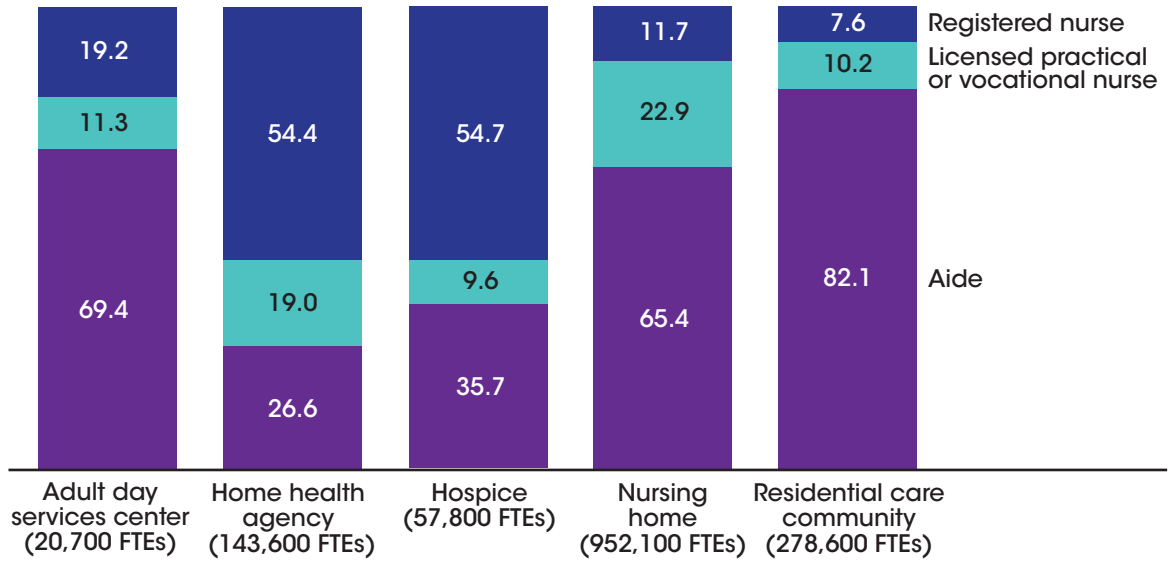
This section focuses on workers employed directly by adult day services centers, home health agencies, hospices, nursing homes, and residential care communities. Information is provided about registered nurses (RNs), licensed practical nurses (LPNs) or licensed vocational nurses (LVNs), aides, and social workers. Contract staff that work for these providers were excluded because comparable information on contract staff was not available for all five sectors.[6]

Nursing employee full-time equivalents

In 2012, nearly 1.5 million nursing employee full-time equivalents (FTEs) were working in the five sectors, including RNs, LPNs and LVNs, and aides (Figure 6). Of these nursing employees, almost two-thirds (65.5% or 952,100 FTEs) worked in nursing homes, almost one-fifth (19.2% or 278,600 FTEs) were employees of residential care communities, about one-tenth (9.9% or 143,600 FTEs) were employed by home health agencies, and less than one-twentieth were employed by hospices (4.0% or 57,800 FTEs) and adult day services centers (1.4% or 20,700 FTEs).

The relative distribution of staff types of nursing employee FTEs varied across sectors. The majority of nursing employee FTEs in residential care communities (82.1%), adult day services centers (69.4%), and

Figure 6. Total number and percent distribution of nursing employee full-time equivalents, by provider type and staff type: United States, 2012



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. See Technical Notes for information on how outliers were identified and coded. Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers. FTE is full-time equivalent.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 2 in Appendix B.

[6] See Appendix A for definition of full-time equivalent (FTE) and each staff type used for each provider type.

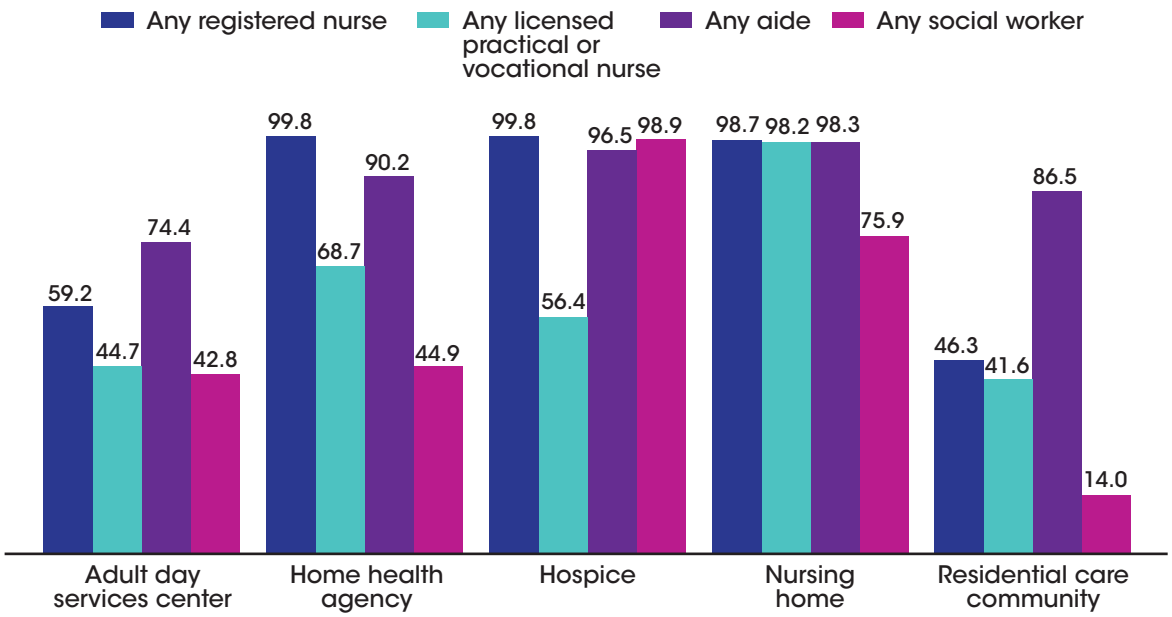
nursing homes (65.4%) were aides. However, in hospices (54.7%) and home health agencies (54.4%), the majority of nursing employee FTEs were RNs.[7]

Providers employing any nursing or social work staff

Among the four staff types examined, employing any aides showed the least variation by sector (Figure 7). In all five sectors, the vast majority of providers employed aides; nursing homes (98.3%) were most likely and adult day services centers (74.4%) were least likely to have any aides on staff.

With the exception of residential care communities, the majority of providers employed licensed nursing staff (RNs or LPNs and LVNs). Because virtually all home health agencies, hospices, and nursing homes in this report are Medicare-certified, it is to be expected that nearly all of them employed at least one RN. In contrast, 59.2% of adult day services centers and 46.3% of residential care communities employed any RNs. The majority of nursing homes (98.2%), home health agencies (68.7%), and hospices (56.4%)

Figure 7. Percentage of long-term care services providers with any full-time equivalent employees, by provider type and staff type: United States, 2012



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 Technical Notes for information on how outliers were identified and coded. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 2 in Appendix B.

[7] The administrative data used in this report for the home health, hospice, and nursing home sectors used a 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 A for how an aide was defined for each provider type.

employed at least one LPN or LVN, whereas a minority of adult day services centers (44.7%) and residential care communities (41.6%) employed LPNs or LVNs.

Employing any social workers showed the most variation across sectors. Almost all hospices (98.9%) employed social workers, as did more than three-fourths of nursing homes (75.9%), and more than four-tenths of adult day services centers (42.8%) and home health agencies (44.9%); only 14.0% of residential care communities employed social workers.

Staffing hours

For every measure of nursing staff type examined (i.e., all nursing staff, all licensed nursing staff, RN only, LPN and LVN only, and aides only), the average staff hours per resident or participant day were higher in nursing homes than in residential care communities and adult day services centers (Figure 8).[8]

The average total nursing hours (RNs, LPNs and LVNs, and aides) per resident or participant day were 3.83 for nursing home residents, 2.62 for residential care residents, and 1.58 for adult day participants. The average total nursing hours per resident day in nursing homes were about 46.0% higher than the corresponding ratio for residential care communities, and more than twice the size of the ratio for adult day services centers. The average total nursing hours per resident or participant day in residential care communities were about 66% higher than the ratio for adult day services centers.

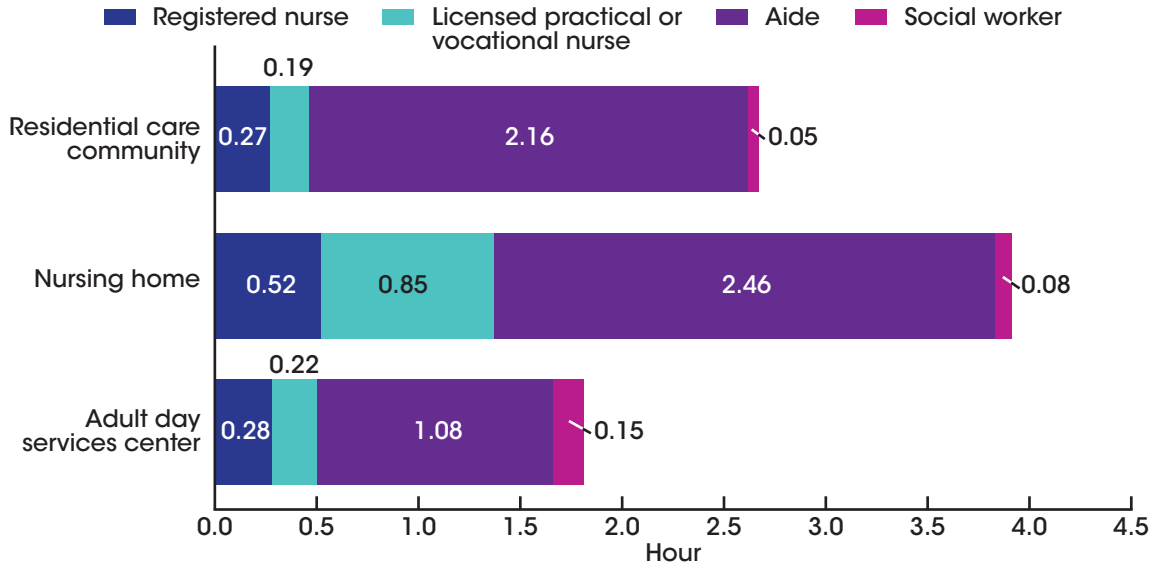
The average total licensed nursing hours (RNs, and LPNs and LVNs) per resident or participant day were 1.37 for nursing home residents, 0.50 for adult day participants, and 0.46 for residential care residents. The average licensed nursing hours per resident or participant day in nursing homes were over twice the size of the corresponding ratios for residential care communities and adult day services centers. The average licensed nursing hours per resident or participant day were similar in residential care communities and adult day services centers.

The average aide hours per resident or participant day in nursing homes were 13.9% higher than the ratio for residential care communities, and more than twice the ratio for adult day services centers (147.6 minutes, compared with 129.6 minutes and 64.8 minutes, respectively). The average aide hours per resident or participant day in residential care communities were twice the size of the ratio for adult day services centers.

The average licensed social worker hours per resident or participant day for adult day services centers (9.0 minutes) were about two to three times the size of the corresponding ratio for nursing homes (4.8 minutes) and residential care communities (3.0 minutes).

[8] 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, home health agencies, and hospices, such as average number of visits per 8-hour day (National Association for Home Care and Hospice & Hospital and Healthcare Compensation Service, 2009), and worker-to-participant ratio (MetLife Mature Market Institute, 2010). However, in order to provide a measure by which to compare staffing levels across sectors, hours per user (resident or participant) day are provided in this report. See Technical Notes and Appendix A for details on how hours per resident or participant day were computed for adult day services centers, nursing homes, and residential care communities. Hours per patient 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.

Figure 8. Average hours per resident or participant per day, by provider type and staff type: United States, 2012



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 were computed by multiplying the number of full-time equivalent (FTE) employees for the staff type by 35 hours, divided by average daily attendance of participants and by 5 days. For nursing homes and residential care communities, average hours per resident per day were 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 Technical Notes for information on how outliers were identified and coded.

SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 2 in Appendix B.

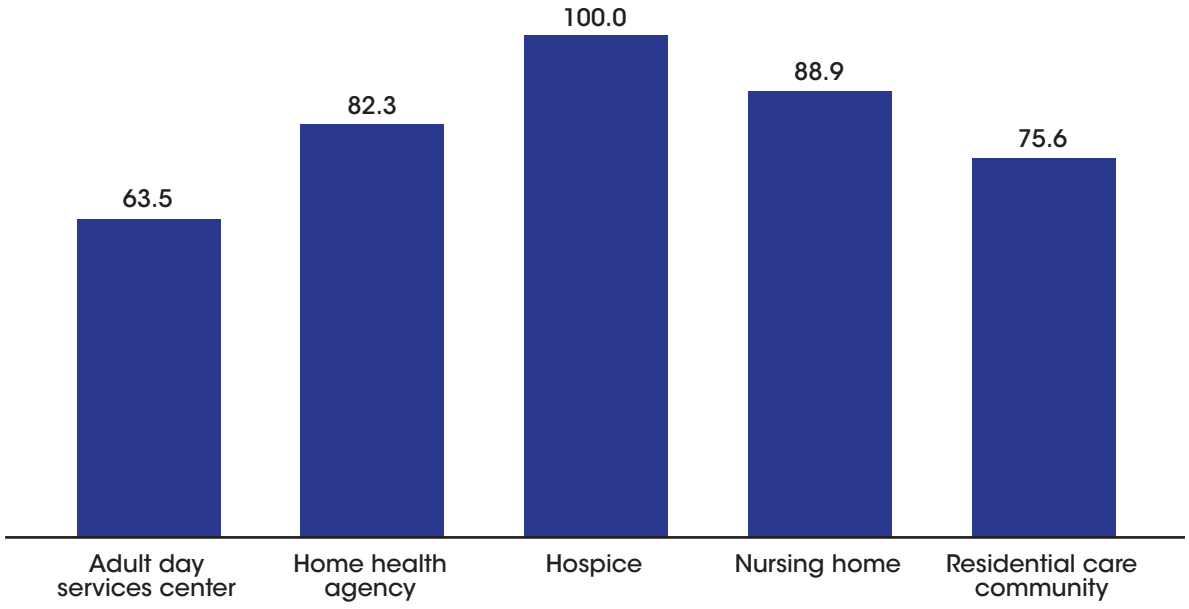
Services Provided

This section provides information on what proportion of providers in each sector offered each of six services—social work; mental health or counseling; therapies (physical, occupational, or speech); skilled nursing or nursing; pharmacy or pharmacist; and hospice. Services could be provided directly by the provider or by others, through arrangement.[9]

Social work services

The majority of providers in all five sectors offered social work services (Figure 9). All hospices (100.0%) provided social work services, as did most nursing homes (88.9%) and home health agencies (82.3%), likely because providing these services is required for Medicare certification. Fewer residential care communities (75.6%) and adult day services centers (63.5%) provided social work services.

Figure 9. Percentage of long-term care services providers that provide social work services, by provider type: United States, 2012



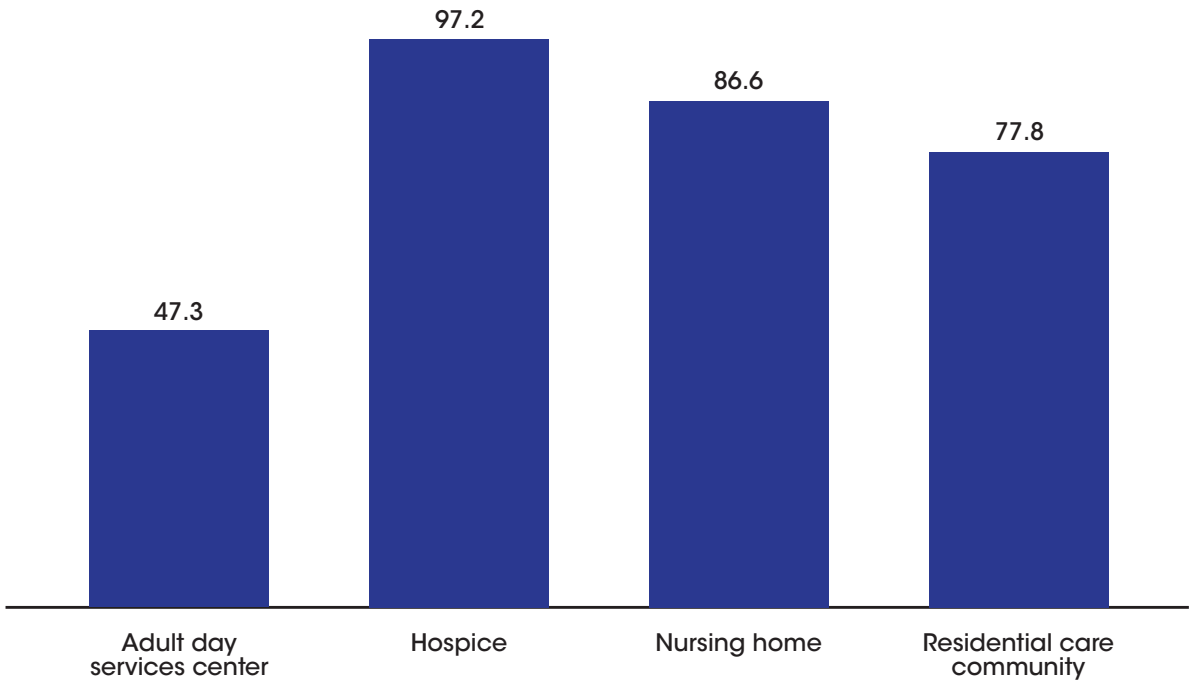
NOTES: See Appendix A for definitions of social work services for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

[9] These 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 home health agencies provided mental health or counseling services or whether hospices provided pharmacy or pharmacist services. See Appendix A for definitions of services used for each provider type.

Mental health or counseling services

Mental health or counseling services were offered by most hospices (97.2%), nursing homes (86.6%), and residential care communities (77.8%), while less than one-half of adult day services centers (47.3%) offered these services (Figure 10).

Figure 10. Percentage of long-term care services providers that provide mental health or counseling services, by provider type: United States, 2012

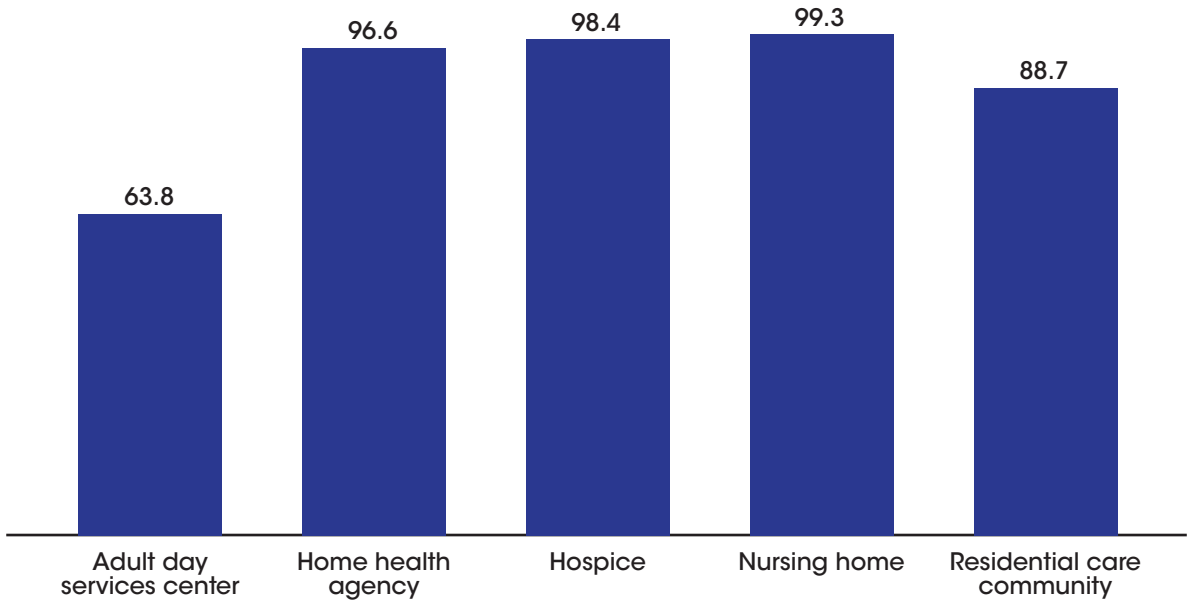


NOTES: See Appendix A for definitions of mental health or counseling services for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

Therapeutic services

Virtually all nursing homes (99.3%), hospices (98.4%), and home health agencies (96.6%) offered therapeutic services, and most residential care communities (88.7%) did so (Figure 11). The majority of adult day services centers (63.8%) offered therapeutic services.

Figure 11. Percentage of long-term care services providers that provide therapeutic services, by provider type: United States, 2012

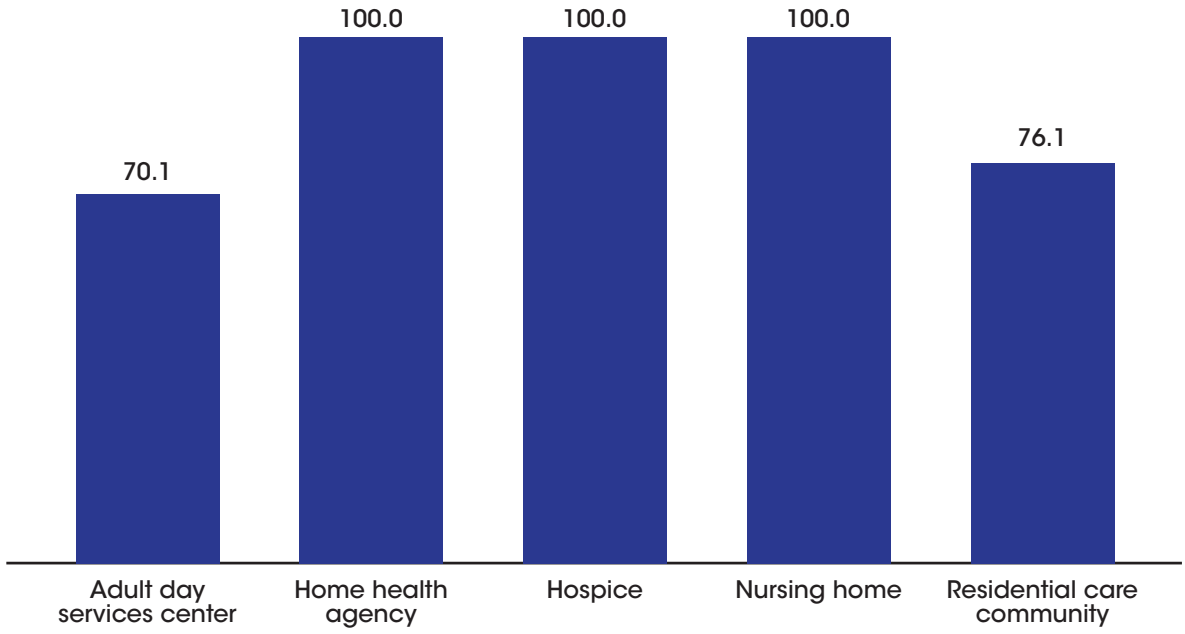


NOTES: See Appendix A for definitions of therapeutic services for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

Skilled nursing or nursing services

All home health agencies, hospices, and nursing homes (100.0%) provided skilled nursing or nursing services, as did most residential care communities (76.1%) and adult day services centers (70.1%) (Figure 12).

Figure 12. Percentage of long-term care services providers that provide skilled nursing or nursing services, by provider type: United States, 2012

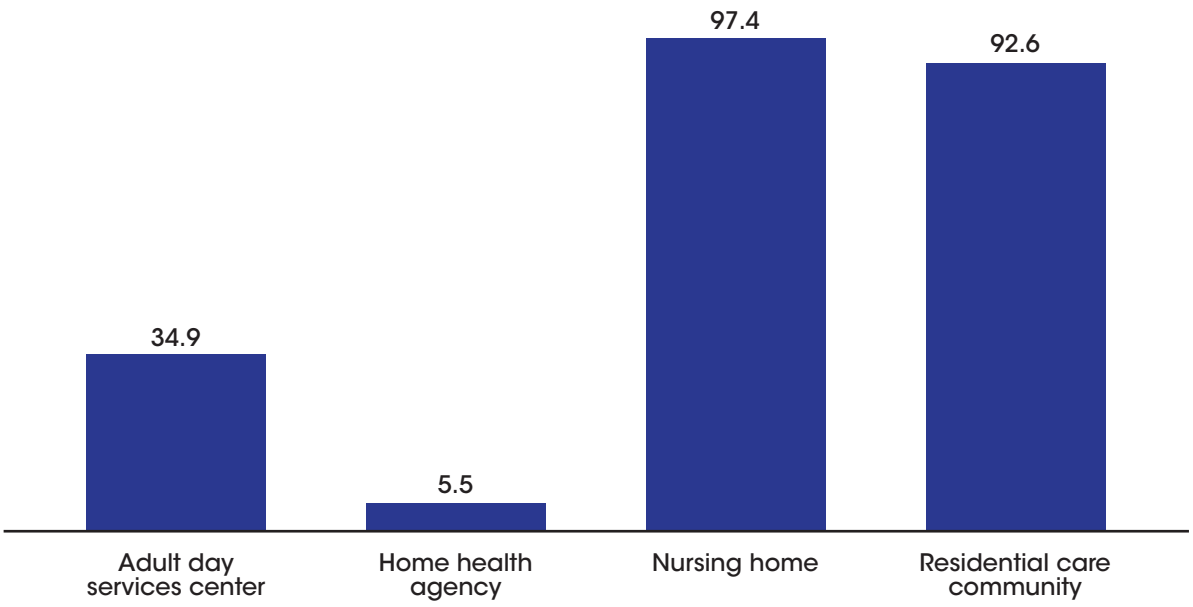


NOTES: See Appendix A for definitions of skilled nursing or nursing services for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

Pharmacy or pharmacist services

Nearly all nursing homes (97.4%) and residential care communities (92.6%) offered pharmacy or pharmacist services, while fewer adult day services centers (34.9%) and home health agencies (5.5%) provided these services (Figure 13).

Figure 13. Percentage of long-term care services providers that provide pharmacy or pharmacist services, by provider type: United States, 2012

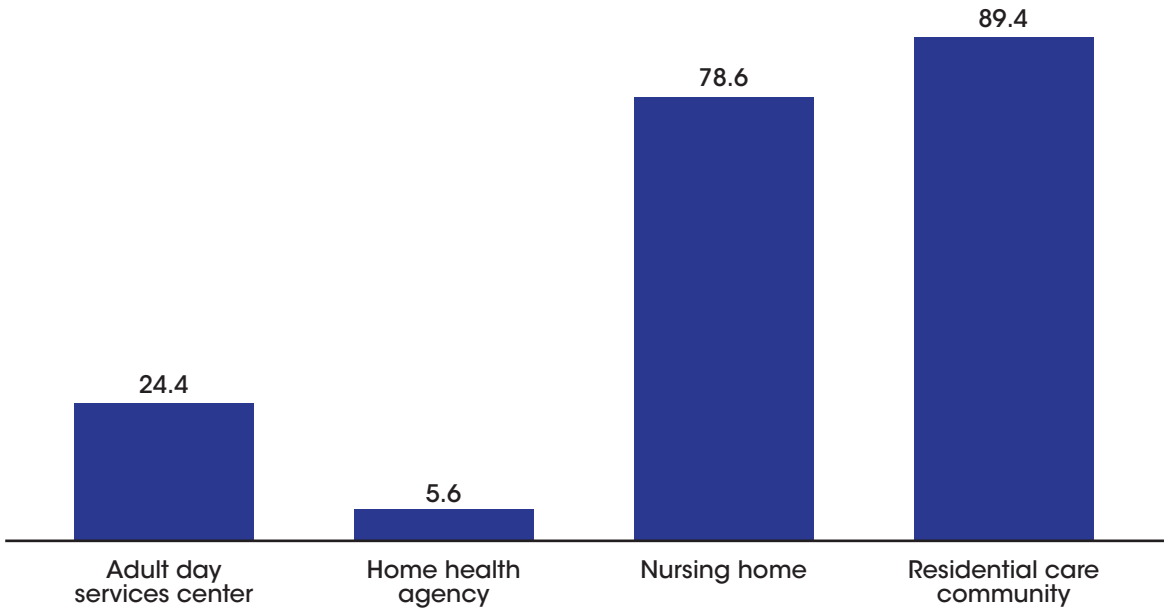


NOTES: See Appendix A for definitions of pharmacy or pharmacist services for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

Hospice services

A greater percentage of residential care communities (89.4%) offered hospice services than did nursing homes (78.6%). Fewer adult day services centers (24.4%) offered hospice services, and only a small percentage of home health agencies (5.6%) offered hospice services (Figure 14).

Figure 14. Percentage of long-term care services providers that provide hospice services, by provider type: United States, 2012



NOTES: See Appendix A for definitions of hospice services for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

Chapter 3

National Profile of Users of Long-Term Care Services

Chapter 3. National Profile of Users of Long-Term Care Services

Introduction

On any given day in 2012, there were 273,200 participants enrolled in adult day services centers,[1] 1,383,700 residents in nursing homes, and 713,300 residents living in residential care communities. In 2011, about 4,742,500 patients received services from home health agencies, and 1,244,500 patients received services from hospices. Overall, these five long-term care services provider sectors served about 8,357,100 people annually.[2]

This chapter provides an overview of the use rate and demographic, health, and functional composition of users of long-term care services, by provider type. Demographic measures include age, race and ethnicity, and sex. Measures of health status include diagnosis of Alzheimer's disease and other dementias and depression. Measures of functional status include needing assistance with selected activities of daily living [(ADLs) i.e., bathing, dressing, toileting, and eating].

Users of Long-Term Care Services

Participants in adult day services centers and residents in nursing homes and residential care communities are current users on any given day in 2012. Home health patients refer to patients who received and ended care any time in 2011. Hospice patients refer to patients who received care any time in 2011. Use of long-term care services by individuals aged 65 and over per 1,000 persons aged 65 and over varied by provider type and state (Figures 15–19).[3] The daily-use rate was higher for nursing homes (26 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 (94 per 1,000) compared with hospices (28 per 1,000).

[1] In 2012, the average number of participants served daily in adult day services centers was 185,300, which is smaller than the total enrollment because some participants did not attend each weekday.

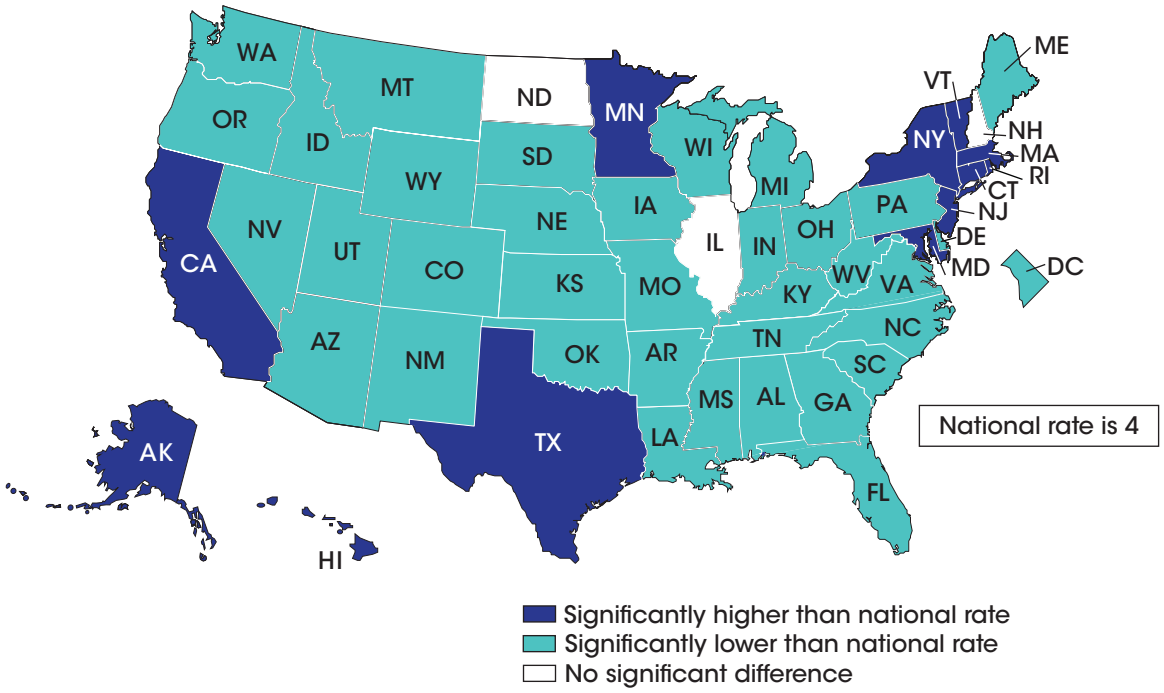
[2] This sum is an approximation and likely an undercount. The estimates for adult day services center participants, nursing home residents, and residential care community residents are for current service users on any given day, rather than all users in a year. The estimate for home health patients includes only those who ended care in 2011 (discharges). The same person may be included in this sum more than once, 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).

[3] 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.

Daily enrollment in adult day services centers

In 2012, national daily enrollment in adult day services centers was 4 participants aged 65 and over (Figure 15). This rate varied by state in 2012, from a high of 12 participants per 1,000 persons in New Jersey, to a low of less than 1 participant in West Virginia (Appendix B, Table 5). Daily enrollment fell below the national rate in over 30 states, indicating that the nationwide rate was being driven by a few large states, including California, New York, Texas, and New Jersey.

Figure 15. Adult day services center participants aged 65 and over: United States, 2012

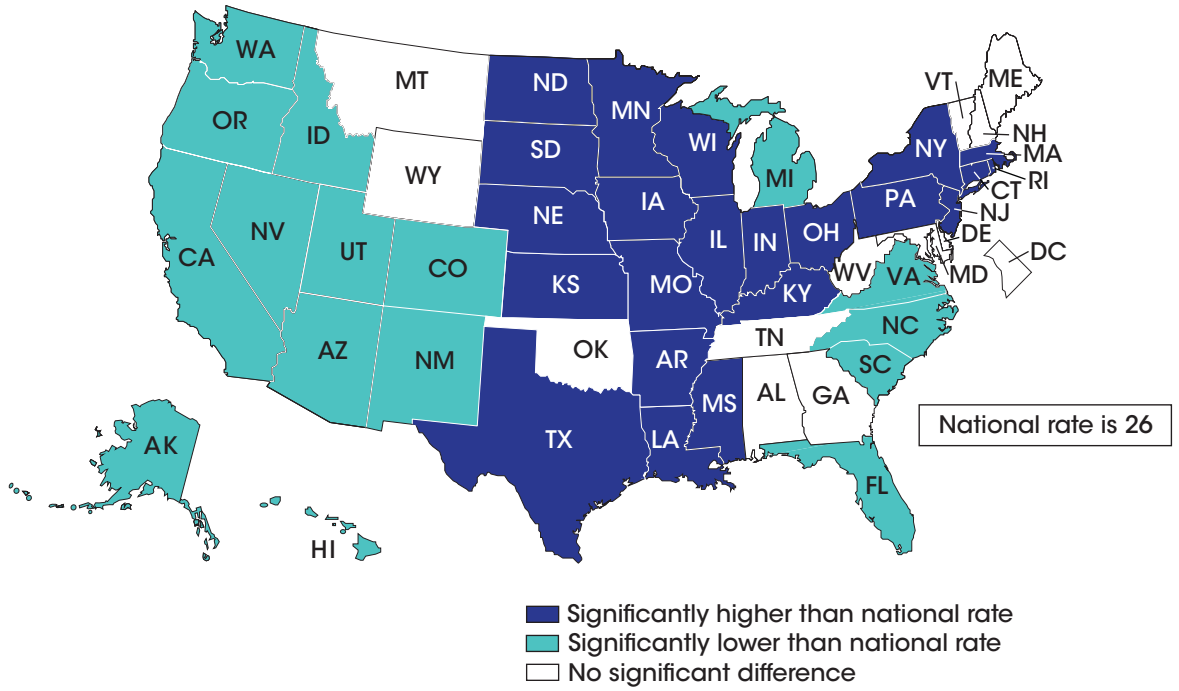


NOTES: Rates based on adult day services center participants per 1,000 persons aged 65 and over on any given day. Significance tested at $p < 0.05$.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 5 in Appendix B.

Daily use of nursing homes

Nationally in 2012, daily nursing home use was 26 residents aged 65 and over (Figure 16), and ranged from 7 residents in Alaska to 49 residents in North Dakota. About 40% of states had a rate that was higher than the national rate; these states were largely concentrated in the South and the Midwest, with a few in the Northeast. States on the west and east coasts had use rates that were below the national rate.

Figure 16. Nursing home residents aged 65 and over: United States, 2012

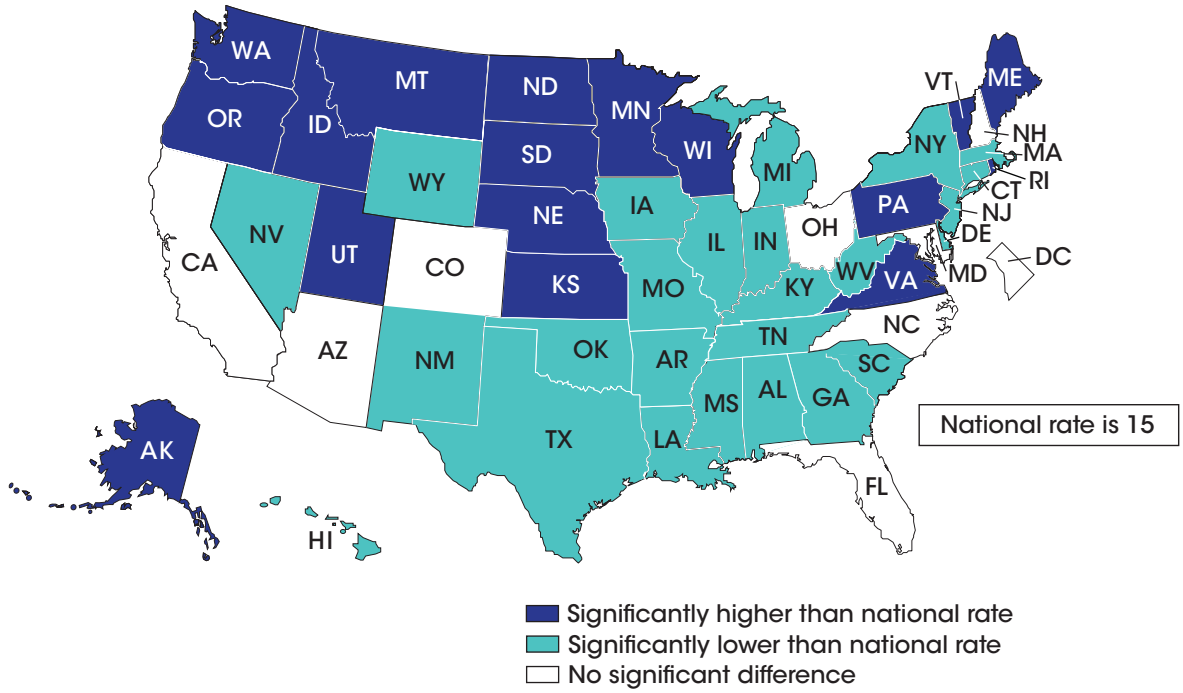


NOTES: Rates based on nursing home residents per 1,000 persons aged 65 and over on any given day. Significance tested at $p < 0.05$.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 5 in Appendix B.

Daily use of residential care communities

In 2012, national daily use of residential care communities was 15 residents aged 65 and over (Figure 17), and ranged from 2 residents in Iowa to 40 residents in North Dakota. About 17 states had rates that were higher than the national rate. The rates in most of the upper west and midwest states were higher than the national rate, as were rates for several states in the Northeast.

Figure 17. Residential care residents aged 65 and over: United States, 2012

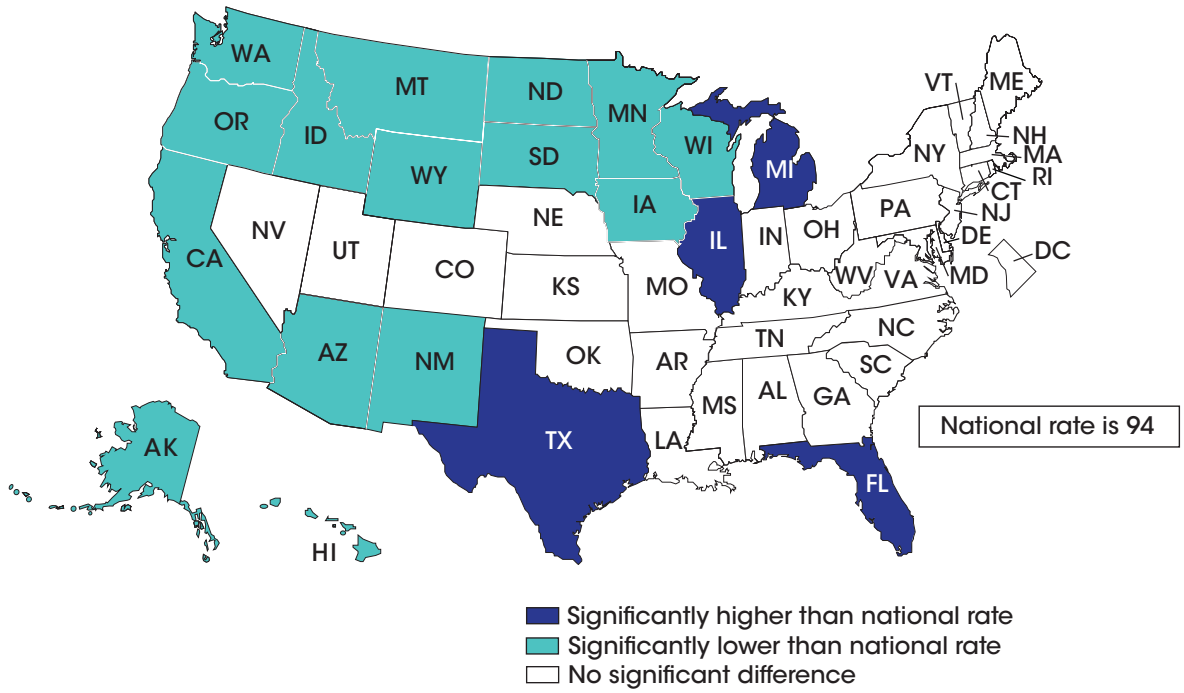


NOTES: Rates based on residential care residents per 1,000 persons aged 65 and over on any given day. Significance tested at $p < 0.05$.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 5 in Appendix B.

Annual use of home health agencies

In 2011, national annual use of home health care was 94 patients aged 65 and over (Figure 18), and ranged from 28 in Hawaii to 138 in Massachusetts.[4] All of the states in the Northeast and most of the states in the South had rates that were not statistically different from the national rate. Most of the states where use of home health care was lower than the national rate were located in the West, with some in the Midwest. Only Texas and Florida in the South, and Illinois and Michigan in the Midwest had rates higher than the national rate.

Figure 18. Home health patients aged 65 and over discharged in calendar year: United States, 2011



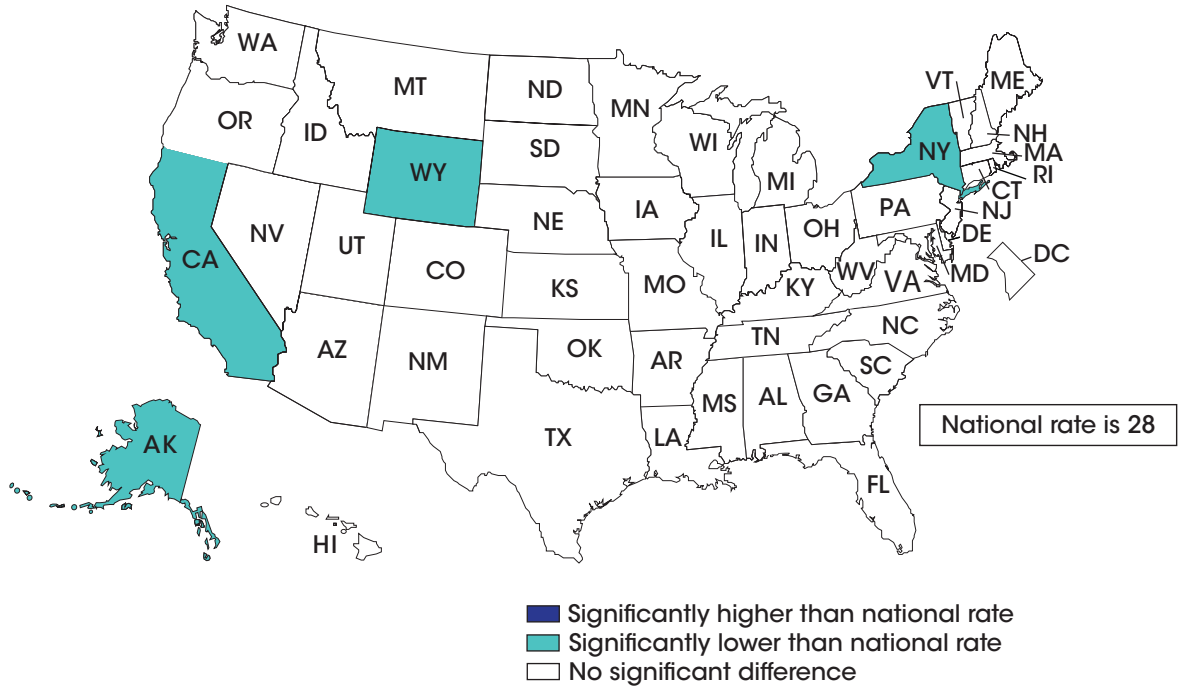
NOTES: Rates based on home health patients per 1,000 persons aged 65 and over. Significance tested at $p < 0.05$.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 5 in Appendix B.

[4] Some states may not be significantly different from the national mean, even if they have a higher use rate, due to large standard errors. For instance, the home health use rate for Massachusetts is the highest in the nation, but it is not statistically different from the national mean.

Annual use of hospices

In 2011, the national annual use of hospice care was 28 patients aged 65 and over (Figure 19). The annual rate ranged from 7 in Alaska to 39 in Delaware and Utah. All but 4 states (Alaska, California, New York, and Wyoming) had annual rates that were not statistically different from the national rate.

Figure 19. Hospice patients aged 65 and over in calendar year: United States, 2011



NOTES: Rates based on hospice patients per 1,000 persons aged 65 and over. Significance tested at $p < 0.05$.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 5 in Appendix B.

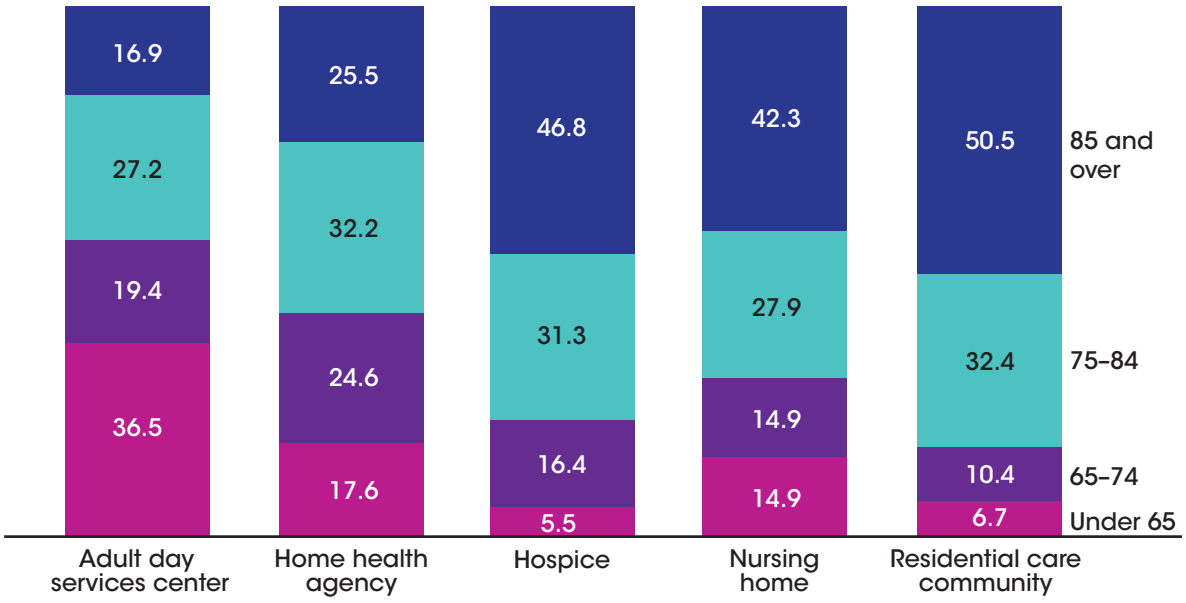
Demographic Characteristics of Users of Long-Term Care Services

Use of long-term care services by age

The majority of long-term care service users were aged 65 and over: 94.5% of hospice patients, 93.3% of residential care residents, 85.1% of nursing home residents, 82.4% of home health patients, and 63.5% of participants in adult day services centers (Figure 20).

The age composition of services users varied by sector, with residential care communities (50.5%), hospices (46.8%), and nursing homes (42.3%) serving more persons aged 85 and over, and adult day services centers (36.5%) serving more persons under age 65 than other sectors.

Figure 20. Percent distribution of long-term care services providers, by provider type and age group: United States, 2011 and 2012

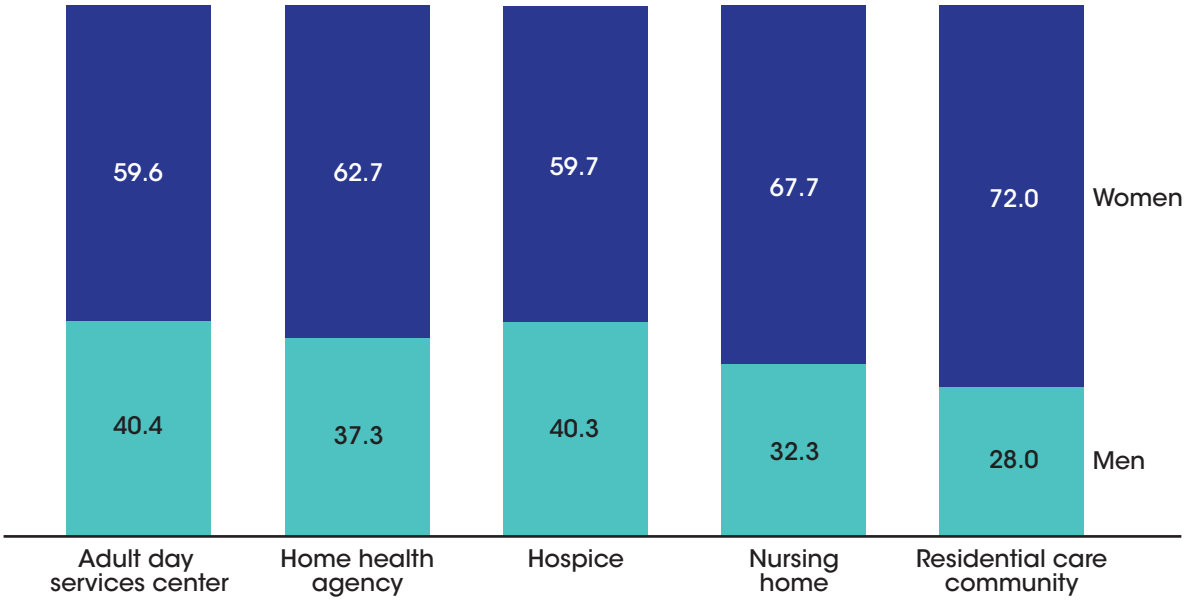


NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2012. Denominators used to calculate percentages for home health agencies and hospices were the number of patients whose episode of care in a home health agency ended at any time in 2011, and the number of patients who received care from Medicare-certified hospices at any time in 2011. See Appendix A and Technical Notes for more information on the data sources used for each provider type. Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

Use of long-term care services by sex

In all five sectors, the users of long-term care services were overwhelmingly women (Figure 21), with the highest proportion in residential care communities (72.0%).

Figure 21. Percent distribution of users of long-term care services, by provider type and sex: United States, 2011 and 2012



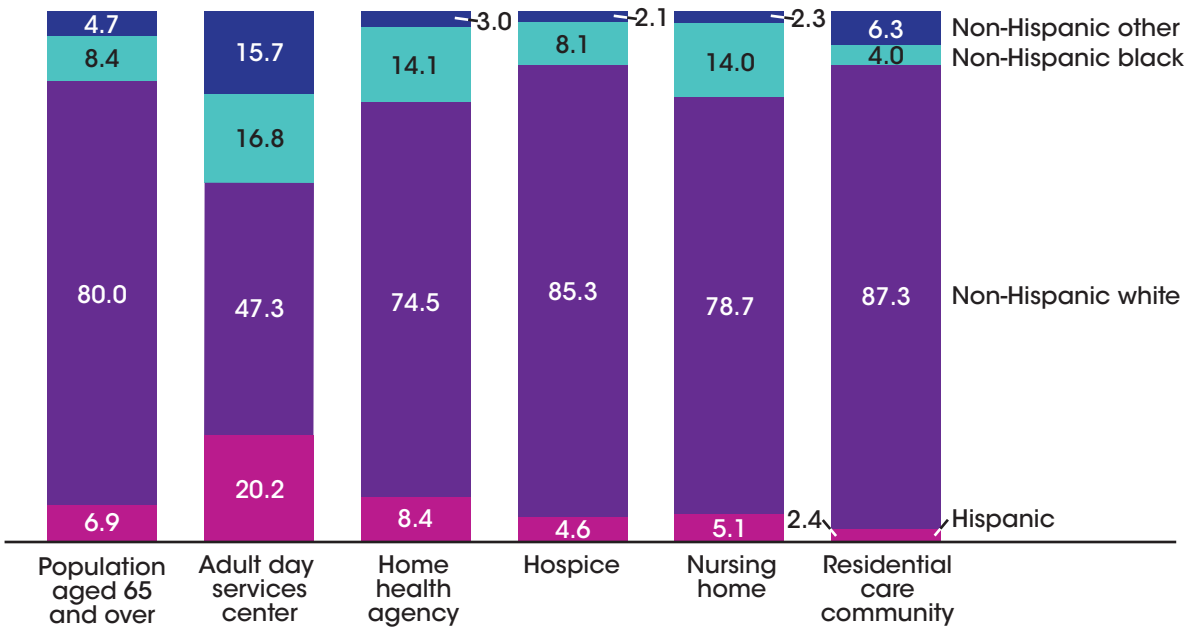
NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2012. Denominators used to calculate percentages for home health agencies and hospices were the number of patients whose episode of care in a home health agency ended at any time in 2011, and the number of patients who received care from Medicare-certified hospices at any time in 2011. See Appendix A and Technical Notes for more information on the data sources used for each provider type. Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

Use of long-term care services 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 proportion of non-Hispanic white persons was highest in residential care communities (87.3%), followed by hospices (85.3%), nursing homes (78.7%), and home health agencies (74.5%). Less than one-half of the participants in adult day services centers were non-Hispanic white (47.3%). The proportion of non-Hispanic black persons was highest in adult day services centers (16.8%). Over one-tenth of home health patients and nursing home residents were non-Hispanic black. About 8.1% of hospice patients and 4.0% of residential care residents were non-Hispanic black. Adult day services centers were the most racially and ethnically diverse among the five sectors: 16.8% of users were non-Hispanic black, and 20.2% of users were Hispanic.

Figure 22. Percent distribution of users of long-term care services, by provider type and race and Hispanic origin: United States, 2011and 2012



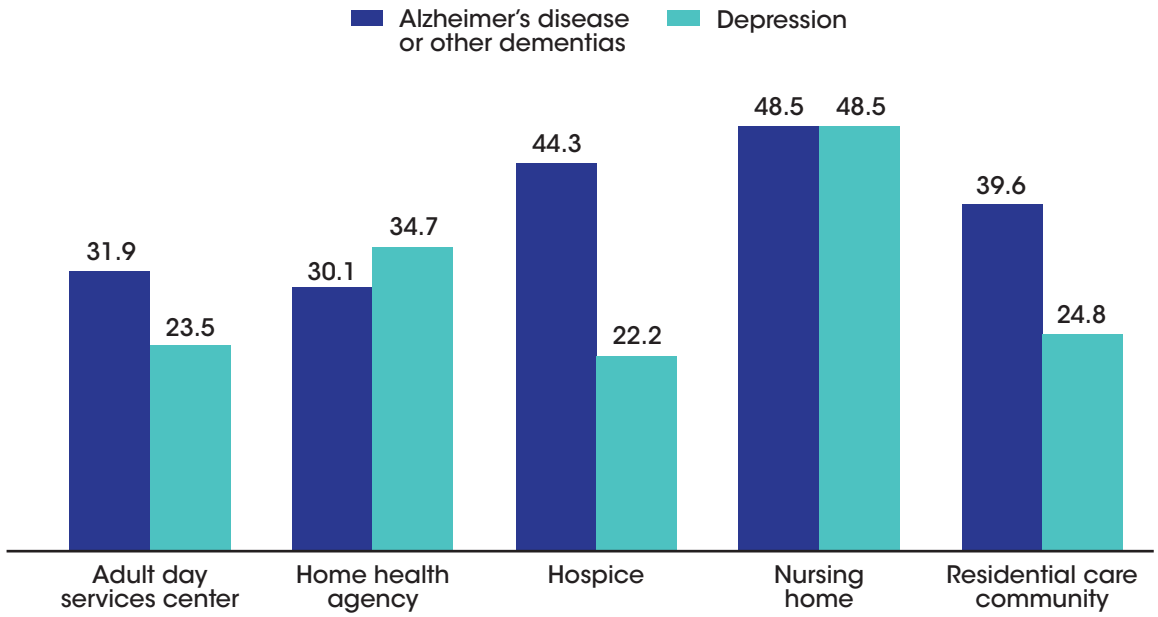
NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of participants enrolled in adult day services centers, the number of residents in nursing homes, and the number of residents in residential care communities on a given day in 2012. Denominators used to calculate percentages for home health agencies and hospices were the number of patients whose episode of care in a home health agency ended at any time in 2011, and the number of patients who received care from Medicare-certified hospices at any time in 2011. See Appendix A and Technical Notes for more information on the data sources used for each provider type. Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

Health and Functional Characteristics of Users of Long-Term Care Services

Alzheimer's disease or other dementias and depression

Alzheimer's disease or other dementias were most prevalent among nursing home residents (48.5%), and were least prevalent among home health patients (30.1%) (Figure 23). The percentage of users of long-term care services with a diagnosis of depression was highest in nursing homes (48.5%), and lowest in residential care communities (24.8%), adult day services centers (23.5%), and hospices (22.2%).

Figure 23. Percent distribution of users of long-term care services with a diagnosis of Alzheimer's disease or other dementias, and with a diagnosis of depression, by provider type: United States, 2011 and 2012



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 2012. Denominators used to calculate percentages for home health agencies and hospices were the number of patients whose episode of care in a home health agency ended at any time in 2011, and the number of patients who received care from Medicare-certified hospices at any time in 2011. See Appendix A and Technical Notes for more information on the data sources used for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

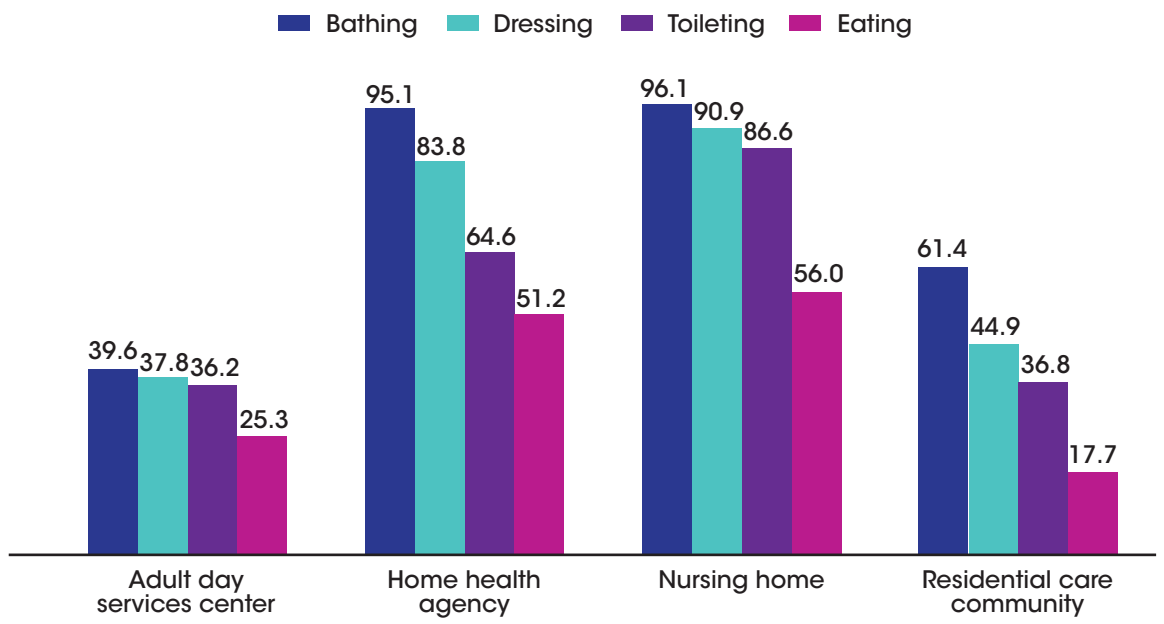
Assistance with activities of daily living

The need for ADL assistance can be used to measure physical and cognitive functioning among users of long-term care services (Katz, Down, Cash, & Grotz, 1970). Bathing, dressing, toileting, and eating are the ADLs used in this report to monitor functioning among residents in nursing homes and residential care communities, patients in home health care, and participants in adult day services centers.[5]

Within each sector, the need for assistance with bathing was most common, whereas the need for assistance with eating was least common (Figure 24). Overall, functional ability varied by sector. More nursing home residents needed assistance in each of the four ADLs, followed by home health patients. Equal proportions of adult day services center participants (36.2%) and residential care community residents (36.8%) needed assistance with toileting. More adult day services center participants (25.3%) than residential care community residents (17.7%) needed help with eating.

Although the prevalence of ADL needs differed by sector, at least 40.0% of long-term care services users in all sectors needed assistance with at least one ADL.

Figure 24. Percentage of users of long-term care services needing any assistance with activities of daily living, by provider type and activity: United States, 2011 and 2012



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 2012. Denominator used to calculate percentages for home health agencies was the number of patients whose episode of care in a home health agency ended at any time in 2011. Participants, patients, or residents were considered needing any assistance with a given activity if they needed help or supervision from another person, or they used special equipment to perform the activity. See Appendix A for definitions of needing any assistance with a given activity for each provider type. Percentages are based on the unrounded numbers.
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

[5] Data on the need for ADL assistance were not available for hospice patients.

Chapter 4

Summary

Chapter 4. Summary

In 2012, there were approximately 58,500 paid, regulated long-term care services providers in the United States, including 4,800 adult day services centers, 12,200 home health agencies, 3,700 hospices, 15,700 nursing homes, and 22,200 residential care communities. In total, long-term care services providers in these five sectors served about 8,357,100 people annually. Specifically, on any given day in 2012, there were 273,200 participants enrolled in adult day services centers, 1,383,700 residents living in nursing homes, and 713,300 residents living in residential care communities. In 2011, about 4,742,500 patients received services from home health agencies, and 1,244,500 patients received services from hospices.

Supply and Use of Long-Term Care Services

The supply of different long-term care services options was measured by examining the number of beds or allowable daily capacity per 1,000 persons aged 65 and over. In the United States, the supply of nursing home beds was almost twice the supply of residential care community beds, and about six times the allowable daily capacity of adult day services centers. The supply of nursing home and residential care beds and the capacity of adult day services centers varied by region, suggesting possible geographic differences in access. There is also geographic variation in the relative mix of long-term care services options available to consumers. In the West, the supply of residential care beds and nursing home beds per 1,000 persons was comparable, whereas nursing home beds far outnumbered residential care beds in all other regions.

Use of long-term care services varied by provider type, reflecting similar differences found when comparing supply. When comparing rates of daily use nationally among individuals aged 65 and over, use was highest in the nursing home sector and lowest in the adult day services center sector. Use of services also varied geographically. For example, in Texas the daily-use rate of adult day services centers and nursing homes was higher than the national rate, while the state's residential care daily-use rate was lower than the national rate. In contrast, in Virginia the daily-use rate of adult day services centers and nursing homes was lower than the national rate, while the state's residential care daily-use rate was higher than the national rate.

Although previous research found that the use of home- and community-based services is increasing at a greater rate than the use of nursing homes (Houser et al., 2012), findings from the National Study of Long-Term Care Providers (NSLTCP) suggest that in most areas of the country the supply and use of nursing homes are still greater than those of other long-term care services options. A recent analysis by the AARP Public Policy Institute found that states vary tremendously on a variety of characteristics of their long-term care services systems (Reinhard et al., 2011). The NSLTCP state-level findings in this report add to this picture of diversity among states.[1]

Characteristics of Long-Term Care Services Providers and Users

Paid long-term care services are provided by a wide array of trained professionals and paraprofessionals, with the largest share being direct-care workers that include certified nursing assistants, personal care aides, and home health aides, generally referred to as aides (The SCAN Foundation, 2012). In all sectors, aide hours were the most frequently used nursing hours: these findings corroborate other studies showing that direct-care workers provide an estimated 70% to 80% of the paid, hands-on, long-term care services in the United States (Paraprofessional Healthcare Institute, 2012). Previous studies have provided evidence that higher nurse-staffing levels are associated with higher quality of care outcomes for nursing home

[1] Future NSLTCP products from the National Center for Health Statistics will provide additional state-level estimates on providers and services users in these five sectors.

residents (e.g., Bostick, Rantz, Flesner, & Riggs, 2006; Castle & Engberg, 2007; Collier & Harrington, 2008), and 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, residential care (for an exception see Stearns et al., 2007), home health, and hospice settings. For every measure of nursing staff type examined, the average staff hours per resident or participant day was higher in nursing homes than in residential care communities and adult day services centers.

These differences in nurse-staffing levels among sectors reflect the higher functional needs of nursing home residents, relative to service users in other sectors. When comparing activities of daily living (ADLs) across sectors, more nursing home residents and home health patients needed assistance with each of four ADLs than did adult day participants and residential care residents. Fewer residential care community residents needed help eating than did users in other sectors. Although ADL needs varied by sector, at least 40% of long-term care services users in all four sectors needed assistance with at least one ADL.

Based on estimates from the Aging, Demographics, and Memory Study, a nationally representative sample of older adults, 13.9% of people aged 71 and over in the United States have Alzheimer's disease or other types of dementia (Plassman et al., 2007). NSLTCP findings show that a sizeable portion of service users in all five sectors had a diagnosis of Alzheimer's disease or other dementias—almost one-third of adult day services center participants and home health patients, about four-tenths of residential care residents, and almost one-half of nursing home residents. These results suggest that this condition is a common precipitating factor for using formal long-term care services (Alzheimer's Association, 2013).

In a 2008 report, 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 (Institute of Medicine, 2008). According to a recent study, about 36,100 to 44,200 professional social workers were employed in long-term care settings, and approximately 110,000 social workers would be needed in these settings by 2050 (HHS, 2006). The NSLTCP findings show that the five long-term care services sectors varied in the prevalence of employing licensed social workers. The majority of hospices and nursing homes employed licensed social workers, whereas a minority of adult day services centers, home health agencies, and residential care communities had licensed social worker employees. In the sectors for which staffing levels could be calculated (adult day services centers, nursing homes, and residential care communities), the average licensed social worker hours per resident or participant day were small (3 minutes to 9 minutes).

Although the majority of providers in all sectors offered social work services, therapeutic services, and skilled nursing services, there was some variation across sectors. For example, less than two-thirds of adult day services centers offered social work services, whereas all hospices did so. These differences may be related to different population needs among sectors or to Medicare requirements for hospices to provide medical social services, among other reasons.

Compared with the 12.0% of U.S. adults aged 65 and over in 2008 who had clinically depressive symptoms (Federal Interagency Forum on Aging-Related Statistics, 2012), depression was common among long-term care services users in all five sectors—ranging from 22.2% of hospice patients to 48.5% of nursing home residents. A higher proportion of hospices and nursing homes offered mental health and counseling services than did residential care communities and adult day services centers.

The adult day services sector was different from other sectors in notable ways. Adult day services centers were more likely to be nonprofit and to operate in less populated areas (i.e., neither metropolitan nor micropolitan). There were also fewer adult day services centers than providers in other sectors (except hospices), and they were less likely than providers in other sectors to offer social work services, mental

health or counseling services, therapeutic services, or pharmacy services. Reasons for offering fewer of these services may include financing mechanisms (e.g., Medicare plays little, if any, role in this sector), or differences in the needs of users in different sectors.

Adult day services center participants were more diverse than service users in other sectors with respect to race and ethnicity and age. Compared with the approximately 7.0% of U.S. adults aged 65 and over who were Hispanic and the approximately 9.0% who were non-Hispanic black in 2010 (Federal Interagency Forum on Aging-Related Statistics, 2012), 20.2% of adult day services center participants were Hispanic, and 16.8% were non-Hispanic black. While people of all ages may need long-term care services, NSLTCP findings corroborate previous research showing that the majority of users of paid, long-term care services are older adults (Kaye et al., 2010; O'Shaugnessy, 2013). However, among adult day services center participants, there was a lower proportion of persons aged 85 and over compared with users in other sectors. In fact, over one-third of adult day services center participants were younger than age 65.

The NSLTCP findings in this report provide a 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 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. These findings also establish a baseline for monitoring trends and examining the effects of policy changes within and across the major sectors of long-term care services.

Chapter 5

Technical Notes

Chapter 5. Technical Notes

Data Sources

This report uses data from multiple sources, but it uses 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 Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) for assisted living and similar residential care communities and adult day services centers. Data for all five provider types were obtained for comparable time periods, where feasible.

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

Provider-level data

Provider-specific data files from the Certification and Survey Provider Enhanced Reporting [(CASPER), formerly known as Online Survey Certification and Reporting] system were used. These files were drawn from the third quarter of 2012. CASPER data were collected to support the survey and certification regulatory function of CMS; every nursing home, home health agency, or hospice in the United States that was certified to provide services under Medicare, Medicaid, or both was included in the data. Different types of providers had to report different information during the survey and certification process. The number of variables in each file and the frequency of certification survey data collection varied by provider type.

Home health agency file—Included 12,206 home health agencies coded as active providers and located in the United States. About 76.1% of these agencies were Medicare- and Medicaid-certified, 22.5% were Medicare-certified only, and 1.4% were Medicaid-certified only. About 89.5% of these home health agencies completed a certification survey during the last 3 years.

Hospice file—Included 3,678 hospices coded as active providers and 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 (Office of Inspector General, 2007). About 93.0% of Medicare hospices completed a certification survey during the last 8 years (including 53.8% within the last 3 years).

Nursing home file—Included 15,675 nursing homes coded as active providers and located in the United States. About 91.5% were Medicare- and Medicaid-certified, 5.0% were Medicare-certified only, and 3.5% were Medicaid-certified only. Nearly all of these nursing homes (99.3%) completed a certification survey during the last 18 months.

User-level data

User-level 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 a unique provider identification (ID) number. These user-level data were merged to respective provider-level data files.

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. 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 2011 (i.e., discharges), regardless of payment

source. These data included home health patients who received services from Medicare-certified home health agencies 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, 939 (7.7%) of the 12,206 agencies in the CASPER file had no patient information in the OBQI data. The total number of patients in this merged file (4,742,471) was used as the denominator when calculating percentages of home health patients in different age categories, sex categories, and those needing any assistance with activities of daily living (ADLs), and to compute 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 to compute percentages of home health patients of different racial and ethnic backgrounds, and to compute percentages of those diagnosed with Alzheimer's disease and other dementias and depression. IPBS data were used for these measures because OBQI data did not use racial and ethnic categories that were comparable to those used in other data sources and did not contain information on patient's diagnosis of dementia and depression. 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 2011. When merged with the CASPER home health agency file, 1,089 (8.9%) of the 12,206 agencies in the CASPER file had no patient information in the IPBS home health data. The total number of patients in this merged file (4,073,101) was used as the denominator when calculating percentages of home health patients in different racial and ethnic categories, and to compute percentages of those diagnosed with Alzheimer's disease and other dementias and depression.

Hospice patients

IPBS hospice data contained information on hospice patients for whom Medicare-certified hospice agencies submitted a Medicare claim at any time in calendar year 2011. 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. Data on demographic characteristics (i.e., age, sex, and racial and ethnic background) and selected diagnosed chronic conditions (including Alzheimer's disease and other dementias and depression) were available; information on patients needing ADL assistance was not available. When merged with the CASPER hospice agency file, 187 (5.1%) of the 3,678 hospices in CASPER had no patient information in the IPBS hospice data. The total number of hospice patients in this merged file (1,244,505) was used to compute 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.

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 2012, regardless of payment source. Excluded were residents whose last assessment during the third quarter of 2012 was a discharge assessment. MARET assessment records were used to create a profile of the most recent standard information for each active resident (available from: https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Minimum-Data-Set-3-0-Public-Reports/Minimum-Data-Set-3-0-Frequency-Report.html).

Within MARET, CMS defined 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."

After aggregating individual resident-level MARET data to the provider ID level, the aggregated MARET data were linked to the CASPER nursing home file. There were 385 (2.5%) of 15,675 nursing homes in the CASPER file that had no resident information in the MARET data. The total number of nursing home residents in this merged file (1,320,355) was used as the denominator when calculating percentages of nursing home residents with different demographic characteristics (i.e., age, sex, and racial and ethnic background), and to compute the daily-use rates of nursing homes.

The ***CASPER nursing home file*** for the third quarter of 2012 included information on selected measures for 1,383,695 current residents living in 15,675 nursing homes; this information was collected using CMS form 672 (Resident Census and Conditions of Residents). The resident census information was designed to represent the facility at the time of the certification survey. Current residents were defined as "residents in certified beds regardless of payer source." Because the data were provided at the individual 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 to compute the number of current residents and to obtain the number of residents diagnosed with Alzheimer's disease and other dementias, the number of residents diagnosed with depression, and the number 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 for the first wave of the National Study of Long-Term Care Providers (NSLTCP) in 2012.[1] The NSLTCP questionnaires consist of topics common or comparable across all five provider types ("core topics") and topics that are specific to a particular type of provider ("provider-specific topics"). To facilitate comparisons across provider types, the core content for the primary data collection for adult day services centers and residential care communities was designed to be as similar as possible to the core content 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.

Adult day services centers

The sampling frame obtained from the National Adult Day Services Association contained 5,212 adult day services centers that self-identified as adult day care, adult day services, or adult day health services centers that were operating as of May 31, 2012. Among responding centers, 97.0% were either licensed or certified by a state agency to operate an adult day services center or participated in the Medicaid program.

[1] The 2012 NSLTCP questionnaires for adult day services centers and residential care communities are available from: http://www.cdc.gov/nchs/data/nsltcp/2012_NSLTCP_Adult_Day_Services_Center_Questionnaire.pdf and http://www.cdc.gov/nchs/data/nsltcp/2012_NSLTCP_Residential_Care_Communities_Questionnaire.pdf.

The remaining responding centers were neither regulated by the state to operate an adult day services center nor participated in Medicaid. During data collection, 42 adult day services centers that were not on the initial frame, but were in operation on or before May 31, 2012, were identified and included in the frame. The final frame included 5,254 adult day services centers. All the centers in the frame were included in the data collection efforts. During data collection it was determined that 476 (9.1%) centers were either invalid or out of business. All remaining adult day services centers (4,778) were assumed eligible. Data were collected through three modes: self-administered, hard copy mail questionnaires; self-administered web questionnaires; and Computer-Assisted Telephone Interview (CATI) interviews. The questionnaire was completed for 3,212 centers, for a response rate of 67.2%.[2] Response rates by state are presented in Table 5.1.

Table 5.1. Response rates for adult day services centers for the National Study of Long-Term Care Providers, by state

Area	Rate	Area	Rate
United States	67.2	Missouri	64.2
Alabama	69.6	Montana	42.9
Alaska	92.9	Nebraska	65.9
Arizona	78.3	Nevada	83.3
Arkansas	69.2	New Hampshire	70.8
California	56.5	New Jersey	73.0
Colorado	73.3	New Mexico	41.7
Connecticut	79.2	New York	76.0
Delaware	76.9	North Carolina	83.3
District of Columbia	66.7	North Dakota	42.9
Florida	65.0	Ohio	71.7
Georgia	57.0	Oklahoma	82.9
Hawaii	59.1	Oregon	56.3
Idaho	75.0	Pennsylvania	73.8
Illinois	75.0	Rhode Island	81.8
Indiana	75.6	South Carolina	78.6
Iowa	87.9	South Dakota	89.5
Kansas	81.3	Tennessee	73.3
Kentucky	77.5	Texas	60.5
Louisiana	66.0	Utah	83.3
Maine	60.6	Vermont	70.6
Maryland	68.6	Virginia	79.2
Massachusetts	69.8	Washington	69.0
Michigan	85.5	West Virginia	46.2
Minnesota	75.0	Wisconsin	74.8
Mississippi	70.7	Wyoming	57.1

SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2012.

[2] AAPOR (American Association for Public Opinion Research) response rate 2 formula was used to calculate the response rate for adult day services centers (completed questionnaires / completed questionnaires + language barrier + refusals + other noncompleted questionnaires).

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 2012 NSLTCP used the same definition of residential care community and the same approach to create the sampling frame (Wiener, Lux, Johnson, & Greene, 2010) as was used for the 2010 National Survey of Residential Care Facilities (NSRCF) (Moss et al., 2011). 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, on-site 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.

NSLTCP 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 of residential care communities was taken in the states that did not have sufficient numbers of residential care communities to enable state-level, sample-based estimation. From 39,779 communities in the sampling frame, 11,690 residential care communities were sampled and stratified by state and facility bed size. A set of screener items in the questionnaire was used to determine eligibility. Of the 11,690 sampled residential care communities, 4,578 communities (44.0% weighted) could not be contacted by the end of data collection and, therefore, the eligibility status of these communities was unknown. Using the eligibility rate,[3] a proportion of these communities of unknown eligibility was estimated to be eligible. 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.

Data were collected through three modes: self-administered, hard copy mail questionnaires; self-administered web questionnaires; and CATI interviews. The questionnaire was completed for 4,694 communities, for a weighted response rate (for differential probabilities of selection) of 55.4%.[4] Response rates by state are presented in Table 5.2. Sample weights were adjusted to total the estimated number of eligible residential care communities (22,185).

[3] Eligibility rate is 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."

[4] AAPOR response rate 4 formula was used to calculate the response rate for residential care communities [completed questionnaires / (completed eligible questionnaires) + (eligibility rate x cases of unknown eligibility)].

Table 5.2. Response rates for residential care communities for the National Study of Long-Term Care Providers, by state

Area	Rate (weighted)	Area	Rate (weighted)
United States	55.4	Missouri	68.0
Alabama	50.7	Montana	62.1
Alaska	60.8	Nebraska	74.2
Arizona	51.9	Nevada	57.1
Arkansas	81.8	New Hampshire	67.9
California	51.6	New Jersey	56.7
Colorado	68.5	New Mexico	57.5
Connecticut	71.1	New York	67.1
Delaware	57.1	North Carolina	52.3
District of Columbia	50.0	North Dakota	75.2
Florida	43.9	Ohio	67.7
Georgia	55.2	Oklahoma	64.7
Hawaii	62.7	Oregon	54.0
Idaho	58.1	Pennsylvania	57.0
Illinois	60.2	Rhode Island	63.6
Indiana	64.1	South Carolina	60.3
Iowa	78.4	South Dakota	78.9
Kansas	69.6	Tennessee	66.8
Kentucky	59.2	Texas	55.8
Louisiana	61.6	Utah	64.7
Maine	68.1	Vermont	67.9
Maryland	46.2	Virginia	62.4
Massachusetts	51.0	Washington	57.1
Michigan	49.1	West Virginia	59.3
Minnesota	63.2	Wisconsin	60.3
Mississippi	54.5	Wyoming	84.0

SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2012.

Differences in the number of residential care communities in 2010 and 2012

The estimate of the number of residential care community providers varied between the 2010 NSRCF and the 2012 NSLTCP (Table 5.3). NCHS continues to examine these differences. Preliminary assessments indicate that the differences in estimates largely stem from the differences in eligibility rates between the surveys. While both surveys used the same eligibility criteria, overall screener-based eligibility dropped from 81.0% in NSRCF to 67.1%[5] in NSLTCP (Table 5.4). The drop in the screener-based eligibility rate was most marked for small providers with 4 to 10 beds: a decrease from 63.6% in 2010 to 45.8% in 2012. Given that NSLTCP (n = 11,690) had a much larger sample than NSRCF (n = 3,605), and that small providers make up the largest proportion of all residential care communities, the low eligibility rate among small residential care communities had a large effect on the differences in the eligibility rates for the two surveys and the resulting differences in national estimates of the number of residential care communities.

Table 5.3. Number and percent distribution of residential care communities and beds, by bed size and survey year

	2012 National Study of Long-Term Care Providers		2010 National Survey of Residential Care Facilities	
	Weighted number	Weighted percent	Weighted number	Weighted percent
Residential care communities	22,200	100.0	31,100	100.0
Small (4–10 beds)	9,300	41.7	15,400	50.0
Medium (11–25 beds)	3,700	16.8	4,900	16.0
Large (26–100 beds)	7,300	32.7	8,700	28.0
Extra large (over 100 beds)	1,900	8.7	2,100	7.0
Beds	851,400	100.0	971,900	100.0
Small (4–10 beds)	64,700	7.6	96,700	9.9
Medium (11–25 beds)	86,900	10.2	86,800	8.9
Large (26–100 beds)	434,800	51.1	493,800	50.8
Extra large (over 100 beds)	265,000	31.1	294,600	30.3

NOTE: Percentages may not add to 100 because of rounding; percentages are based on the unrounded numbers.

SOURCES: CDC/NCHS, National Study of Long-Term Care Providers, 2012 and National Survey of Residential Care Facilities, 2010.

Several reasons could account for these differences between the two surveys. Residential care community regulations vary by state and facility bed size, and a larger NSLTCP sample may have captured more accurately whether residential care communities met the eligibility requirements of the study. This may be the case in census states where all providers in the state were sampled, because the vast majority of residential care communities are small. A more plausible reason for eligibility differences may be found in the different data collection modes used in 2010 (i.e., screeners administered by telephone interviewers, followed by in-person interviews for eligible communities) and 2012 (i.e., primarily respondent self-administered screener and questionnaire completed by mail or Web), and the resulting differences in how self-administered respondents interpreted the eligibility questions.

[5] The screener-based eligibility rate was computed based on residential care communities that completed the screening questions [completed eligible / (completed eligible + completed ineligible)].

Table 5.4. Percentage of eligible residential care communities, by bed size and survey year

Eligible communities	2012 National Study of Long-Term Care Providers	2010 National Survey of Residential Care Facilities
Overall	67.1	81.0
Bed size		
Small (4–10 beds)	45.8	63.6
Medium (11–25 beds)	68.5	82.8
Large (26–100 beds)	82.4	94.5
Extra large (over 100 beds)	85.5	95.9

SOURCES: CDC/NCHS, National Study of Long-Term Care Providers, 2012 and National Survey of Residential Care Facilities, 2010.

In the 2012 NSLTCP, the most common eligibility criteria that providers, particularly small residential care communities, did not meet was provision of on-site, 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. Cognitive testing was conducted to assess these eligibility questions, and preliminary findings supported this hypothesis.

The other common cause of ineligibility was related to serving severely mentally ill, or intellectually disabled or developmentally disabled populations exclusively. During the sample frame development process, information about residential care communities that exclusively serve these special populations was collected from state licensing agencies, but many state licensing agencies were still unable or unwilling to provide listings of these providers. These listings were often maintained at different agencies, and states did not have the manpower to cross-reference the listings. In addition, many state licensing agencies did not provide information on the types of residents served by each provider; therefore, many of these providers could not be eliminated from the states' listings when developing the sample frame. This issue may have partially accounted for the high percentage of residential care communities that were screened as ineligible on these questions.

Because the differences in eligibility were largest in the case of small providers, the 2012 estimate of the number of small providers was much lower than the 2010 estimate. The lower eligibility rate among small providers in 2012 also may have explained why the differences in the national estimate of the total number of residents between 2010 and 2012 (733,300 compared with 713,300) were less notable relative to the difference in the number of providers (31,100 compared with 22,200). Smaller providers account for the majority of communities, but they house the minority of residents.

Population bases for computing rates

Populations used for computing rates of national supply and rates of use by state populations were obtained from the Census Bureau's Population Estimates Program. The program produces estimates of the population for the United States, its states, counties, cities, and towns, and produces estimates for the Commonwealth of Puerto Rico and its municipals. 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 nation, states, and counties. Population estimates for each state and territory were not subject to sampling variation because the sources used in demographic analysis were complete counts. For a more detailed description of the estimates methodology, see http://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, 2012, were used. For calculating rates of use by state for home health agencies and hospices, estimates of the population aged 65 and over for July 1, 2011, were used, to match the time frame of the administrative data for these sectors.

Comparing NSLTCP estimates with estimates from other data sources

Administrative data

Home health agencies—Selected estimates from the 2012 merged home health file[6] were compared with estimates on home health care services provided in the Medicare Payment Advisory Commission's (MedPAC) report, using the 2011 home health standard analytical file (MedPAC, 2013), and compared with estimates from analyses on Medicare- or Medicaid-certified home health agencies that participated in NCHS' 2007 National Home and Hospice Care Survey (NHHCS). Select provider and user characteristics were comparable with other data sources except certification status and age distribution of patients. About 1% of home health agencies in the 2012 merged home health file were Medicaid-only certified compared with 14% from NHHCS. About 18% of patients in the 2012 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 2012 merged home health file's inclusion of fewer Medicaid-only certified home health agencies, and the fact that the 2012 merged file contains discharged home health patients as opposed to current home health patients (on whom NHHCS collected data).

Hospices—Selected estimates from the 2012 merged hospice file[7] were compared with estimates on hospice care services provided in MedPAC's report, using Medicare cost reports, the Provider of Services file, and the standard analytic file of hospice claims between 2000 and 2011 (MedPAC, 2013). Estimates also were compared with analyses on Medicare- or Medicaid-certified hospice agencies that participated in the 2007 NHHCS. 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 differed 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 2012 merged hospice file included Medicare beneficiaries who received hospice services from Medicare-certified hospices in 2011.

Nursing homes—Estimates from the merged 2012 CASPER nursing home and MARET files were compared with estimates from the American Health Care Association's "Nursing Facility Operational Characteristics Report, September 2012;" custom tables created using Brown University's LTCFocus Website (Brown University, 2013);[8] a MedPAC report on skilled nursing facility services (MedPAC, 2013); and analyses on Medicare- or Medicaid-certified nursing homes that participated in the 2004 National Nursing Home Survey. Provider-related estimates using the

[6] Created by linking CASPER home health file, IPBS home health file, and OBQI Case Mix Roll Up file by provider ID number.

[7] Created by linking CASPER hospice file and IPBS hospice file by provider ID number.

[8] Available from: http://ltcfocus.org/map/1/average-acuity-index#2010/US/col=0&dir=asc&pg=&lat=38.95940879245423&lng=99.4921875&zoom=4.

2012 merged nursing home file were comparable with these other data sources, while differences in the racial and ethnic mix of residents were observed. Compared with the 10% of non-Hispanic black nursing home residents presented in the MedPAC report, using the 2010 Medicare Current Beneficiary Survey, about 14% of nursing home residents in 2012 were non-Hispanic black. Differences in estimates could be due to differences in the population and the time frame used to obtain the estimates; the 2012 merged file included the latest assessment information on current residents (regardless of payer source) as of the third quarter of 2012, while MedPAC estimates were based on Medicare beneficiaries utilizing skilled nursing facility services in 2010.

Survey data

Estimates from the 2012 adult day services center and residential care community survey components of NSLTCP were compared with the 2010 MetLife National Study of Adult Day Services (MetLife Mature Market Institute, 2010) and findings from the 2010 National Survey of Residential Care Facilities, respectively. Differences between 2010 and 2012 estimates for the number of residential care communities, beds, and residents were discussed earlier in this chapter. The 2012 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.

Data Analysis

Results describing providers and service 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,[9] statistical analysis weights were computed as the product of four components—the sampling weight, adjustment for unknown eligibility status, adjustment for nonresponse, and a smoothing factor. 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 the frame was constructed, and they were not subject to sampling variability. 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 entry and other reporting errors. To account for these types of variability, the administrative data estimates were treated as a simple random sample with replacement, providing conservative standard errors for the random variation that might be associated with the files.

[9] 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. No eligibility adjustment was made for adult day services centers because all centers were assumed eligible, regardless of response status, except for those which were determined to be out-of-scope (e.g., out of business) during the data collection.

Adult day services centers

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 comprised 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.

Residential care communities

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 bed size) sample without replacement.

Significance tests

Differences among provider types were evaluated using *t* tests. All significance tests were two-sided, using $p < 0.05$ as the level of significance. Terms such as "no significant differences" were used to denote that the differences between estimates being compared were not statistically significant. Lack of comment regarding the difference between any two statistics does not necessarily suggest that the difference was tested and found not to be statistically significant. For maps, *t* tests were performed to compare a rate for each state with the corresponding national mean. Some states may not be significantly different from the national mean, even if they have a higher use rate, due to large standard errors. For instance, home health use rates for Massachusetts are the highest in the nation, but they are not statistically different from the national mean. Data analyses were performed using SAS, version 9.3 and the SAS-callable SUDAAN, version 11.0.0 statistical package (RTI International, 2012). Individual estimates may not sum to totals because estimates were rounded.

Data editing

Data files were examined for missing values and inconsistencies. In order 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 and inform respondents an answer was required, and to include data validations such as asking respondents to resolve an inconsistent answer or to check an answer if it was outside the expected range. For instance, responses to items that needed to add to the total number of residential care community residents or adult day services center participants were accepted only if the sum of responses was within a certain range (i.e., ± 10% of the total number of residents or participants).

For the survey data for adult day services centers and residential care communities, selected aggregate resident- or participant-level variables were imputed (i.e., age, race, sex, dementia diagnosis, depression diagnosis, assistance with eating, and assistance with bathing). Although administrative data also were reviewed for missing values and inconsistencies, the files did not undergo 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 full-time equivalent (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, and if the number of FTE social work employees was greater than 99. Aide hours per resident or participant per day were top coded at 24. For the definition and categories of the number of people served for each provider type, see Appendix A.

Cases with missing data were excluded from analyses on a variable-by-variable basis. Variables used in this report had a percentage (weighted if survey data, unweighted if administrative data) of cases with missing data ranging between 1.0% and 9.0%. The range of cases with missing data for each provider type is as follows:

- Adult day services center: 1.0% (Medicaid participation status) to 8.0% (number of participants needing any assistance with dressing)
- Home health agency: 7.7% to 8.9% for all patient measures (e.g., number of patients aged 65 and over) due to agencies with no patient information available in the OBQI data and the IPBS home health data, respectively
- Hospice: 5.1% 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: 2.5% for all resident demographic information (e.g., number of residents who are of Hispanic or Latino origin) due to nursing homes with no resident information available in the MARET data
- Residential care community: 5.0% (e.g., number of registered nurse employee FTEs) to 9.0% (e.g., number of residents needing any assistance with toileting)

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). To the extent possible (i.e., when available and appropriate), findings were presented on a given topic for all five provider types. However, due to two types of data-related differences, for some topics in the report, information was provided only for some provider sectors.

The first data-related difference was due to the settings served by the five provider types. 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 it 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., chain affiliation; contract nursing staff; and selected services such as dental, podiatry, and transportation). NCHS plans to produce forthcoming

reports that present additional results on adult day services centers and residential care communities, using survey data not included in this overview report.

Differences in time frames among data sources

Different data sources used different 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 2011. 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 users on any given day or active residents on the last day of the third quarter of 2012. Given these differences in denominator, comparisons across all five provider types 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, 89.5% of CASPER home health agency data were no more than 3 years old, and 93.0% 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 from calendar year 2011, 7.7% of home health agencies and 5.1% of hospices in the CASPER files did not match with provider ID numbers in the OBQI and IBPS hospice data, respectively. It is possible that home health agencies and hospices with missing patient-level information might no longer be operational or had begun operating in 2012,[10] so that their patient information was not captured in the user-level data from 2011.

[10] Of 939 home health agencies in the CASPER file that did not match with provider numbers in the OBQI data, about 43.0% had completed their initial certification survey in 2012.

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Appendix A

Crosswalk of Definitions by Provider Type

Supply of long-term care services providers, by provider type

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Supply of long-term care services providers, by provider type							
Number of providers	Number of paid, regulated, long-term care services providers	Number of adult day services centers based on 2012 NSLTCP survey of adult day services centers	Number of assisted living and similar residential care communities based on 2012 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 2012	Number of hospices certified to provide services under Medicare, Medicaid, or both in the third quarter of 2012	Number of nursing homes certified to provide services under Medicare, Medicaid, or both the in third quarter of 2012	Study-specific eligibility criteria were used to define residential care ommunities. See Technical Notes for information on eligibility criteria.
Region	Grouping of conterminous states into geographic areas corresponding to groups used by the U.S. Census Bureau. A listing of states included in each of the four U.S. Census regions is available from: http://www.census.gov/geo/maps-data/maps/pdfs/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	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 metro area contains a core urban area of 50,000 or more population, and a micro area contains an urban core of at least 10,000 (but less than 50,000) population. Each metro or micro 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	**All provider types:** used 2009 OMB standards for delineating metropolitan and micropolitan statistical areas.

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

Definition		Survey data Question numbers refer to order in National Study of long-term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Supply of Long-term care services providers, by provider type							
Capacity	Used to quantify the supply of long-term care services provided in the community (i.e., adult day services center or residential care communities) or in an institutional setting (i.e., nursing homes). See Technical Notes for description of population bases used for computing rates.	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.	Q11. At this residential care community, what is the number of licensed, registered, or certified residential care beds? Include both occupied and unoccupied beds.	Category not applicable	Category not applicable	Derived from: [CRTFD_BED_CNT] Number of beds in Medicare and/or Medicaid certified areas within a facility	**NH**: the number of certified beds was used because current residents in CASPER (CNSUS_RSDNT_CNT) are defined as those in certified beds regardless of payer source.
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] Q1. What is the type of ownership of this adult day services center? 1= Private, nonprofit 2= Private, for profit 3= Publicly traded company/ LLC 4= Government (federal, state, county, local) If OWNERSHP= 3, code OWN as 1. Else OWN = OWNERSHP.	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/ LLC 4= Government (federal, state, county, local) If OWNERSHP= 3, code OWN as 1. Else OWN= OWNERSHP.	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;	

Organizational characteristics of long-term care services providers, by provider type

	Definition	Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Organizational characteristics of long-term care services providers, by provider type							
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 2011 (hospices), or the number of patients who ended an episode of care at any time in calendar year 2011 (home health agencies).	1= 1–25 2= 26–100 3= 101 or more Derived from: [AVGPART] Q6. Based on a typical week, what is the approximate average daily attendance at this center at this location? Include respite care participants.	1= 1–25 2= 26–100 3= 101 or more Derived from: [TOTRES] Q12. What is the total number of residents currently living at this residential care community? Include respite care residents.	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 2011 (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] Number of hospice care patients for whom Medicare-certified hospice care agencies submitted a Medicare claim at any time in calendar year 2011	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.	Category not applicable	Category not applicable	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	

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

	Definition	Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Staffing: Nursing and social work employees, by provider type							
Medicaid certification	Refers to Medicaid certification or participation status.	1= Certified 2= Not certified Derived from: [MEDPAID] Q9. During the last 30 days, how many of this center's participants had some or all of their long-term care services paid by Medicaid?	1= Certified 2= Not certified Derived from: [MEDPAID] Q15. During the last 30 days, how many of this residential care community's residents had some or all of their long-term care services paid by 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	Data not available	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	
Registered nurse	Number of full-time equivalent registered nurse (RN) employees (based on a 35-hour work week)	Derived from: [RNFT1_R_1_1, RNPT1_R_1_2, RNFTE1_R_1_4] Q23_a. RNs: Number of full-time center employees AND Number of part-time center employees; OR Number of full-time equivalent center employees	Derived from: [RNFT1_R_1_1, RNPT1_R_1_2, RNFTE1_R_1_4] Q26_a. RNs: Number of full-time residential care community employees AND Number of part-time residential care community employees; OR Number of full-time equivalent residential care community employees	Derived from: [RN_CNT] Number of full-time equivalent registered professional nurses employed by a provider	Derived from: [RN_CNT] Number of full-time equivalent registered professional nurses employed by a provider	Derived from:[RN_FLTM_CNT, RN_PRTM_CNT] Number of full-time equivalent registered nurses employed by a facility on a full-time basis; Number of full-time equivalent registered nurses employed by a facility on a part-time basis	**ADSC, RCC**: Number of full-time and the number of part-time employees for a given staff type were converted into full-time equivalents (FTEs) with an assumption that full-time is 1.0 FTE and part-time is 0.5 FTE. **HHA, HOS**: Number of FTE employees by staff type is provided in administrative data. **NH**: Administrative data on nursing homes 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). **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. See Technical Notes for more information on editing of the staffing data.

Staffing: Nursing and social work employees, by provider type

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Staffing: Nursing and social work employees, by provider type							
Licensed practical nurse (LPN) or licensed vocational nurse (LVN)	Number of full-time equivalent licensed practical nurse or licensed vocational nurse employees (based on a 35-hour work week)	Derived from: [LPNFTE1_R_1_1, LPNFTE1_R_1_2, LPNFTE1_R_1_4] Q23_b. LPNs/LVNs: Number of full-time center employees AND Number of part-time center employees; OR Number of full-time equivalent center employees	Derived from: [LPNFTE1_R_1_1, LPNFTE1_R_1_2, LPNFTE1_R_1_4] Q26_b. LPNs/LVNs: Number of full-time residential care community employees AND Number of part-time residential care community employees; OR Number of full-time equivalent residential care community employees	Derived from: [LPN_LVN_CNT] Number of full-time equivalent licensed practical or vocational nurses employed by a facility	Derive from: [LPN_LVN_CNT] Number of full-time equivalent licensed practical or vocational nurses employed by a facility	Derived from: [LPN_LVN_FLTM_CNT, LPN_LVN_PRTM_CNT] Number of full-time equivalent licensed practical or vocational nurses employed by a facility on a part-time basis	**ADSC, RCC**: 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. **HHA, HOS**: Number of FTE agency employees by staff type is provided in administrative data. **NH**: Administrative data on nursing homes 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). **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. See Technical Notes for more information on editing of the staffing data.

Staffing: Nursing and social work employees, by provider type—Con.

	Definition	Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Staffing: Nursing and social work employees, by provider type							
Aide	Number of full-time equivalent 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 medication technicians who are facility employees.	Derived from: [AIDEFT1_R_1_1, AIDEPT1_R_1_2, AIDEFTE1_R_1_4] Q23_c. 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 center employees AND Number of part-time center employees; OR Number of full-time equivalent center employees	Derived from: [AIDEFT1_R_1_1, AIDEPT1_R_1_2, AIDEFTE1_R_1_4] Q26_c. 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 residential care community employees AND Number of part-time residential care community employees; OR Number of full-time equivalent residential care community employees	Derived from: [HH_AIDE_CNT] Number of full-time equivalent home health aides employed by a home health agency	Derived from: [HH_AIDE_EMPLEE_CNT] Number of full-time equivalent home health aides employed by a hospice	Derived from: [NRS_AIDE_FLTM_CNT, NRS_AIDE_PRTM_CNT, MDCTN_AIDE_FLTM_CNT, MDCTN_AIDE_PRTM_CNT] Number of full-time equivalent certified nurse aides employed by a facility on a full-time basis; Number of full-time equivalent certified nurse aides employed by a facility on a part-time basis; Number of full-time equivalent medication aides or technicians employed by a facility on a full-time basis; Number of full-time equivalent medication aides or technicians employed by a facility on a part-time basis	**ADSC**, **RCC**: Number of full-time and the 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. **HHA**, **HOS**: Number of FTE agency employees by staff type is provided in administrative data. **NH**: Administrative data on nursing homes 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). **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. See Technical Notes for more information on editing of the staffing data.

Staffing: Nursing and social work employees, by provider type—Con.

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Staffing: Nursing and social work employees, by provider type							
Social worker	Number of full-time equivalent social worker employees (based on a 35-hour work week)	Derived from: [SOCWFT1_R_1_1, SOCWPT1_R_1_2, SOCWFTE1_R_1_4] Q23_d. Social workers—licensed social workers or persons with a bachelor's or master's degree in social work: Number of full-time center employees AND Number of part-time center employees; OR Number of full-time equivalent center employees	Derived from: [SOCWFT1_R_1_1, SOCWPT1_R_1_2, SOCWFTE1_R_1_4] Q26_d. Social workers—licensed social workers or persons with a bachelor's or master's degree in social work: Number of full-time residential care community employees AND Number of part-time residential care community employees; OR Number of full-time equivalent residential care community employees.	Derived from: [SCL_WORKR_CNT] Number of full-time equivalent social workers employed by the agency	Derived from: [MDCL_SCL_WORKR_CNT] Number of full-time equivalent medical social workers employed by a hospice	Derived from: [SCL_WORKR_FLTM_CNT, SCL_WORKR_PRTM_CNT] Number of full-time equivalent social workers employed by a facility on a full-time basis; Number of full-time equivalent social workers employed by a facility on a part-time basis	**ADSC, RCC**: 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. **HHA, HOS**: Number of FTE agency employees by staff type is provided in administrative data. **NH**: Administrative data on nursing homes 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). **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. See Technical Notes for more information on editing of the staffing data.

Staffing: Nursing and social work employees, by provider type—Con.

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Staffing: Nursing and social work employees, by provider type							
Hours per resident or participant per day (HPPD)	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, hours per participant per day 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 arrive at hours per resident per day.	Derived from: [RNFTE, LPNFTE, AIDEFTE, SOCWFTE, AVGPART] RNHPPD = (RNFTE*35)/ AVGPART/5 days; LPNHPPD = (LPNFTE*35)/ AVGPART/5 days; AIDEHPPD =(AIDEFTE*35)/ AVGPART/5 days; SOCWHPPD =(SOCWFTE*35)/ AVGPART/5 days;	Derived from: [RNFTE, LPNFTE, AIDEFTE, SOCWFTE, TOTRES] RNHPPD = (RNFTE*35)/TOTRES/7 days; LPNHPPD = (LPNFTE*35)/TOTRES/7 days; AIDEHPPD =(AIDEFTE*35)/ TOTRES/7 days; SOCWHPPD =(SOCWFTE*35)/ TOTRES/7 days;	Data not available	Data not available	Derived from: [RNFTE, LPNFTE, AIDEFTE, SOCWFTE, CNSUS_RSDNT_CNT] RNHPPD = (RNFTE*35)/ CNSUS_RSDNT_CNT/7 days; LPNHPPD = (LPNFTE*35)/ CNSUS_RSDNT_CNT/7 days; AIDEHPPD =(AIDEFTE*35)/ CNSUS_RSDNT_CNT/7 days; SOCWHPPD =(SOCWFTE*35)/ CNSUS_RSDNT_CNT/7 days;	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.

Staffing: Nursing and social work employees, by provider type—Con.

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Services provided by long-term care services providers, by provider type							
Social work services	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 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.	Derived from: [SERVSOCW] Q16_c. Social work 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 1= Not provided 2= Provided only by ADSC employees 3= Provided only by others through arrangement 4= Provided by both ADSC employees and others through arrangement If SERVSOCW=1, SERVSOCW_RC=2; else if SERVSOCW >1, SERVSOCW_RC=1;	Derived from: [SERVSOCW] Q19_c. Social work 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 1= Not provided 2= Provided only by RCC employees 3= Provided only by others through arrangement 4= Provided by both RCC employees and others through arrangement If SERVSOCW=1, SERVSOCW_RC=2; else if SERVSOCW >1, SERVSOCW_RC=1;	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;	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;	Derived from: [SCL_WORK_SRVC_ONST_RSDNT_SW, SCL_WORK_SRVC_ONST_NRSDNT_SW, SCL_WORK_SRVC_OFSITE_RSDNT_SW] Qualified social worker 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 (Not provided); Else SERVSOCW=1 (Provided);	

Services provided by long-term care services providers, by provider type

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Services provided by long-term care services providers, by provider type							
Mental health or counseling services	Mental health services in survey data refer to services that target person's mental, emotional, psychological, or psychiatric well-being and include diagnosing, describing, evaluating, and treating mental conditions. 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" (http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf).	Derived from [SERVMH] Q16_e. Mental health services—target participants' mental, emotional, psychological, or psychiatric well-being and include diagnosing, describing, evaluating, and treating mental conditions 1= Not provided 2= Provided only by ADSC employees 3= Provided only by others through arrangement 4= Provided by both ADSC employees and others through arrangement If SERVMH=1, SERVMH_RC=2; else if SERVMH >1, SERVMH_RC=1;	Derived from [SERVMH] Q19_e. Mental health services—target residents' mental, emotional, psychological, or psychiatric well-being and include diagnosing, describing, evaluating, and treating mental conditions 1= Not provided 2= Provided only by RCC employees 3= Provided only by others through arrangement 4= Provided by both RCC employees and others through arrangement If SERVMH=1, SERVMH_RC=2; else if SERVMH >1, SERVMH_RC=1;	Data not available	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;	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 (Not provided); Else SERVMH=1 (Provided);	

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

	Definition	Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Services provided by long-term care services providers, by provider type							
Therapeutic services	Refers to providing any of the three therapeutic services: physical therapy, occupational therapy, or speech therapy or pathology.	Derived from: [SERVTX] Q16_f. Any therapeutic services—physical, occupational, or speech 1= Not provided 2= Provided only by ADSC employees 3= Provided only by others through arrangement 4= Provided by both ADSC employees and others through arrangement If SERVTX=1, SERVTX_RC=2; else if SERVTX >1, SERVTX_RC=1;	Derived from: [SERVTX] Q19_f. Any therapeutic services—physical, occupational, or speech 1= Not provided 2= Provided only by RCC employees 3= Provided only by others through arrangement 4= Provided by both RCC employees and others through arrangement If SERVTX=1, SERVTX_RC=2; else if SERVTX >1, SERVTX_RC=1;	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;	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;	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 1), 2), and 3), SERVTX=2 (Not provided); Else SERVTX=1 (Provided);	
Pharmacy, pharmacist, or pharmaceutical services	Pharmacy services include filling of and delivery of prescriptions. Pharmacist services are provided by "the licensed pharmacist(s) who a facility is required to use for various purposes, including providing consultation on pharmacy services, establishing a system of records of controlled drugs, overseeing records and reconciling controlled drugs, and/or performing a monthly drug regimen review for each resident" (CMS form 671). Definition for pharmaceutical services is not provided in CMS' State of Operations Manual.	Derived from: [SERVRX] Q16_g. Pharmacy services—including filling of and delivery of prescriptions 1= Not provided 2= Provided only by ADSC employees 3= Provided only by others through arrangement 4= Provided by both ADSC employees and others through arrangement If SERVRX=1, SERVRX_RC=2; else if SERVRX >1, SERVRX_RC=1;	Derived from: [SERVRX] Q19_g. Pharmacy services—including filling of and delivery of prescriptions 1= Not provided 2= Provided only by RCC employees 3= Provided only by others through arrangement 4= Provided by both RCC employees and others through arrangement If SERVRX=1, SERVRX_RC=2; else if SERVRX >1, SERVRX_RC=1;	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;	Data not available	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 (Not provided); Else SERVRX=1 (Provided);	

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Services provided by long-term care services providers, by provider type							
Skilled nursing or nursing services	In survey data, refers to services that must be performed by a registered nurse or a licensed practical nurse and are medical in nature. For home health agencies, the definition for nursing services is not provided in CMS' State of Operations Manual. For hospices, nursing services are "routinely available and on call on a 24-hour basis, 7 days a week," and "provided by or under the supervision of a registered nurse (RN) functioning within a plan of care developed by the hospice (IDG) in consultation with the patient's attending physician, if the patient has one" (http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf). For nursing homes, nursing services 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).	Derived from: [SERVNURS] Q16_i. Skilled nursing services—must be performed by a RN or LPN and are medical in nature 1= Not provided 2= Provided only by ADSC employees 3= Provided only by others through arrangement 4= Provided by both ADSC employees and others through arrangement If SERVNURS=1, SERVNURS_RC=2; else if SERVNURS >1, SERVNURS_RC=1;	Derived from: [SERVNURS] Q19_i. Skilled nursing services—must be performed by a RN or LPN and are medical in nature 1= Not provided 2= Provided only by RCC employees 3= Provided only by others through arrangement 4= Provided by both RCC employees and others through arrangement If SERVNURS=1, SERVNURS_RC=2; else if SERVNURS >1, SERVNURS_RC=1;	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;	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;	Derived from: [NRSNG_SRVC_ONST_RSDNT_SW, NRSNG_SRVC_ONST_NRSDNT_S]W, 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 (Not provided); Else SERVNURS=1 (Provided);	

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

	Definition	Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Services provided by long-term care services providers, by provider type							
Hospice services	Refers to palliative and supportive services to dying persons and their family members. 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 in a unit identified and dedicated by a facility for residents needing hospice services or having one or more residents receiving hospice care benefits, they were coded as providing hospice services.	Derived from [SERVHOS] Q16_b Hospice services 1= Not provided 2= Provided only by ADSC employees 3= Provided only by others through arrangement 4= Provided by both ADSC employees and others through arrangement If SERVHOS=1, SERVHOS_RC=2; Else if SERVHOS >1, SERVHOS_RC=1;	Derived from: [SERVHOS] Q19_b Hospice services 1= Not provided 2= Provided only by RCC employees 3= Provided only by others through arrangement 4= Provided by both RCC employees and others through arrangement If SERVHOS=1, SERVHOS_RC=2; Else if SERVHOS >1, SERVHOS_RC=1;	Derived from: [MDCR_HOSPC_SW] Indicate if the Home Health Agency also participates in the Medicare program as a hospice. If MDCR_HOSPC_SW='Y', SERVHOS=1; Else if MDCR_HOSPC_SW= 'N', SERVHOS=2;	Category not applicable	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;	
Number of users	Number of users of services provided by paid, regulated, long-term care services providers	Q5. What is the total number of participants currently enrolled at this center at this location? Include respite care participants. 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.	Q12. What is the total number of residents currently living at this residential care community? Include respite care residents. 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 U.S.; 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 2011 (i.e., discharges), regardless of payment source; 939 agencies (7.7%) 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 U.S.; TOTPAT was used as the denominator when computing percentages for selected aggregate, patient-level measures (i.e., age, sex, and patients needing any assistance in activities of daily living).	Derived from: [BENE_CNT from IPBS-HOSPICE] Number of hospice patients for whom Medicare-certified hospice submitted a Medicare claim at any time in CY 2011; 187 agencies (5.1%)with missing IPBS-hospice data; Denominator for measures on all aggregate patient-related measures; This data item (BENE_CNT) was used to create SIZE variable (number of people served), and to obtain the number of hospice patients in U.S.; BENE_CNT was used as the denominator when computing percentages for all aggregate patient-level measures.	Derived from: [CNSUS_RSDNT_CNT] Number of current residents in certified beds in nursing homes in CASPER; Denominator for measures on residents with activities of daily living limitations and diagnosed with depression and dementia; This data item (CNSUS_RSDNT_CNT) was used to create SIZE variable, and to obtain the number of current nursing home residents in U.S.; CNSUS_RSDNT_CNT was used when computing percentages for selected aggregate, resident-level measures (i.e., diagnosed with dementia, diagnosed with depression, and residents needing any assistance in activities of daily living).	

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Use of long-term care services, by provider type							
Number of 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 nursing home residents [excluding residents with latest Minimum Data Set (MDS) assessment data are based on discharge assessment].	Category not applicable	Category not applicable	Derived from: [BENE_CNT from IPBS-Home health] Number of home health patients for whom Medicare-certified home health care agencies submitted a Medicare claim at any time in CY 2011; 1,089 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-ethnicity, diagnosed with dementia, and diagnosed with depression).	Category not applicable	Derived from:[resident ID from Minimum Data Set Active Resident Episode Table (MARET)] Number of active residents (Exclude residents whose last assessment during Q3 2012 was discharge assessment); 385 nursing homes (2.5%) in CASPER with 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, and race and ethnicity).	

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Age	Number of long-term care services users under age 65	Derived from: [AGLT17, AG18TO44, AG45TO54, AG55TO64] Q28. Of the participants currently enrolled at this adult day services center, how many are: a. 17 years or younger? b. 18–44 years? c. 45–54 years? d. 55–64 years?	Derived from: [AGLT17, AG18TO44, AG45TO54, AG55TO64] Q31. Of the residents currently living in this residential care community, how many are: a. 17 years or younger? b. 18–44 years? c. 45–54 years? d. 55–64 years?	Derived from: [MSR_201_VAL from OBQI Case Mix Roll Up data] Calculated age at the time of episode of care.	Derived from: [AGE_LESS_65 from IPBS-Hospice] Number of beneficiaries under the age of 65 utilizing the provider type of service	Derived from: [A0900_BIRTH_DT from MARET] Resident's birth date	**ADSC, RCC**: Cases with missing data were imputed. **HHA, 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 individual provider identification (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-7.7%; NH-2.5%), no facilities or agencies had missing data. **HOS**: IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (5.1%), no agencies had missing data.
	Number of long-term care services users between ages 65 and 74	Q28. Of the participants currently enrolled at this adult day services center, how many are: e. 65–74 years?	Q31. Of the residents currently living in this residential care community, how many are: e. 65–74 years?	Derived from: [MSR_201_VAL from OBQI Case Mix Roll Up data] Calculated age at the time of episode of care.	Derived from: [AGE_65_69, AGE_70_74 from IPBS-Hospice] Number of beneficiaries between ages 65 and 69 utilizing the provider type of service; Number of beneficiaries between ages 70 and 74 utilizing the provider type of service	Derived from: [A0900_BIRTH_DT from MARET] Resident's birth date	**ADSC, RCC**: Cases with missing data were imputed. **HHA, 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 individual provider ID number, facilities or agencies with 20.0% or more of their residents or patient information missing for a given data item were coded as missing; other than cases with missing data due to nonmatching (HHA–7.7%; NH–2.5%), no facilities or agencies had missing data. **HOS**: IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (5.1%), no agencies had missing data.

Demographic characteristics of users of long-term care services, by provider type

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Age—Con.	Number of long-term care services users between ages 75 and 84	Q28. Of the participants currently enrolled at this adult day services center, how many are: f. 75–84 years?	Q31. Of the residents currently living in this residential care community, how many are: f. 75–84 years?	Derived from: [MSR_201_VAL Num from OBQI Case Mix Roll Up data] Calculated age at the time of episode of care.	Derived from: [AGE_75_79, AGE_80_84 from IPBS-Hospice] Number of beneficiaries between ages 75 and 79 utilizing the provider type of service; Number of beneficiaries between ages 80 and 84 utilizing the provider type of service	Derived from: [A0900_BIRTH_DT from MARET] Resident's birth date	**ADSC**, **RCC**: Cases with missing data were imputed. **HHA**, **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 individual 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–7.7%; NH–2.5%), no facilities or agencies had missing data. **HOS**: IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (5.1%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Age—Con.	Number of long-term care services users aged 85 and over	Q28. Of the participants currently enrolled at this adult day services center, how many are: g. 85 years and older?	Q31. Of the residents currently living in this residential care community, how many are: g. 85 years and older?	Derived from: [MSR_201_VAL from OBQI Case Mix Roll Up data] Calculated age at the time of episode of care.	Derived from: [AGE_OVER_84 from IPBS-Hospice] Number of beneficiaries over age 84 utilizing the provider type of service	Derived from: [A0900_BIRTH_DT from MARET] Resident's birth date	**ADSC**, **RCC**: Cases with missing data were imputed. **HHA**, **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 individual 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–7.7%; NH–2.5%), no facilities or agencies had missing data. **HOS**: IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (5.1%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Race and ethnicity	Number of long-term care services users of Hispanic or Latino origin	Q26. Of the participants currently enrolled at this center, how many are: a. Hispanic or Latino, of any race?	Q29. Of the residents currently living in this residential care community, how many are: a. Hispanic or Latino, of any race?	Derived from: [RACE_HISPN from IPBS-Home health] Number of Hispanic beneficiaries utilizing the provider type of service	Derived from: [RACE_HISPN from IPBS-Hospice] Number of Hispanic beneficiaries utilizing the provider type of service	Derived from: [A1000D_HSPNC_CD from MARET] Indicates if the resident is Hispanic.	**HH**: IPBS-Home health data used; race-ethnicity data in OBQI Case Mix Roll Up do not match race-ethnicity categories used in other data sources. **ADSC**, **RCC**: Cases with missing data were imputed. **NH**: MARET data are individual resident-level data; when rolling up individual user-level data to individual provider ID number, facilities with 20.0% or more of their residents information missing for a given data item were coded as missing. About 5.0% of facilities, including facilities with missing data due to nonmatching (NH–2.5%), had missing data. **HHA**, **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–5.1%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Race and ethnicity—Con.	Number of long-term care services users who are non-Hispanic, white	Q26. Of the participants currently enrolled at this center, how many are: f. White, not Hispanic or Latino?	Q29. Of the residents currently living in this residential care community, how many are: f. White, not Hispanic or Latino?	Derived from: [RACE_WHITE from IPBS-Home health] Number of white beneficiaries utilizing the provider type of service	Derived from: [RACE_WHITE from IPBS-Hospice] Number of white beneficiaries utilizing the provider type of service	Derived from: [A1000F_WHT_CD from MARET] Indicates if the resident is white.	**HH**: IPBS-Home health data used; race-ethnicity data in OBQI Case Mix Roll Up do not match race-ethnicity categories used in other data sources. **ADSC**, **RCC**: Cases with missing data were imputed. **NH**: MARET data are individual resident-level data; when rolling up individual user-level data to individual provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 5.0% of facilities, including facilities with missing data due to nonmatching (NH–2.5%), had missing data. **HHA**, **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–5.1%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Race and ethnicity—Con.	Number of long-term care services users who are non-Hispanic, black	Q26. Of the participants currently enrolled at this center, how many are: d. Black, not Hispanic or Latino?	Q29. Of the residents currently living in this residential care community, how many are: d. Black, not Hispanic or Latino?	Derived from: [RACE_BLACK from IPBS-Home health] Number of non-Hispanic black beneficiaries utilizing the provider type of service	Derived from: [RACE_BLACK from IPBS-Hospice] Number of non-Hispanic black beneficiaries utilizing the provider type of service	Derived from: [A1000C_AFRCN_AMRCN_CD from MARET] Indicates if the resident is African American.	**HH**: IPBS-Home health data used; race-ethnicity data in OBQI Case Mix Roll Up do not match race-ethnicity categories used in other data sources. **ADSC**, **RCC**: Cases with missing data were imputed. **NH**: MARET data are individual resident-level data; when rolling up individual user-level data to individual provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 5.0% of facilities, including facilities with missing data due to nonmatching (NH–2.5%), had missing data. **HHA**, **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–5.1%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Race and ethnicity—Con.	Number of long-term care services users who are other, non-Hispanic racial or ethnic background	Derived from: [AIAN, ASIAN, NHOPI, MULTIRACE, OTHRACE] Q26. Of the participants currently enrolled at this center, how many are: 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?	Derived from: [AIAN, ASIAN, NHOPI, MULTIRACE, OTHRACE] Q29. Of the residents currently living in this residential care community, how many are: 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?	Derived from: [RACE_NATIND, RACE_API, RACE_OTHER from IPBS-Home health] Number of Alaska Native or American Indian beneficiaries utilizing the provider type of service; Number of Asian Pacific Islander beneficiaries utilizing the provider type of service; Number of all other beneficiaries not elsewhere classified utilizing the provider type of service	Derived from: [RACE_NATIND, RACE_API, RACE_OTHER from IPBS-Hospice] Number of Alaska Native or American Indian beneficiaries utilizing the provider type of service; Number of Asian Pacific Islander beneficiaries utilizing the provider type of service; Number of all other beneficiaries not elsewhere classified utilizing the provider type of service	Derived from: [A1000A_AMRCN_INDN_AK_NTV_CD, A1000B_ASN_CD, A1000E_NTV_HI_PCFC_ISLNDR_CD from MARET] Indicates if the resident is American Indian or Alaska Native; Indicates if the resident is Asian; Indicates if the resident is Native Hawaiian or Pacific Islander.	**HH**: IPBS-Home health data used; race-ethnicity data in OBQI Case Mix Roll Up do not match race-ethnicity categories used in other data sources. **ADSC**, **RCC**: Cases with missing data were imputed. **NH**: MARET data are individual resident-level data; when rolling up individual user-level data to individual provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 5.0% of facilities, including facilities with missing data due to nonmatching (NH–2.5%), had missing data. **HHA**, **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–5.1%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Demographic characteristics of users of long-term care services, by provider type							
Sex	Number of long-term care services users who are male	Q27. Of the participants currently enrolled at this center, how many are: a. Male?	Q30. Of the residents currently living in this residential care community, how many are: a. Male?	Derived from: [MSR_202_VAL, TOTPAT from OBQI Case Mix Roll Up data] "Patient History, Demographics, Gender: Female."	Derived from: [MALE from IPBS-Hospice] Number of male beneficiaries utilizing the provider type of service.	Derived from: [A0800_GNDR_CD from MARET] Identifies the resident's gender. '-'=Not assessed/no information/unable to determine 1= Male 2= Female	**ADSC**, **RCC**: Cases with missing data were imputed. **HHA**, **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 individual 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–7.7%; NH–2.5%), no facilities or agencies had missing data. **HOS**: IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (5.1%), no agencies had missing data.
	Number of long-term care services users who are female	Q27. Of the participants currently enrolled at this center, how many are: b. Female?	Q30. Of the residents currently living in this residential care community, how many are: b. Female?	Derived from: [MSR_202_VAL from OBQI Case Mix Roll Up data] "Patient History, Demographics, Gender: Female."	Derived from: [FEMALE from IPBS-Hospice] Number of female beneficiaries utilizing the provider type of service.	Derived from: [A0800_GNDR_CD from MARET] Identifies the resident's gender. '-'=Not assessed/no information/unable to determine 1= Male 2= Female	

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Health and functional characteristics of users of long-term care services, by provider type							
Diagnosed with dementia	Number of long-term care services users diagnosed with dementia	Q30. Of the participants currently enrolled at this center, about how many have been diagnosed with: a. Alzheimer's disease or other dementias?	Q32. Of the residents currently living in this residential care community, about how many have been diagnosed with: a. Alzheimer's disease or other dementias?	Derived from: [ALZRDSD_BENE_CNT from IPBS-Home health] Number of beneficiaries meeting the chronic condition algorithm for Alzheimer's broad classification, including dementia and utilizing the provider type of service. (Alzheimer's Disease and Related Disorders or Senile Dementia)	Derived from: [ALZRDSD_BENE_CNT from IPBS-Hospice] Number of beneficiaries meeting the chronic condition algorithm for Alzheimer's broad classification, including dementia and utilizing the provider type of service. (Alzheimer's Disease and Related Disorders or Senile Dementia)	Derived from: [CNSUS_DMNT_CNT] Number of residents with dementia: multi-infarct, senile, Alzheimer's type, or other than Alzheimer's type.	**ADSC**, **RCC**: Cases with missing data were imputed. **HHA**, **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–5.1%), no agencies had missing data.
Diagnosed with depression	Number of long-term care services users diagnosed with depression	Q30. Of the participants currently enrolled at this center, about how many have been diagnosed with: d. Depression?	Q32. Of the residents currently living in this residential care community, about how many have been diagnosed with: d. Depression?	Derived from: [DEPR_BENE_CNT from IPBS-Home health] Number of beneficiaries meeting the chronic condition algorithm for depression and utilizing the provider type of service.	Derived from: [DEPR_BENE_CNT from IPBS-Hospice] Number of beneficiaries meeting the chronic condition algorithm for depression and utilizing the provider type of service.	Derived from: [CNSUS_DPRSN_CNT] Number of residents with documented signs and symptoms of depression.	

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Health and functional characteristics of users of long-term care services, by provider type							
Assistance with eating	Number of long-term care services users needing any assistance in eating. Assistance refers to needing any help or supervision from another person, or use of special equipment.	Q33. Of the participants currently enrolled at this center, about how many need any assistance in each of the following activities? c. With eating, like cutting up food	Q34. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? c. With eating, like cutting up food	Derived from: [MSR_342_VAL 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; unable to feed self and must be assisted or supervised throughout the meal or snack; able to take in nutrients orally and receive supplemental nutrients through a nasogastric tube or gastrostomy; unable to take in nutrients orally and are fed nutrients through a nasogastric tube or gastrostomy; or unable to take in nutrients orally or by tube feeding.	Data not available	Derived from: [CNSUS_EATG_ASTD_CNT, CNSUS_EATG_DPNDNT_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.	**ADSC**, **RCC**: Cases with missing data were imputed. **HHA:** OBQI Case Mix Roll Up data are individual, patient-level data; when rolling up individual user-level data to individual 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 mismatching (7.7%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Health and functional characteristics of users of long-term care services, by provider type							
Assistance with dressing	Number of long-term care services users needing any assistance in dressing. Assistance refers to needing any help or supervision from another person, or use of special equipment.	Q33. Of the participants currently enrolled at this center, about how many need any assistance in each of the following activities? d. With dressing	Q34. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? d. With dressing	Derived from: [MSR_336_VAL 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 dress the upper and lower body.	Data not available	Derived from: [CNSUS_DRS_ASTD_CNT; CNSUS_DRS_DPNDNT_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.	**HHA:** OBQI Case Mix Roll Up data are individual, patient-level data; when rolling up individual user-level data to individual 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 mismatching (7.7%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Health and functional characteristics of users of long-term care services, by provider type							
Assistance with toileting	Number of long-term care services users needing any assistance in using bathroom. Assistance refers to needing any help or supervision from another person, or use of special equipment.	Q33. Of the participants currently enrolled at this center, about how many need any assistance in each of the following activities? f. In using the bathroom (toileting)	Q34. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? f. In using the bathroom (toileting)	Derived from: [MSR_339_VAL 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, 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.	Data not available	Derived from: [CNSUS_TOILT_ASTD_CNT, CNSUS_TOILT_DPNDNT_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.	**HHA:** OBQI Case Mix Roll Up data are individual, patient-level data; when rolling up individual user-level data to individual 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 mismatching (7.7%), no agencies had missing data.

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

Definition		Survey data Question numbers refer to order in National Study of Long-Term Care Providers (NSLTCP) questionnaires: http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm		Administrative data When data source is not specified, the data source is the Centers for Medicare & Medicaid Services' (CMS) Certification and Survey Provider Enhanced Reporting (CASPER).			Notes
		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
Health and functional characteristics of users of long-term care services, by provider type							
Assistance with bathing	Number of long-term care services users needing any assistance in bathing or showering. Assistance refers to needing any help or supervision from another person, or use of special equipment.	Q33. Of the participants currently enrolled at this center, about how many need any assistance in each of the following activities? e. With bathing or showering	Q34. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? e. 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.	Data not available	Derived from: [CNSUS_BATHG_ASTD_CNT, CNSUS_BATHG_DPNDNT_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.	**ADSC**, **RCC**: Cases with missing data were imputed. **HHA:** OBQI Case Mix Roll Up data are individual, patient-level data; when rolling up individual user-level data to individual 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 mismatching (7.7%), no agencies had missing data.

Appendix B

Detailed Tables

Table 1. Number and percent distribution of long-term care services providers, by geographical and organizational characteristics and provider type: United States, 2012

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 of providers	4,800	4.08	12,200	...	3,700	...	15,700	...	22,200	209.00
Number of beds or licensed maximum capacity	276,500	2,234.46	...	...	...	...	1,669,100	...	851,400	11,606.91
Average capacity[1]	58	0.47	---	---	---	---	106	0.50	38	0.38
Average number of people served[2]	39	0.40	421	10.10	356	10.91	88	0.45	32	0.40
Region										
Northeast	20.7	0.03	8.0	0.25	12.6	0.55	17.0	0.30	10.1	0.01
Midwest	18.3	0.03	27.3	0.40	23.7	0.70	32.9	0.38	22.9	0.07
South	32.4	0.04	48.3	0.45	42.4	0.81	34.5	0.38	30.6	0.04
West	28.6	0.04	16.4	0.34	21.3	0.67	15.6	0.29	36.4	0.04
Metropolitan statistical area status										
Metropolitan	60.7	0.44	83.9	0.33	73.9	0.72	70.8	0.36	81.0	0.60
Micropolitan	2.5	0.14	8.2	0.25	15.4	0.59	14.0	0.28	11.8	0.54
Neither	36.8	0.44	7.8	0.24	10.7	0.51	15.2	0.29	7.2	0.33
Ownership										
For profit	40.0	0.49	78.7	0.37	56.6	0.82	68.2	0.37	78.4	0.70
Not for profit	54.9	0.49	15.6	0.33	29.7	0.75	25.1	0.35	20.4	0.69
Government and other	5.1	0.21	5.7	0.21	13.7	0.57	6.8	0.20	1.2	0.16
Number of people served[3]										
Category 1	47.4	0.45	40.0	0.46	32.6	0.79	5.6	0.18	59.9	0.33
Category 2	47.3	0.48	27.6	0.42	35.0	0.81	61.7	0.39	34.6	0.42
Category 3	5.2	0.24	32.4	0.44	32.5	0.79	32.8	0.37	5.5	0.29

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

[1] 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.

[2] Participants in adult day services centers and residents in nursing homes and residential care communities are current users on any given day in 2012. Home health patients are patients who received and ended care anytime in 2011. Hospice patients are patients who received care anytime in 2011.

[3] 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 2012 and is grouped into one of three categories: 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 2011 and is grouped into one of three categories: 1–100, 101–300, and 301 or more. Home health patients are patients who received and ended care anytime in 2011. Hospice patients are patients who received care anytime in 2011.

NOTE: Percentages may not add to 100 because of rounding; percentages are based on the unrounded numbers.
SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2012.

Table 2. Number and percent distribution of staffing characteristics, by staff and provider type: United States, 2012

Characteristic	Adult day services center	Standard error	Home health agency	Standard error	Hospice	Standard error	Nursing home	Standard error	Residential care community	Standard error
Total number of nursing employee FTEs	20,700	205.86	143,600	1,485.50	57,800	1,234.69	952,100	4,235.39	278,600	5,283.56
Percent of total nursing employee FTEs										
Registered nurse	19.2	0.22	54.4	0.33	54.7	0.36	11.7	0.06	7.6	0.40
Licensed practical nurse or licensed vocational nurse	11.3	0.14	19.0	0.23	9.6	0.22	22.9	0.07	10.2	0.23
Aide	69.4	0.28	26.6	0.32	35.7	0.32	65.4	0.07	82.1	0.44
Percent of providers with one or more employee FTE										
Registered nurse	59.2	0.49	99.8	0.04	99.8	0.08	98.7	0.09	46.3	0.92
Licensed practical nurse or licensed vocational nurse	44.7	0.47	68.7	0.42	56.4	0.82	98.2	0.11	41.6	0.78
Aide	74.4	0.46	90.2	0.27	96.5	0.30	98.3	0.10	86.5	0.82
Social worker	42.8	0.48	44.9	0.45	98.9	0.17	75.9	0.34	14.0	0.61
Hours per resident or participant per day										
Registered nurse	0.28	0.01	---	---	---	---	0.52	0.01	0.27	0.02
Licensed practical nurse or licensed vocational nurse	0.22	0.01	---	---	---	---	0.85	0.01	0.19	0.01
Aide	1.08	0.02	---	---	---	---	2.46	0.02	2.16	0.04
Social worker	0.15	0.01	---	---	---	---	0.08	–	0.05	0.01

--- Data not available.
– Quantity zero.

NOTES: FTEs is full-time equivalent. Percentages may not add to 100 because of rounding; percentages are based on the unrounded numbers.
SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2012.

Table 3. Percentage of long-term care services providers that provide selected services, by type of service provided and provider type: United States, 2012

Service	Adult day services center	Standard error	Home health agency	Standard error	Hospice	Standard error	Nursing home	Standard error	Residential care community	Standard error
Social work										
Yes	63.5	0.49	82.3	0.35	100.0	0.03	88.9	0.25	75.6	0.92
No	36.5	0.49	17.7	0.35	–	–	11.1	0.25	24.5	0.92
Mental health or counseling										
Yes	47.3	0.52	- - -	- - -	97.2	0.27	86.6	0.27	77.8	0.93
No	52.7	0.52	- - -	- - -	2.9	0.27	13.4	0.27	22.2	0.93
Therapy (physical, occupational, or speech)										
Yes	63.8	0.50	96.6	0.16	98.4	0.21	99.3	0.07	88.7	0.75
No	36.2	0.50	3.4	0.16	1.6	0.21	0.7	0.07	11.3	0.75
Skilled nursing or nursing										
Yes	70.1	0.46	100.0	0.00	100.0	0.00	100.0	0.01	76.1	0.90
No	29.9	0.46	–	–	–	–	–	–	23.9	0.90
Pharmacy or pharmacist										
Yes	34.9	0.49	5.5	0.21	- - -	- - -	97.4	0.13	92.6	0.63
No	65.1	0.49	94.5	0.21	- - -	- - -	2.6	0.13	7.4	0.63
Hospice										
Yes	24.4	0.42	5.6	0.21	...	...	78.6	0.33	89.4	0.65
No	75.6	0.42	94.4	0.21	...	...	21.4	0.33	10.6	0.65

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

NOTE: Percentages may not add to 100 because of rounding; percentages are based on the unrounded numbers.
SOURCE: CDC/NCHS, National Study of Long-Term Care Providers 2012.

Table 4. Number and percentage of users of long-term care services, by selected characteristics and provider type: United States, 2012

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 of users[1]	273,200	2,738.01	4,742,500	114,451.33	1,244,500	38,376.96	1,383,700	7,051.24	713,300	11,073.47
Age										
65 and over	63.5	2.47	82.4	0.15	94.5	0.06	85.1	0.15	93.3	0.30
Under 65	36.5	2.47	17.6	0.15	5.5	0.06	14.9	0.15	6.7	0.30
65–74	19.4	0.76	24.6	0.09	16.4	0.11	14.9	0.06	10.4	0.31
75–84	27.2	1.07	32.2	0.07	31.3	0.07	27.9	0.07	32.4	0.57
85 and over	16.9	0.69	25.5	0.14	46.8	0.21	42.3	0.16	50.5	0.68
Sex										
Men	40.4	0.18	37.3	0.07	40.3	0.11	32.3	0.12	28.0	0.29
Women	59.6	0.18	62.7	0.07	59.7	0.11	67.7	0.12	72.0	0.29
Race and ethnicity										
Hispanic	20.2	0.40	8.4	0.21	4.6	0.37	5.1	0.12	2.4	0.25
Non-Hispanic white	47.3	0.51	74.5	0.36	85.3	0.47	78.7	0.26	87.3	0.58
Non-Hispanic black	16.8	0.32	14.1	0.24	8.1	0.23	14.0	0.21	4.0	0.23
Non-Hispanic other	15.7	0.52	3.0	0.11	2.1	0.12	2.3	0.08	6.3	0.46
Conditions										
Diagnosed with Alzheimer's or other dementias	31.9	0.39	30.1	0.15	44.3	0.33	48.5	0.15	39.6	0.70
Diagnosed with depression	23.5	0.38	34.7	0.14	22.2	0.18	48.5	0.19	24.8	0.56
Needs assistance in physical functioning										
Bathing	39.6	0.53	95.1	0.10	---	---	96.1	0.09	61.4	0.85
Dressing	37.8	0.48	83.8	0.26	---	---	90.9	0.11	44.9	0.75
Toileting	36.2	0.43	64.6	0.39	---	---	86.6	0.13	36.8	0.74
Eating	25.3	0.35	51.2	0.39	---	---	56.0	0.23	17.7	0.47

--- Data not available.

[1] Participants in adult day services centers and residents in nursing homes and residential care communities are current users on any given day in 2012. Home health patients are patients who received and ended care anytime in 2011. Hospice patients are patients who received care anytime in 2011.

NOTE: Percentages may not add to 100 because of rounding; percentages are based on the unrounded numbers.
SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2012.

Table 5. Use of long-term care services providers, by state and provider type: United States, 2012

	Adult day services center		Nursing home		Residential care community		Home health agency		Hospice	
Area	Daily rate[1]	Standard error	Daily rate[2]	Standard error	Daily rate[3]	Standard error	Annual rate[4]	Standard error	Annual rate[5]	Standard error
United States	4.05	0.06	26.05	0.14	15.42	0.25	94.35	2.26	28.40	0.88
Alabama	0.51	0.05	26.27	1.91	11.00	0.50	119.57	16.27	35.91	5.71
Alaska	6.05	0.40	7.01	2.22	21.85	2.99	33.81	11.92	7.34	5.00
Arizona	1.06	0.06	8.73	0.83	14.85	1.23	59.72	10.20	36.50	7.77
Arkansas	1.28	0.14	33.07	2.34	3.24	0.15	82.61	10.44	28.98	6.92
California	8.88	0.37	16.73	0.56	17.02	0.85	78.32	5.01	23.49	2.33
Colorado	2.71	0.23	21.15	1.68	15.27	1.22	79.34	13.85	29.32	6.63
Connecticut	4.73	0.21	37.50	2.83	2.92	0.36	110.20	19.49	22.99	6.58
Delaware	2.50	0.22	22.97	3.93	11.92	0.73	90.29	34.26	38.85	14.67
District of Columbia	1.78	0.03	27.31	7.49	14.93	1.50	61.17	26.68	18.62	10.96
Florida	2.15	0.08	17.34	0.72	14.75	0.96	116.42	6.31	31.21	7.96
Georgia	2.34	0.18	23.97	1.40	12.60	0.90	92.77	13.16	34.73	3.87
Hawaii	7.62	0.63	14.25	2.71	10.87	0.97	28.39	10.32	17.83	8.16
Idaho	0.30	0.05	15.00	1.92	23.31	0.77	66.50	13.56	31.92	6.91
Illinois	3.81	0.36	32.11	1.37	10.10	0.72	114.26	9.04	26.09	4.11
Indiana	0.93	0.05	36.89	1.83	12.00	0.32	78.45	8.78	28.77	4.21
Iowa	1.65	0.10	46.49	2.57	2.29	0.14	58.95	10.57	37.46	6.35
Kansas	1.14	0.19	38.41	2.46	25.64	0.89	69.95	12.94	29.60	7.24
Kentucky	2.78	0.14	31.33	2.07	11.24	0.67	110.45	17.93	23.30	7.70
Louisiana	1.73	0.21	33.96	2.23	5.67	0.22	117.88	11.88	34.32	4.18
Maine	1.83	0.17	23.85	2.65	22.73	0.57	91.92	26.26	26.08	7.80
Maryland	7.85	0.53	25.38	1.96	20.07	2.47	81.48	15.88	23.19	6.81
Massachusetts	8.97	0.43	37.34	2.02	11.97	0.42	137.87	23.49	26.82	4.86
Michigan	1.41	0.08	23.23	1.28	12.90	1.02	129.62	13.51	32.50	4.94
Minnesota	5.63	0.42	32.03	1.93	32.70	2.84	57.91	11.64	25.47	5.71
Mississippi	2.01	0.15	32.02	2.47	12.01	0.51	122.85	23.17	32.80	5.26
Missouri	1.42	0.16	33.84	1.72	13.48	0.91	86.72	14.05	33.06	4.97
Montana	0.75	0.17	23.74	3.13	24.29	2.57	44.74	11.00	23.73	6.32
Nebraska	1.79	0.29	40.29	3.20	29.20	0.94	66.68	16.29	29.12	6.92
Nevada	2.18	0.17	9.51	1.64	8.91	0.38	85.58	16.79	29.86	9.56

See footnotes at end of table.

Table 5. Use of long-term care services providers, by state and provider type: United States, 2012—Con.

Area	Adult day services center		Nursing home		Residential care community		Home health agency		Hospice	
	Daily rate[1]	Standard error	Daily rate[2]	Standard error	Daily rate[3]	Standard error	Annual rate[4]	Standard error	Annual rate[5]	Standard error
New Hampshire	3.70	0.46	31.66	4.22	15.25	0.53	99.22	27.09	23.68	6.86
New Jersey	11.55	0.48	29.50	1.76	11.56	0.27	85.88	17.26	26.30	4.92
New Mexico	1.02	0.22	15.78	2.15	12.54	1.00	61.97	11.57	28.25	8.04
New York	5.77	0.36	31.61	1.54	8.69	0.32	94.22	23.24	15.10	3.27
North Carolina	2.04	0.08	22.79	1.21	14.62	0.89	95.03	11.10	28.86	4.70
North Dakota	3.68	0.93	49.22	6.60	40.48	2.06	46.73	16.50	21.62	12.05
Ohio	2.94	0.14	36.15	1.31	15.91	0.51	98.33	10.61	35.48	5.87
Oklahoma	1.79	0.13	28.52	1.83	7.67	0.32	107.96	11.37	36.15	4.31
Oregon	1.01	0.12	9.56	0.93	35.28	2.36	58.82	15.26	30.94	6.72
Pennsylvania	3.37	0.19	33.18	1.51	22.92	1.69	114.26	14.93	31.19	3.45
Rhode Island	6.23	0.54	45.66	5.58	18.25	0.96	120.82	34.92	34.82	19.19
South Carolina	2.67	0.16	20.69	1.72	13.34	0.55	84.66	15.30	35.86	5.59
South Dakota	2.95	0.32	44.26	4.83	25.72	0.74	36.15	8.62	21.53	7.34
Tennessee	1.23	0.13	27.78	1.72	12.73	0.34	109.19	13.12	27.51	5.47
Texas	6.59	0.26	28.15	0.90	11.11	0.72	112.71	4.69	32.19	2.82
Utah	0.60	0.05	14.61	1.74	17.53	0.68	93.34	16.29	39.49	7.02
Vermont	8.78	0.79	23.85	4.41	21.99	1.34	101.61	36.28	18.14	6.72
Virginia	2.06	0.11	21.92	1.47	21.40	1.59	89.85	11.07	24.37	4.71
Washington	2.86	0.49	14.99	1.13	35.32	2.96	57.81	10.70	23.44	5.73
West Virginia	0.28	0.06	24.89	2.52	7.97	0.89	81.05	14.45	27.55	8.76
Wisconsin	2.60	0.17	29.95	1.72	35.19	3.31	51.51	11.14	30.15	5.48
Wyoming	1.32	0.33	26.00	5.02	11.39	0.57	43.06	12.00	14.46	5.10

[1] Participants enrolled in adult day services center on any given day in 2012 per 1,000 persons aged 65 and over.
[2] Residents in nursing homes on any given day in 2012 per 1,000 persons aged 65 and over.
[3] Residents in residential care communities on any given day in 2012 per 1,000 persons aged 65 and over.
[4] Home health patients whose episode of care ended anytime in 2011 per 1,000 persons aged 65 and over.
[5] Hospice patients receiving care anytime in 2011 per 1,000 persons aged 65 and over.

SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2012.