

## Long-Term Care Workforce Development Session #3

Monday, August 6, 2018

1:00 p.m. to 5:00 p.m.

Washington Department of Health, Tumwater Campus

Point Plaza East Rooms 152/153,

310 Israel Road SE Tumwater, WA 98501

[To attend via Webinar, please register at the following link:](https://attendee.gotowebrinar.com/register/8388480264071125251)

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# agenda

**Workgroup Members:** Tracy Rude, Representative Eileen Cody, Senator Steve Conway, Candace Goehring, Rachel McAloon, Trina Crawford, Lori Banaszak, Pamela Pasquale, Abby Solomon, John Ficker, Patricia Hunter, and Alexis Wilson

**DOH Staff:** Paula Meyer, Mindy Schaffner, Amber Zawislak, Kathy Moasio, Bobbi Allison

**Facilitator:** Porsche Everson

**Guest Speakers:** Mindy Schaffner, NCQAC, Associate Director of Nursing Education  
Rachel McAloon, WA Department of Labor and Industries, Apprenticeship Consultant

**Please Read:**

- *Agency rules related to LPN education*
- *LPN program grid*
- *Attached articles*

*Links to the packet material can be found on the project website:*

<https://www.doh.wa.gov/LicensesPermitsandCertificates/NursingCommission>

## Meeting Goals **Career Advancement CNA to LPN**

*(iii) Review academic and other prerequisites for training for licensed practical nurses to identify any barriers to career advancement for certified nursing assistants;*

- Identify and describe LPN training programs, including any apprenticeship-like programs.
- Identify academic and other prerequisites for LPN training.
- How do CNAs typically advance to LPN?
- What barriers exist for career advancement for CNAs?
- If time available: Discuss HCA training recommendations and career advancement options.
- Brainstorm potential recommendations.
- Identify additional work or research that may need to be done.

# agenda

1:00 – 1:05 p.m.	<b>Welcome</b>	Tracy Rude, NCQAC Chair and LTCW Chair
1:05 – 1:15 p.m.	<b>Introductions</b> <i>--Who are you, who do you represent? --What draws you to LTC work?</i>	Tracy Rude
1:15 – 2:00 p.m.	<b>Presentation- Current State of LPN Training in WA</b> <i>Descriptive overview of LPN nursing programs. What are the potential ways for a person to become <b>educated</b> as an LPN? What are the academic and other prerequisites? How do apprenticeships work? What are some typical career paths for CNA's? What barriers exist for career advancement for CNA's?</i>  <i>Q&amp;A</i>	Mindy Schaffner
2:00 – 2:35 p.m.	<b>Presentation – Healthcare Apprenticeship Programs</b> <i>What are healthcare apprenticeship programs and how might they fit CNA and possibly LPN education?</i> <i>Q&amp;A</i>	Rachel McAloon
2:35 – 2:45 p.m.	<b>Break</b>	All
2:45 – 3:15 p.m.	<b>Public Comment</b>	Porsche
3:15 – 3:45	<b>Identify Issues Related to CNA Career Advancement to LPN</b> <i>What are the top 3 issues you see? As a group, what rises to the top?</i>	Workgroup Members
3:45 – 4:15	<b>Identify Potential Recommendations for CNA Advancement</b> <i>What potential recommendations do you have now?</i>	Workgroup Members
4:15 – 4:25	<b>Identify Additional Work to be Done</b> <i>What do we need to know or do before deciding on final recommendations?</i>	Workgroup Members
4:25 – 4:50 p.m.	<b>Moving Forward</b> <i>Summarize issues and potential recommendations for CNA to LPN career advancement</i>	Workgroup Members

# agenda

4:50 – 5:00 p.m.	<b>Wrap Up and Next Steps</b> <i>--Action Items</i> <i>--Session Evaluation</i>	Tracy, Porsche
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# Long-Term Care Workforce Development Session 3 Packet

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# LONG-TERM CARE WORKGROUP PLAN

2018 Budget Proviso

Nursing Care Quality Assurance Commission  
Long-Term Care Workgroup

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## Introduction and Background

The baby boomer cohort, as described by the United States Census Bureau, has been a driving change in age structure of the national population for the last several decades and has contributed to a shift in the delivery of healthcare<sup>1</sup>. As the citizens of Washington State age, the need for healthcare providers in the sectors of skilled nursing homes, assisted living, and adult family homes correspondingly rises to keep up with demand. In 1997, the percent of Washingtonians over the age of sixty-five had been 11.4% of the total population<sup>2</sup>. By the year 2017, this number had increased to 15.3% of the population and the Washington State Office of Financial Management projects the population of Washingtonians over the age of sixty-five to reach 21.6% of the total population by the year 2037. In addition, chronic disease rates and human longevity continue to steadily increase, but the percent of working adults to support and care for the entire population is not.

The U.S. Department of Health and Human Services recently published a report on nursing workforce demand projections to determine the need for nurses in long-term care settings over the next decade.<sup>3</sup>

We have strong anecdotal evidence that long-term care providers in Washington State are struggling to fill vacancies; that retention is difficult; that career progression within LTC settings is problematic; and that training requirements and regulatory oversight needs to be reset. We recognize that we need data to confirm the magnitude of the known issues described here.

Addressing the shortage of healthcare workers in long-term care settings will be essential to the way in which Washington strategizes for the continued increase in care that will be demanded of the health system. Barriers need to be identified and solutions developed to address these barriers.

## Purpose of Workgroup Plan

The overall purpose of this workgroup plan is to describe the implementation of the requirements of the budget proviso allotted to the Nursing Care Quality Assurance Commission in Engrossed Substitute Senate Bill 6032. The budget proviso directs the Nursing Care Quality Assurance Commission to convene and facilitate a work group to assess the need for nurses and nursing assistants in long-term care settings and to provide recommendations in a report to the Governor and Legislature by December 15, 2018. Recommendations must pertain to worker recruitment, training, and retention challenges for long-term care providers in the sectors of skilled nursing facilities, assisted-living facilities, and adult family homes.

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<sup>1</sup> Colby, S. and Ortman, J. (2014). *The Baby Boom Cohort in the United States: 2012 to 2060: Population Estimates and Projections*. Retrieved from: <https://www.census.gov/prod/2014pubs/p25-1141.pdf>

<sup>2</sup> Washington State Office of Financial Management. (2017). *Washington Data and Research*. Retrieved from <https://ofm.wa.gov/washington-data-research/population-demographics>

<sup>3</sup> U.S. Department of Health and Human Services. (2018). *Long-Term Services and Supports: Nursing Workforce Demand Projections 2015-2030*. Retrieved from <https://bhwh.hrsa.gov/national-center-health-workforce-analysis>

## Mission, Vision, and Goals

### *Mission*

To identify barriers, develop solutions, and make recommendations regarding career advancement, reduced vacancies, increased retention and standardized training in long-term care settings to the legislature and governor.<sup>4</sup>

### *Vision*

Washington State citizens will have access to quality services provided by qualified and available nurses and nursing assistants in long-term care. Workers will have opportunities for career progression in long-term care settings.

## Requirements of ESSB 6032

Assess the need for nurses, including nursing assistants, in long-term care settings. Make recommendations regarding worker recruitment, training, and retention challenges for long-term care providers in the sectors of skilled nursing facilities, assisted-living facilities, and adult family homes. The workgroup must:

- a. Determine the current and projected worker vacancy rates in the long-term care sectors compared to the workload projections for these sectors.
- b. Develop recommendations for a standardized training curriculum for certified nursing assistants that ensures that workers are qualified to provide care in each sector, including integration into the curriculum of specific training for the care of clients with:
  - i. dementia
  - ii. developmental disabilities
  - iii. mental health issues
- c. Review academic and other prerequisites for training for licensed practical nurses to identify any barriers to career advancement for certified nursing assistants.
- d. Identify barriers to career advancement for long-term care workers.
- e. Evaluate the oversight roles of the Department of Social and Health Services for nursing training programs and make recommendations for streamlining those roles.

## Project Organization and Stakeholders

### *Project Management Team*

<b>Project Management Role</b>	<b>Designated Individual</b>
Project Executive	Paula Meyer, Executive Director
Project Lead	Mindy Schaffner, Associate Director

<sup>4</sup> The recommendations are due October 15, 2018. The final report is due December 15, 2018.

Workgroup Chair	Tracy Rude, NCQAC Chair
Policy Analyst	Amber Zawislak
Education Consultant	Kathy Moisio
Project Assistant	Bobbi Allison
External Facilitator/Project Advisor	Porsche Everson, Relevant Strategies, LLC

### *Steering Workgroup Members*

<b>Members Required by ESSB 6032</b>	<b>Designated Individual</b>
Nursing Care Quality Assurance Commission	Tracy Rude, NCQAC and Workgroup Chair
Chair of House Health Care and Wellness Committee or designee	Representative Eileen Cody (Sending Thea Bird when unable to attend)
Chair of Senate Health and Long-Term Care Committee or designee	Senator Steve Conway (Sending Kimberly Lelli when unable to attend)
Assistant Secretary of Aging and Disability Support Administration of the Department of Social and Health Services or designee	Candace Goehring
Member of the Washington Apprenticeship and Training Council (Department of Labor and Industries)	Rachel McAloon (Sending Evan Hamilton when unable to attend)
Representative from the Health Services Quality Assurance Commission of the Department of Health	Trina Crawford
Executive Director of the Washington State Board for Community and Technical Colleges or designee	Lori Banaszak
Representative of largest statewide Nursing Agency	Pamela Pasquale (Sending Sharon Christor or Lynette Wells when unable to attend, representing WSNA)

*Approved Committee Work Plan*

Representative of largest statewide Home Care Workers Union	Abby Solomon (Representing SEIU)
Representative of largest statewide Assisted Living and Skilled Nursing Facilities Association	Alexis Wilson (Representing WHCA)
Representative of the Adult Family Home Council of Washington	John Ficker, Executive Director (Sending Karen Cordero when unable to attend)
Washington State Long-Term Care Ombuds or designee	Patricia Hunter

### ***Subcommittees Reporting to Steering Workgroup***

As much as possible, the work identified in ESSB 6032 will be performed by the whole steering workgroup. If it becomes necessary to appoint subcommittees to develop recommendations for the steering workgroup, subcommittee membership will be derived from the named members of the steering workgroup or their designees.

The steering workgroup may choose to involve other subject matter experts to provide input and counsel, in addition or as an alternative to subcommittees.

The following subcommittees, identified below, are proposed *if necessary to complete the work*. They will be chaired by a member of the steering workgroup approved by a majority of the steering workgroup. Membership of the subcommittee will be determined by member interest and by the project management team. The project management team will ensure a balance of stakeholder interests on the subcommittee.

The subcommittee's role will be to identify balanced recommendations and choices for consideration by the full steering workgroup. The subcommittees have no delegated authority to make decisions on behalf of the steering workgroup.

<b>Data Subcommittee</b>
<b>Objective:</b> Review available data in depth, identify additional data needs within scope.
<p><b>Potential Tasks:</b></p> <ol style="list-style-type: none"> <li>1. Establish clear definitions of worker roles for data purposes and assist data analysts with defining data requests</li> <li>2. Identify potential sources of data</li> <li>3. Review available data in depth, identify questions or apparent discrepancies</li> <li>4. Advise the workgroup on matters involving data</li> <li>5. Review and provide feedback on data sources and data presentation in the report</li> </ol>

*Approved Committee Work Plan*

### Curriculum Subcommittee

**Objective:** Develop balanced recommendations for standardized nursing assistant training curriculum. Review academic and other prerequisites for training for LPNs. Identify barriers and solutions.

**Potential Tasks:**

1. Identify barriers related to training for CNAs
2. Review academic and other prerequisites for training for licensed practical nurses to identify any barriers to career advancement for certified nursing assistants.
3. Discuss apprenticeship programs in relation to training requirements for CNAs and LPNs.
4. Develop (or review) recommendations for a standardized training curriculum for certified nursing assistants that ensures that workers are qualified to provide care in nursing homes, assisted living, and adult family homes, including integration into the curriculum of specific training for the care of clients with:
  - a. dementia
  - b. developmental disabilities
  - c. mental health issues.
5. Develop other recommendations related to curriculum and training for CNAs and LPNs

### Career Recruitment, Advancement, and Retention Subcommittee

**Objective:** Identify barriers and solutions for career recruitment, advancement, and retention for LPNs and Certified Nursing Assistants.

**Tasks:**

1. Identify barriers to career recruitment and entry
2. Identify barriers to career advancement (may be some overlap with Curriculum Subcommittee)
3. Identify barriers to retention in the field of long-term care
4. Identify possible solutions to all identified barriers

### DSHS/DOH Oversight Subcommittee

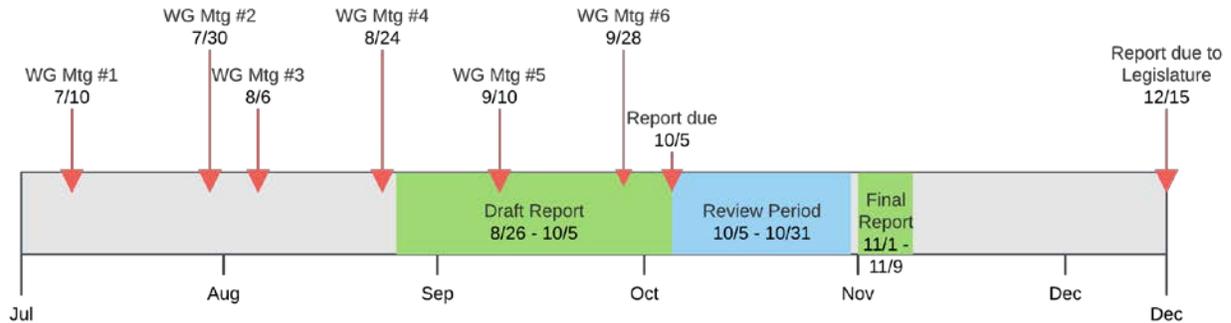
**Objective:** Evaluate oversight roles of DSHS and DOH for nurse training programs and make recommendations for streamlining those roles.

**Tasks:**

1. Identify potential areas of oversight overlap
2. Identify oversight and regulatory requirements that may impact recruitment, training, retention, or advancement.
3. Identify oversight gaps if any to help ensure patient safety and quality of care
4. Identify possible solutions to all identified barriers

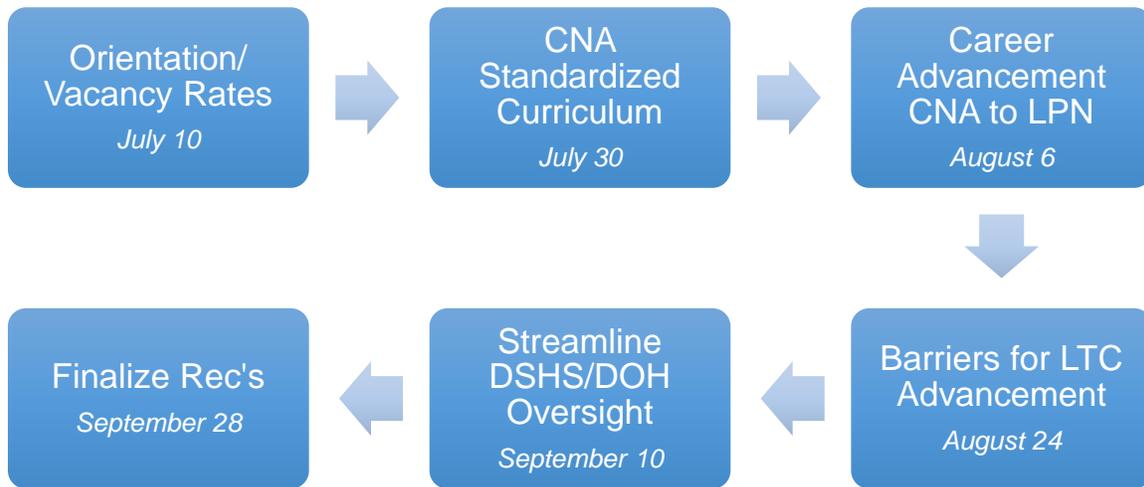
## High-Level Timeline/Schedule

### LTC Workforce Planning and Development Recommendations Timeline



Workgroup Meetings and Deadlines	
July 10, 2018, 1–5 pm	First Steering Workgroup Meeting
July 30, 2018, 1–5 pm	Second Steering Workgroup Meeting
August 6, 2018, 1–5 pm	Third Steering Workgroup Meeting
August 24, 2018, 1–5 pm	Fourth Steering Workgroup Meeting
September 10, 2018, 1–5 pm	Fifth Steering Workgroup Meeting
September 28, 2018, 8 am–12 pm	Sixth Steering Workgroup Meeting Review of draft report by Steering Workgroup
October 5, 2018	Report due for DOH review to meet December deadline
October 5-31, 2018	DOH report review period
November 1-9, 2018	Finalize report
December 15, 2018	Report due to Governor and Legislature

## Session Activity Plans



### 1. Orientation/Vacancy Rates (July 10)

*(i) Determine the current and projected worker vacancy rates in the long-term care sectors compared to the workload projections for these sectors;<sup>5</sup>*

- a. Sense of commitment, timeline, workload
  - b. How do we want to work together?
  - c. Review data on current and projected vacancy rates and workload projections
    - i. Stakeholder representatives to address 3-4 questions 15 minutes each
      1. What evidence or data do you bring that will inform this work?
      2. What efforts have you been involved in that relates to this work?
      3. Are you aware of examples of solutions outside the state of Washington that relates to this work? If so, what state and work?
  - d. Review draft work plan, provide input
  - e. Identify additional data needs
- ### 2. CNA Standardized Curriculum (July 30)

*(ii) Develop recommendations for a standardized training curriculum for certified nursing assistants that ensures that workers are qualified to provide care in each sector, including integration into the curriculum of specific training for the care of clients with dementia, developmental disabilities, and mental health issues;*

<sup>5</sup> From ESSB 6032.SL, page 218. Accessed from <http://apps2.leg.wa.gov/billsummary?BillNumber=6032&Year=2017&BillNumber=6032&Year=2017>.

- a. Identify and describe current types of CNA training programs, including curriculum and program length for each type. Include any existing apprenticeship programs.
  - b. Identify current minimum requirements for all CNA training programs, if any
  - c. Identify current training requirements for the care of clients with dementia, developmental disabilities, and mental health issues, if any
  - d. Identify issues in the current state
  - e. Evaluate and make recommendations for standardized CNA training curriculum
    - i. What to keep
    - ii. What to take out
    - iii. What to update/change
    - iv. Specific training requirements for the care of clients with dementia, developmental disabilities, and mental health issues
  - f. Identify additional work or research that may need to be done
  - g. Brainstorm potential recommendations
3. Career Advancement CNA to LPN (August 6)
- (iii) Review academic and other prerequisites for training for licensed practical nurses to identify any barriers to career advancement for certified nursing assistants;*
- a. Identify and describe LPN training programs, including apprenticeships.
  - b. Identify academic and other prerequisites for LPN training
  - c. How do CNAs typically advance to LPN
  - d. What barriers exist for career advancement for CNAs?
  - e. If time available: Discuss HCA training recommendations and career advancement options
  - f. Brainstorm potential recommendations
  - g. Identify additional work or research that may need to be done
4. Barriers for LTC Worker Advancement (August 24)
- (iv) Identify barriers to career advancement for long-term care workers;*
- a. Theme: Making a career in LTC health care – pathways and progressions, recruitment and retention (HCA, CNA, LPN, RN)
  - b. Identify barriers and issues in nursing assistant training programs
  - c. Identify barriers in testing and licensing
  - d. Identify barriers and issues in recruitment and retention
  - e. Identify barriers and issues in advancement (HCA, CNA, LPN, RN)
  - f. Brainstorm potential recommendations for addressing barriers and issues
  - g. Identify additional work or research that may need to be done
5. Discuss DOH/DSHS oversight responsibilities (September 10)
- (v) Evaluate the oversight roles of the department of health and the department of social and health services for nurse training programs and make recommendations for streamlining those roles.*
- a. Describe the oversight roles for DSHS and DOH

- b. Identify areas of potential overlap
  - c. Identify issues and concerns within the regulatory environment
    - i. How does oversight help ensure quality and patient safety?
    - ii. How does oversight hurt efficient care delivery?
  - d. Brainstorm potential recommendations
  - e. Identify additional work or research that may need to be done
2. Finalize recommendations (September 28)
- a. Review current and projected vacancy rate data collected to date
  - b. Review draft recommendations related to CNA Standardized Curriculum
  - c. Review draft recommendations related to Career Advancement and Retention
  - d. Review draft recommendations related to Oversight and Evaluation
  - e. Review draft report
  - f. Assess degree of support for each identified recommendation
  - g. Where necessary, identify majority/minority opinions for each recommendation without consensus support.

### Constraints and Assumptions

- Legislative deadline set for report (December 15)
- DOH needs significant time to have draft report go through internal review process
- First workgroup meeting must occur by July 15
- Scope and tasks are defined by legislation

### Project Approach

The steering workgroup is defined by the legislation and is comprised of people who represent various stakeholder groups. The steering workgroup will periodically receive input from subcommittees and other interested individuals and groups. The steering workgroup is responsible for identifying and deciding on recommendations.

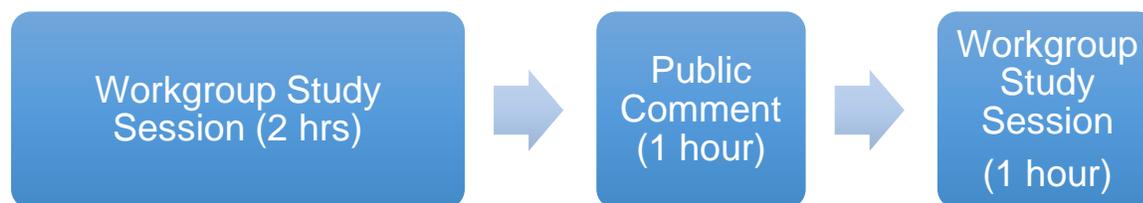
We will seek consensus in all steering workgroup and subcommittee decisions and recommendations. We will use “common interest” based conversations to reach consensus. If the workgroup cannot reach consensus on a recommendation, and a recommendation has majority support, the recommendation will be listed in the report, along with a brief synopsis of majority and minority opinion about the recommendation.

DOH staff and other participants will provide background research and materials to help inform the work, within the constraints of available time and resources. Some preparation and follow up work will be necessary for steering workgroup members.

The steering workgroup may form subcommittees as necessary. Other interested stakeholders not in the workgroup may be invited to provide input to either the subcommittees or the steering workgroup.

Each steering workgroup session will follow a general pattern. The first half of the meeting will be devoted to workgroup work. The steering workgroup will then take public

comment/testimony for up to an hour. This may include time set aside for invited guest speakers. The steering workgroup will then engage in another hour of work together.



The steering workgroup meetings and any subcommittee meetings are open to the public, and the public can observe, but not engage in the work of the workgroup.

### **Communication and Collaboration**

Meeting agendas, advance readings, and other materials will be stored on an accessible DOH project website page available to the public. Periodic drafts of deliverables will be sent to the DOH project lead, for distribution or publication as appropriate.

Most communication with the steering workgroup will occur via email from the DOH project lead, workgroup chair, or administrative contact. On occasion, the facilitator may send information directly to the workgroup.

The facilitator and project management team will meet regularly via web conference or phone conference to plan and evaluate workgroup sessions. At least once per month the external facilitator will check in with the project lead to address scope, schedule, budget, and quality issues as necessary.

### **Change Management**

We don't anticipate changes to the project. In fact, the scope, budget, and schedule are fixed in the legislation. However, scope, budget, or schedule changes may happen for reasons unforeseen at present.

The project management team will address any proposed changes to scope, schedule or budget as quickly as feasible and develop a plan. The overall goal will be to work within the established constraints as best as possible.

1       (33) \$670,000 of the general fund—state appropriation for fiscal  
2 year 2019 is provided solely for a collaboration between local public  
3 health, accountable communities of health, and health care providers  
4 to reduce preventable hospitalizations. This one-year initiative will  
5 take place in the Tacoma/Pierce county local health jurisdiction.

6       (34) \$556,000 of the general fund—state appropriation for fiscal  
7 year 2019 is provided solely to replace the comprehensive hospital  
8 abstract reporting system and is subject to the conditions,  
9 limitations, and review provided in section 724, chapter 1, Laws of  
10 2017 3rd sp. sess.

11       (35) \$40,000 of the general fund—state appropriation for fiscal  
12 year 2019 is provided solely for the department, in partnership with  
13 the department of social and health services and the health care  
14 authority, to assist a collaborative public-private entity with  
15 implementation of recommendations in the state plan to address  
16 alzheimer's disease and other dementias.

17       (36) In accordance with RCW 70.96A.090, 71.24.035, 43.20B.110,  
18 and 43.135.055, the department is authorized to adopt fees for the  
19 review and approval of mental health and substance use disorder  
20 treatment programs in fiscal years 2018 and 2019 as necessary to  
21 support the costs of the regulatory program. The department's fee  
22 schedule must have differential rates for providers with proof of  
23 accreditation from organizations that the department has determined  
24 to have substantially equivalent standards to those of the  
25 department, including but not limited to the joint commission on  
26 accreditation of health care organizations, the commission on  
27 accreditation of rehabilitation facilities, and the council on  
28 accreditation. To reflect the reduced costs associated with  
29 regulation of accredited programs, the department's fees for  
30 organizations with such proof of accreditation must reflect the lower  
31 cost of licensing for these programs than for other organizations  
32 which are not accredited.

33       (37) \$30,000 of the general fund—state appropriation for fiscal  
34 year 2019 is provided solely for the nursing care quality assurance  
35 commission to convene and facilitate a work group to assess the need  
36 for nurses in long-term care settings and to make recommendations  
37 regarding worker recruitment, training, and retention challenges for  
38 long-term care providers in the sectors of skilled nursing  
39 facilities, assisted-living facilities, and adult family homes.

1 (a) The work group must:

2 (i) Determine the current and projected worker vacancy rates in  
3 the long-term care sectors compared to the workload projections for  
4 these sectors;

5 (ii) Develop recommendations for a standardized training  
6 curriculum for certified nursing assistants that ensures that workers  
7 are qualified to provide care in each sector, including integration  
8 into the curriculum of specific training for the care of clients with  
9 dementia, developmental disabilities, and mental health issues;

10 (iii) Review academic and other prerequisites for training for  
11 licensed practical nurses to identify any barriers to career  
12 advancement for certified nursing assistants;

13 (iv) Identify barriers to career advancement for long-term care  
14 workers; and

15 (v) Evaluate the oversight roles of the department of health and  
16 the department of social and health services for nurse training  
17 programs and make recommendations for streamlining those roles.

18 (b) The members of the work group must include the following:

19 (i) The chair of the house health care and wellness committee or  
20 his or her designee;

21 (ii) The chair of the senate health and long-term care committee  
22 or his or her designee;

23 (iii) The assistant secretary of the aging and disability support  
24 administration of the department of social and health services, or  
25 his or her designee;

26 (iv) A member of the Washington apprenticeship and training  
27 council, chosen by the director of the department of labor and  
28 industries;

29 (v) A representative from the health services quality assurance  
30 division of the department of health, chosen by the secretary;

31 (vi) The executive director of the Washington state board for  
32 community and technical colleges or his or her designee;

33 (vii) A representative of the largest statewide association  
34 representing nurses;

35 (viii) A representative of the largest statewide union  
36 representing home care workers;

37 (ix) A representative of the largest statewide association  
38 representing assisted living and skilled nursing facilities;

39 (x) A representative of the adult family home council of  
40 Washington; and

1        (xi) The Washington state long-term care ombuds or his or her  
2 designee.

3        (d) The work group must meet at least three times, and the first  
4 meeting must occur no later than July 15, 2018. The commission must  
5 report no later than December 15, 2018, to the governor and the  
6 legislature regarding the work group's assessments and  
7 recommendations.

8        (38) \$150,000 of the general fund—state appropriation for fiscal  
9 year 2019 is provided solely for the department to implement training  
10 and education recommendations described in the 2016 report of the  
11 community health worker task force. The department shall report to  
12 the legislature on the progress of implementation no later than June  
13 30, 2019. These moneys shall only be used to cover the cost of the  
14 department's staff time, meeting expenses, and community outreach.

15        (39) \$3,000,000 of the general fund—state appropriation for  
16 fiscal year 2019 is provided solely to Seattle and King county public  
17 health for core public health services that prevent and stop the  
18 spread of communicable disease, including but not limited to zoonotic  
19 and emerging diseases and chronic hepatitis B and hepatitis C.

20        (40) \$100,000 of the general fund—state appropriation for fiscal  
21 year 2018 and \$360,000 of the general fund—state appropriation for  
22 fiscal year 2019 are provided solely for the department to coordinate  
23 with local health jurisdictions to establish and maintain  
24 comprehensive Group B programs to ensure safe and reliable drinking  
25 water. These amounts shall be used to support the costs of the  
26 development and adoption of rules, policies and procedures, and for  
27 technical assistance, training, and other program-related costs.

28        (41) \$485,000 of the general fund—state appropriation for fiscal  
29 year 2019 is provided solely for the implementation of Second  
30 Substitute House Bill No. 2671 (behavioral health/agricultural  
31 industry). If the bill is not enacted by June 30, 2018, the amounts  
32 provided in this subsection shall lapse.

33        (42) \$113,000 of the general fund—local appropriation is provided  
34 solely to implement Engrossed Substitute Senate Bill No. 6037  
35 (uniform parentage act). If this bill is not enacted by June 30,  
36 2018, the amount provided in this subsection shall lapse.

37        (43) \$19,000 of the health professions account—state  
38 appropriation is provided solely to implement Substitute Senate Bill

Practical Nursing Educational Programs Approved in Washington State

School	County	Program	Math	Chem	Bio	Nutr	Psych	English	Comm	Nurs	#PreReq	Total #	Comment
Bates Technical College (Tacoma)	Pierce	AAS	146 (stats)	121 (intro)	160 (Intro) 241/242 (A&P) 260 (Micro)	101 (Intro)	200 (Life Span) But 100 is pre-req to 200	101 (English Comp)	CMST 210 Interpersonal communication	60 credits	55 credits + NAC (5 cr) required course but credits are waived	115 qtr cr	GPA of 3.0 or higher
Clover Park Technical College (Tacoma)	Pierce	Certificate	99 or 146 (stats) or 151 (calculus)	110 as pre-req to Bio 241	160 (Intro) 241/242 (A&P) 260 (micro)	101 (Intro)	100 (Intro) 200 (Life span)	101 (English Comp)	---	60 credits	50 cr + 2 credits for COLL 100 College Success for All (waived if transferring 30 credits or prior college degree + required NAC for total of 55-57 credits)	115-117 qtr credits	GPA 3.0 for Pre-Reqs
Edmonds Community College (Edmonds)	Snohomish	Certificate	87 Intermediate Algebra Or higher, e.g. 107, 146	121 as pre-req to BIO 241 & Nutrition	211 (Intro) 241/242 (A&P)	101 (Intro)	100 (intro) as pre-req to 200 (Life Span)	101 (English Comp)	CMST 210 Interpersonal Communication	62 cr	List as 27 but with pre-reqs to A&P & life span totals = 50 cr because diversity requirement is met by CMST 210	112 qtr credits	Requires TEAS test for admission with preferred total score of 58% and reading at 50%: Requires completion of NA program but doesn't require current license; Also require 6 months of patient care experience.
Green River Community College (Auburn)	King	AAS	107 (Math & Society) or higher. This requires intermediate algebra as pre-req to 107	121 Not required but strongly recommended as pre-req to BIO 160 (General Biology)	241/242 (A&P) 260 (Microbiol) But, pre-reqs to 241/242 require AP 104	101 (Intro)	200 (Life Span) But 100 (Intro) is pre-requisite to life span	101 (English Comp)	CMST: 210 Interpersonal Communication OR 220	60 cr	55 cr But only 45 are transcribed to AAS degree. 10 credit of Bio&160 and Psyc&100 as	115 but only 105 are on AAS transcript	GPA of 2.5 Requires Kaplan Admission test with overall score of 67% NAC is optional

				Chem 131 required for BIO 211	(Essentials of A&P) Or BIO 160 (General w/ lab) Or BIO 211 (Cellular Biology)  AP104 has AP 103 as pre-req				(Public Speaking)  OR  230 Small Group Communication		prereqs for AP and Psych total of 55		
Olympic College (Bremerton)	Kitsap	Certificate	99 (won't transfer to 4 year) 0 co	121 (Intro) 131 (Organic/Bio)	241/242 (A&P) But Chem 121 & 131 are pre-reqs to A&P	---	100 (Intro)	101 (English 101)	---	58cr	List as 27 including 2 required support course (clinical pharmacology & Dosage Calculation but total is 37 d/t pre-reqs to 241/242	95 qtr cr	Requires Accuplacer Reading Comprehension Test at 78% GPA of 2.0 for Pre-Reqs <b>NAC is optional but extra point factored into admission review.</b>

**Out of State Bordering Schools Approved by NCQAC to Offer Practice Experiences in Washington State – Idaho and Oregon**

School	County	Program	Math	Chem	Bio	Nutr	Psych	English	Comm	Nurs	#PreReq	Total #	Comment
Lewis & Clark State College (Lewiston)	Idaho	AAS	3-5 credits from a list of 10 courses all 100-200 level ranging from MATH 123 Math as a liberal art to Statistical Reasoning, calculus, pre-calculus etc.	105 General Organic & Biochemistry	252/253 A&P	253 Nutrition	3 credits from list of 20 social science options including intro psych and develop psych but also options from economics, history, political science, sociology etc.	101 (English Comp)	COMM 101 Speech OR COMM 202 Interpersonal Communication OR COMM 203 Small Group Communication OR COMM 204 Public Speaking	44 sem Credits (66 qtr credits)	16-18 semester cr (24-27 qtr cr)	60-62 sem cr which is equiv to 90-92 qtr credits	<b>Current NAC certification</b>
North Idaho College (Coeur d'Alene)	Idaho	Technical Certificate	MCTE102 Computational skills for allied health	PHARM150 Intro to pharmacology	BIO 175 Human Biology	----	Psych 101 Intro	101 (English Comp)	CAOT179 Medical Terminology	35 sem credits equiv to 53 qtr credits	18 + NAC certification (27 qtr cr)	53 sem credit + NAC certify or about 80 Qtr credits	GPA 2.5 min for pre-requisites TEAS <b>NAC current</b>

Mount Hood CC (Greshen)	Oregon	Certificate	MTH058 or 065 Quantitative Reasoning or Algebra 2 or test into MTH 095 or higher  CIS120L Computer Concepts Lab	Chem 112 not required but strongly recommended	BIO121/122 or BIO 231/232 (A&P)  BIO112 not required but strongly recommended	---	Psych 101 (Intro)  Psych 237 Human Dev	R115 Reading for College Success or test into R117  WR121 (English Comp)	---	52 qtr credits	24-26 qtr credits required + BI112 & CH112 strongly recommended for another 10 credits	76 cr min up to 88 cr if taking recom Bio/che	Current NAC
Sumner College (Portland)	Oregon	Diploma	---	Intro Pharmacy	BIO 131/132 A&P	---	Psych 101 (Intro)	Medical Terminology  English Comp	---	48.5 qtr credits	27 qtr credits	75.5 qtr credits	Requires a minimum score of 4 on Accuplacer test to proceed w Application  All gen ed courses are integrated into this 13 month curriculum and they highlight being the only LPN program in OR or WA that doesn't require any pre req courses prior to admission

There are only 5 free-standing LPN programs in Washington State with 2 in Pierce County (Tacoma), 1 in King County (Auburn), 1 in Snohomish (Edmonds) and 1 in Kitsap County (Bremerton). Pre-requisite courses range from 35 (OC) to 60 (BTC). Practical Nursing credits range from 58 to 95 and total LPN pathway from pre-requisites to LPN completion range from 93 to 135 total credits noting that the Associate in Nursing DTA/MRP is a 135 credit pathway. Two programs offer an Associate Degree (AAS) being Bates and Green River while the other three grant Certificates (Clover Park, Edmonds, and Olympic). Most nursing websites are not completely transparent regarding total number of pre-requisite courses because of invisible "pre-requisites to pre-requisites" typically being chemistry and intro psychology. All five programs require 10 credits of A&P and 5 credits on English Composition. All but OC require Nutrition and 3 programs require 5 credits of communication. All require some level of math but 2 require <100 level courses (90/99) which won't transfer to universities; Statistics is the math requirement for BTC and is one option for CTC; Green River requires MATH 107 (Math & Society) but that requires intermediate algebra as a pre-req so unless taken in HS, they would have to take this additional course. Three still require NAC for admission which is not in alignment with new rules (Bates, Clover Park, & Edmonds); Olympic and Green River list NAC as optional for admission. Limitation on Pre-Requisites: Clover Park requires all pre-reqs be taken within 5 years of admission; Edmonds requires cumulative GPA of 2.75 for pre-requisites; Green River requires minimum GPA of 2.5 in all pre-requisites. **Most schools have 5-7 year time frame for pre-requisite course completion prior to admission or will need to repeat courses.**

**NOTE: Information on the above table was taken directly from current LPN program websites and reviewed/confirmed by all 5 WA State LPN Program directors.**

ISSUES: Variation in: PN & Gen Ed credits; application testing (TEAS, Accuplacer etc); NAC requirement which is no longer allowed under WACS; certificate, diploma vs AAS; nutrition as a pre-requisite, pre-requisite GPA; length of time a pre-requisite may be used after completion, e.g. often no more than 5-7 years. Pre-Req's range from 0 (Sumner) with most ranging from 24-27 (OR) to highs of 60 (Bates). PN credits range from lows of 48.5 (Sumner), 52 (MHCC), and 53 (NIC) to highs of 95 qtr credits (Green River) with most ranging between 60-65 keeping in mind that the AN/DTA-MRP limits RN core to no more than 75 qtr credits.

Variations also are noted with admission testing (Kaplan, TEAS, Acuplacer) as well as NAC requirements for admission.

## **Selected Rules for LPN Nursing Programs and Standards for Scope of Practice**

### **246-840-500**

#### **Philosophy governing approval of nursing education programs.**

The commission believes that quality nursing education provides the foundation for safe and effective nursing practice. Nursing education shall be accessible and promote student and faculty diversity. While the commission has established minimum standards for approved nursing education programs, it believes that each nursing education program should have flexibility in developing and implementing its philosophy, purposes, and objectives. Such development and implementation should be based not only upon the minimum standards for approved nursing education programs, but also upon sound educational and professional principles for the preparation of registered nurses, practical nurses, advanced registered nurse practitioners, and other nurses who pursue graduate nursing degrees and postgraduate degrees and certifications to meet current and future nursing needs of the public. The commission believes that there must be congruence between the total program activities of the nursing education program and its stated philosophy, purpose and objectives.

The commission further believes that the standards for approved nursing education programs are useful for promoting self-evaluation and peer evaluation, which may lead to further program development and ongoing continuous quality improvement.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-500, filed 8/17/16, effective 9/17/16. Statutory Authority: RCW [18.79.110](#). WSR 95-21-072, § 246-840-500, filed 10/16/95, effective 11/16/95.]

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### **246-840-505**

#### **Purposes of commission approval of nursing education programs.**

The commission approves nursing education programs to:

(1) Assure preparation for the safe and effective practice of nursing by setting minimum standards for nursing education programs preparing persons for licensure as registered nurses, practical nurses, advanced registered nurse practitioners, or for preparing nurses for additional graduate education or higher levels of nursing practice.

(2) Provide criteria for the approval, development, evaluation, and improvement of new and established nursing education programs.

(3) Assure graduates of nursing education programs are educationally prepared for licensure at the appropriate level of nursing practice.

(4) Facilitate interstate endorsement of graduates of commission approved nursing education programs.

(5) Assure nursing education standards for out-of-state distance learning nursing education programs placing students in Washington state for clinical or other practice experiences are equivalent to in-state nursing education programs.

(6) Assure internationally educated nurses' educational preparation is equivalent to that of in-state nursing education programs.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-505, filed 8/17/16, effective 9/17/16. Statutory Authority: RCW [18.79.110](#) and [18.79.150](#).

## **246-840-510**

### **Approval of initial (new) in-state nursing education programs.**

(1) New nursing education programs must submit a commission approved application for approval to operate a new undergraduate, post-licensure, or graduate nursing education program in Washington state.

(2) Graduate programs changing from a master's degree in nursing to a doctoral of nursing practice degree must submit a substantive change request identified in WAC 246-840-554(3).

(3) The commission shall consider the need, size, type, and geographic location when approving a program.

#### **Phase I: Submission of application and feasibility study**

(4) A postsecondary educational institution wishing to establish a nursing education program or additional program in nursing shall submit an application and feasibility study as follows:

(a) Submit to the commission a statement of intent to establish a nursing education program or additional program on a form provided by the commission and a completed feasibility study that includes the following information:

(i) Studies documenting the current and future supply and demand needs for nurses in the area of the proposed nursing education program;

(ii) Purposes and classification of the proposed nursing education program;

(iii) Availability of qualified candidates for the nurse administrator and faculty positions;

(iv) Budgeted nurse administrator and faculty positions over the course of five years;

(v) Source and description of adequate and acceptable clinical or practice facilities for the nursing education program;

(vi) Description of adequate and acceptable academic facilities for the nursing education program;

(vii) Potential effect on other nursing programs within a sixty mile radius of the proposed nursing education program location;

(viii) Evidence of financial resources adequate and acceptable for the planning, implementation, and continuation of the nursing education program for the next five years;

(ix) Anticipated student population;

(x) Tentative time schedule for planning and initiating the nursing education program;

and

(xi) Accreditation status of the parent institution.

(b) Respond to the commission's request(s) for additional information.

#### **Phase II: Nursing education program development**

(5) Only after receiving commission approval for nursing education program development, the educational institution shall:

(a) Appoint a qualified nurse administrator;

(b) Provide appropriate resources, consultants, and faculty to develop the proposed nursing education program; and

(c) At least three months prior to advertising and admitting students, submit the proposed program plan including the following:

- (i) Program purpose and outcomes;
  - (ii) Organization and administration within the educational institution and within the nursing unit or department including the nurse administrator, faculty, and nursing support staff;
  - (iii) Resources, facilities, and services for students and faculty;
  - (iv) Policies and procedures as identified in WAC 246-840-519 (3)(a) through (e);
  - (v) A plan for hiring and retaining faculty, including qualifications, responsibilities, organizational structure, and faculty/student ratio in classroom, clinical, and practice experiences;
  - (vi) Curriculum, including course descriptions, course outcomes, and course topical outlines;
  - (vii) Initial year and five-year sustaining budget;
  - (viii) Projected plans for the orderly expansion and ongoing evaluation of the program.
- (d) If required by the commission, arrange a site visit to the campus to clarify and augment materials included in the written proposed program plan. The visit may be conducted by a representative of the commission before a decision regarding approval is made.

### **Phase III: Initial approval**

(6) The nursing education program may only admit students if it has received initial approval by the commission.

(a) The nursing education program shall submit progress reports as requested by the commission.

(b) Site visits shall be scheduled as deemed necessary by the commission during the period of initial approval. A site survey, conducted by the commission, will determine whether graduates may test for the national council licensing examination (NCLEX) as identified in WAC 246-840-050 or graduate certification exams as identified in WAC 246-840-302 (3)(a), (b), (c) and (d) for advanced registered nurse practice.

### **Phase IV: Full approval**

(7) A self-evaluation report of compliance with the standards for nursing education as identified in WAC 246-840-511 through 246-840-556, shall be submitted to the nursing commission within six months following graduation of the first class.

(a) The commission may conduct a site visit to determine full approval of the nursing education program.

(b) The commission will review the self-evaluation report, survey reports and program outcome data in order to grant or deny full approval of the nursing education program under WAC 246-840-558(1).

[Statutory Authority: RCW 18.79.010, 18.79.110, 18.79.150, 18.79.190, and 18.79.240. WSR 16-17-082, § 246-840-510, filed 8/17/16, effective 9/17/16. Statutory Authority: RCW 18.79.110 and 18.79.150. WSR 05-12-058, § 246-840-510, filed 5/26/05, effective 6/26/05. Statutory Authority: RCW 18.79.110. WSR 95-21-072, § 246-840-510, filed 10/16/95, effective 11/16/95.]

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## **246-840-511**

### **Accreditation requirements for all nursing education programs located in Washington state.**

(1)(a) A nursing education program must be located in a postsecondary educational institution with approval from either the Washington state student achievement council or state board of technical and community colleges to grant the appropriate degree or certificate; and

(b) A nursing education program must be located in an institution accredited by a United States Department of Education approved regional accrediting body or national institutional accrediting body.

(2) All nursing education programs having received full commission approval on or before the effective date of this rule, must become accredited or achieve candidacy status granted by a national nursing education accrediting body recognized by the United States Department of Education on or before January 1, 2020.

(3) New nursing education programs receiving full commission approval after the effective date of this rule, must obtain national nursing education accreditation within four years of receiving full commission approval.

(4) The commission may take action as identified in WAC 246-840-557 against a nursing education program that does not maintain national nursing education accreditation status.

(5) Any nursing education program not having national nursing education accreditation must disclose to students in all publications describing the program that it lacks national nursing education accreditation and this may limit future educational and career options for the students. [Statutory Authority: RCW 18.79.010, 18.79.110, 18.79.150, 18.79.190, and 18.79.240. WSR 16-17-082, § 246-840-511, filed 8/17/16, effective 9/17/16.]

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## **246-840-512**

### **Standards and evaluation of nursing education programs.**

(1) The nursing education program shall meet minimum standards established by the commission as detailed in WAC 246-840-511 through 246-840-556.

(2) The nursing education program shall implement a written, comprehensive, systematic plan for ongoing evaluation that is based on program outcomes data and input from faculty, students, health care partners and consumers, and that incorporates continuing improvement goals and measures.

(a) The plan must include evaluative criteria, methods used to evaluate, frequency of evaluation, assignment of responsibility, and measurable indicators or benchmarks of effectiveness for the nursing education program and instruction.

(b) The nursing education program shall document analysis of the data collected and actions taken as a result of use of the systematic program evaluation plan.

(c) Major changes in the professional nursing education program must be evidence-based.

(d) The nursing education program shall review and analyze the evaluative methods and instruments used to measure program outcomes for appropriateness according to the timeline specified in the plan.

(e) The nursing education program shall evaluate didactic and clinical course effectiveness each time a course is taught.

(f) Implementation of the plan for systematic program evaluation and ongoing quality improvements must be documented in faculty or faculty-related minutes.

(g) The following items must be included in the systematic program evaluation: Faculty, student and graduate satisfaction surveys, facility, resource and services surveys of faculty and

students, faculty workload surveys and evaluations, national council licensing examination (NCLEX) pass rates, post licensure certification examination pass rates, student attrition and completion rates, employment rates after graduation, employer satisfaction, and program and student learning outcomes.

(h) Faculty and students shall participate in program planning, implementation, evaluation, and continuous quality improvement.

(3) Program information communicated by the nursing education program must be accurate, complete, and consistent.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-512, filed 8/17/16, effective 9/17/16.]

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### **246-840-513**

#### **Reporting and recordkeeping requirements for nursing education programs.**

(1) Within two business days, nursing education programs shall report to the commission, on forms provided by the commission, events involving a student or faculty member that the program has reason to believe resulted in patient harm, an unreasonable risk of patient harm, or diversion of legend drugs or controlled substances.

(2) The nursing education program shall keep a log of all events reported by a patient, family member, student, faculty or a health care provider resulting in patient harm, an unreasonable risk of patient harm, or allegations of diversion, and medication errors. The log must include:

(a) The date and nature of the event;

(b) The name of the student or faculty member involved;

(c) The name of the clinical faculty member responsible for the student's clinical experience;

(d) Assessment of findings and suspected causes related to the incident or root cause analysis;

(e) Nursing education program corrective action; and

(f) Remediation plan, if applicable.

(3) The nursing education program shall use the principles of just culture, fairness, and accountability in the implementation and use of all incident reporting logs with the intent of:

(a) Determining the cause and contributing factors of the incident;

(b) Preventing future occurrences;

(c) Facilitating student learning; and

(d) Using the results of incident assessments for on-going program improvement.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-513, filed 8/17/16, effective 9/17/16.]

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### **246-840-514**

#### **Purpose and outcomes for approved nursing education programs.**

(1) The purpose and expected outcomes of the nursing education program shall be stated clearly and must be available to the public in written form.

(2) The purpose and expected outcomes shall be consistent with nursing practice as outlined in chapters **18.79 RCW** and **246-840 WAC**.

(3) The nursing education program shall have a purpose statement and expected outcomes consistent with the parent institution and with generally accepted standards of nursing practice appropriate for graduates of the type of nursing program offered.

(4) The input of stakeholders including, but not limited to, health care partners and community members shall be considered in developing and evaluating the purpose and expected outcomes of the program.

[Statutory Authority: RCW **18.79.010**, **18.79.110**, **18.79.150**, **18.79.190**, and **18.79.240**. WSR 16-17-082, § 246-840-514, filed 8/17/16, effective 9/17/16.]

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## **246-840-516**

### **Organization and administration for all nursing education programs.**

(1) The nursing education program must be an integral part of the accredited parent institution.

(2) The relationship of the nursing education program to the parent institution and other units within the parent institution must be clearly delineated and included in an organizational chart, which indicates lines of responsibility and authority.

(3) The parent institution shall provide financial support and resources needed to operate a professional nursing education program, which meets the requirements of this chapter and fosters achievement of program goals and expected outcomes.

The financial resources must support adequate educational facilities, equipment, technology, and qualified administrative and instructional personnel sufficient to achieve program goals and outcomes.

(4) The nursing education program shall involve nursing faculty in determining academic policies and procedures.

(5) The nursing education program shall provide opportunity for student participation in the development and evaluation of program policies and procedures, curriculum planning and evaluation.

(6) The nursing education program shall provide accurate information to students and the public.

(7) The governing entity shall employ a qualified nurse administrator with clear institutional authority and administrative responsibility for the nursing program.

[Statutory Authority: RCW **18.79.010**, **18.79.110**, **18.79.150**, **18.79.190**, and **18.79.240**. WSR 16-17-082, § 246-840-516, filed 8/17/16, effective 9/17/16.]

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## **246-840-517**

### **Nurse administrator qualification requirements in nursing education programs located in Washington state.**

(1) The nursing education program administrator must be a professionally and academically qualified registered nurse with an active, unencumbered Washington nursing license.

**Practical or Associate Degree Nursing Education Programs**

(2) In a nursing education program offering practical or associate degree nursing education, the nurse administrator must have a minimum of:

(a) A bachelor of science in nursing (BSN) from a nursing education program accredited by a national nursing education accrediting body recognized by the United States Department of Education and a graduate degree; or

(b) A graduate degree from a nursing education program accredited by a national nursing education accrediting body recognized by the United States Department of Education; and

(c) Preparation in education that includes teaching adults, adult learning theory, teaching methods, curriculum development, and curriculum evaluation, or two years of teaching experience in nursing education that demonstrates this type of preparation;

(d) Curriculum development and administration experience;

(e) Five years of experience as a registered nurse including two years of experience in nursing education; and

(f) Current knowledge of nursing practice at the practical nurse or associate degree program level as appropriate.

**Baccalaureate and Graduate Nursing Education Programs**

(3) In a nursing education program offering baccalaureate or graduate degrees in nursing, the nurse administrator must have:

(a) A minimum of a graduate degree with a major in nursing, from a nursing education program accredited by a national nursing education accreditation body recognized by the United States Department of Education and a doctoral degree either in nursing or a health or related educational field from a college or university accredited by a national accrediting body recognized by the United States Department of Education; or

(b) A doctoral degree in nursing from a college or university accredited by a national nursing accrediting body recognized by the United States Department of Education; and

(c) Preparation in education that includes teaching adults, adult learning theory, teaching methods, curriculum development, and curriculum evaluation, or two years of teaching experience in nursing education that demonstrates this type of preparation;

(d) Preparation or experience in nursing administration or educational administration; and

(e) At least five years of experience as a registered nurse including two years of experience in nursing education at or above the highest level of the nursing education program the nurse administrator will be administering.

The commission may grant an exception to the experience in nursing education requirement if the program can demonstrate that two academic years of ongoing educational consultation is provided to the nurse administrator by a person who meets or exceeds nurse administrator qualifications identified in this subsection.

(4) The nurse administrator shall be responsible for creation and maintenance of an environment conducive to teaching and learning through:

(a) Facilitation of the development, implementation, and evaluation of the curriculum.

(b) Communication and decision making regarding program needs, budget preparation and monitoring, and ongoing involvement with central administration and other units of the parent institution.

(c) Facilitation of faculty development and performance review for full-time and part-time faculty consistent with the policies of the institution and standards of professional nursing practice, and encouragement of faculty to seek ways of improving clinical skills and methods of demonstrating continued educational and clinical competence.

Evaluation of clinical performance of nursing faculty in practice situations must be performed by a qualified licensed nurse as appropriate to the level of practice being taught.

(d) Facilitation of faculty recruitment and appointment. The nurse administrator of the nursing education program shall establish a goal for acquiring faculty with diversity in ethnicity, gender, clinical specialty and experience.

(e) Recommendation of faculty for appointment, promotion, tenure, and retention consistent with the policies of the institution and standards in this chapter.

(f) Facilitation of the development of long-range goals and objectives for the nursing program.

(g) Facilitation of recruitment, selection, and advisement of students.

(h) Assurance that the rules of the commission are effectively implemented.

(i) Notification to the commission of events as identified in WAC [246-840-513](#) and [246-840-554](#)(3).

(5) The nurse administrator must have sufficient time provided to fulfill relevant administrative duties and responsibilities.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-517, filed 8/17/16, effective 9/17/16.]

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## **246-840-518**

### **Resources, facilities and services for approved nursing education programs.**

(1) A nursing education program shall have the fiscal, human, physical, technological, clinical and learning resources adequate to support program processes and outcomes.

(2) Classrooms, laboratories, and conference rooms must be available and adequate in size, number, and type according to the number of students and the educational purposes for, which the rooms are to be used.

(3) Offices must be available and adequate in size, number, and type to provide faculty with opportunity for uninterrupted work and privacy for conferences with students. Adequate space must be provided for clerical staff, records, files, and other equipment.

(4) An office allowing for private consultation with students and faculty, and support for administrative responsibilities must be available to the nurse administrator.

(5) Library facilities and computer access must be provided for use by the faculty and students. Physical facilities, hours, and scope and currency of learning resources must be appropriate for the purpose of the program and for the number of faculty and students.

(6) The nursing education program shall conduct annual evaluations of resources, facilities, and services based on input from faculty and students. The schedule and results of these evaluations must be available to the commission upon request.

(7) The nursing education program shall demonstrate adequate financial support for faculty, support personnel, equipment, technology, supplies, and services.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-518, filed 8/17/16, effective 9/17/16.]

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## **246-840-519**

### **Student requirements in all approved nursing education programs.**

(1) The nursing education program shall hold students accountable for professional behavior as identified in chapters **18.79**, **18.130** RCW, and **246-840** WAC, including, academic honesty and integrity.

(2) Written policies and procedures for students must be available and communicated in a fair, accurate, inclusive, and consistent manner.

(3) The approved nursing education program shall:

(a) Develop and implement written policies and procedures specific to nursing students including, but not limited to, the following:

(i) Student selection, admission, progression, remediation, graduation, withdrawal, and dismissal of students;

(ii) Student recordkeeping and systems;

(iii) ADA accommodations for students;

(iv) Student rights and responsibilities;

(v) Grievances and complaint processes;

(vi) Incident reports and tracking of reports;

(vii) Medication administration or selection by students and faculty role in supervising students during medication administration or selection processes;

(viii) Reporting and logging of events involving a student and faculty member that the nursing education program has reason to believe resulted in patient harm, unreasonable risk of patient harm, or diversion of legend drugs;

(ix) Documenting student near miss errors incidents;

(x) Student professional dress;

(xi) Professional behavior;

(xii) Background check requirements;

(xiii) Immunization requirements;

(xiv) Clinical practice expectations;

(xv) Student performance evaluations; and

(xvi) Other expectations of nursing students, including providing direction to students on how to apply for national council licensing examination (NCLEX) testing and licensure.

(b) Maintain a system of student records in accordance with institutional requirements.

Student records shall be available to the commission staff during on-site surveys or investigations.

(c) Provide a written statement to nursing students of student rights and responsibilities.

(d) Require and assure that students seeking admission by transfer from another approved nursing education program, or readmission for completion of the program, shall meet the equivalent of the program's current standards.

(e) Encourage admission of students from diverse populations.

[Statutory Authority: RCW **18.79.010**, **18.79.110**, **18.79.150**, **18.79.190**, and **18.79.240**. WSR 16-17-082, § 246-840-519, filed 8/17/16, effective 9/17/16.]

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## 246-840-523

### Faculty requirements for nursing education programs.

(1) Each nursing education program shall have a sufficient number of professionally and academically qualified faculty with adequate diversity of expertise in nursing to meet the nursing education program purpose, outcomes, and identified quality improvement processes.

(2) The nursing education program shall provide new faculty with sufficient orientation to achieve program purpose and outcomes, and to assure safe clinical and practice experiences for students.

(3) The program shall make available ongoing faculty development opportunities to assure faculty members are prepared, experienced, and current in subject matter taught.

(4) Nursing faculty shall have an active, unencumbered Washington state registered nurse license.

(5) Interdisciplinary faculty teaching in the nursing education program shall have academic and professional education and experience in their field of specialization.

(6) Adjunct clinical faculty employed solely to supervise clinical nursing experiences or practice experiences shall meet all the faculty qualifications for the program level they are teaching.

(7) Nursing faculty shall be responsible for:

(a) Developing, implementing, and evaluating the purpose and outcomes of the nursing education program;

(b) Designing, implementing, and evaluating the curriculum;

(c) Developing and evaluating nursing education policies as identified in WAC [246-840-519](#) (3)(a) through (e) within the framework of the policies of the parent institution;

(d) Participating in or providing for academic advising and guidance of students;

(e) Evaluating student achievement, in terms of curricular objectives as related to both nursing knowledge and practice, including preceptorship or mentored experiences;

(f) Selecting, guiding, and evaluating student learning activities;

(g) Participating in activities to improve their own nursing competency in area(s) of responsibility and to demonstrate current clinical competency; and

(h) Developing criteria for the selection and evaluation of clinical and practice experiences in clinical facilities or clinical practice settings, which address safety and the need for students to achieve the program outcomes and course objectives.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-523, filed 8/17/16, effective 9/17/16.]

## **246-840-524**

### **Degree requirements for faculty teaching in practical nursing education programs.**

In a nursing education program preparing practical nurses only, nursing faculty teaching nursing must have a minimum of a baccalaureate degree with a major in nursing from a nursing education program that is accredited by a nursing education accrediting body approved by the United States Department of Education.

[Statutory Authority: RCW 18.79.010, 18.79.110, 18.79.150, 18.79.190, and 18.79.240. WSR 16-17-082, § 246-840-524, filed 8/17/16, effective 9/17/16.]

## **246-840-531**

### **Clinical and practice experiences for students in approved nursing education programs.**

(1) All nursing programs preparing students for licensure shall provide faculty planned clinical or direct patient care experiences based on program outcomes and goals.

(a) The number of clinical or direct patient care experience hours must be:

- (i) At least three hundred hours for licensed practical nursing education programs;
- (ii) At least five hundred hours for associate degree nursing education programs;
- (iii) At least six hundred hours for bachelors of science in nursing education programs;
- (iv) At least five hundred hours for masters level nurse practitioner nursing education programs;
- (v) At least one thousand hours for doctoral of nursing practice nurse practitioner programs.

(b) Observation of licensed or qualified health care professionals practicing a technical skill or therapy may be included in the calculation of student clinical hours. Observation is reserved for care or therapy situations, which students are not qualified to deliver;

(c) Skill practice labs must not be counted towards clinical practice hours.

(2)(a) All postlicensure nursing education programs shall have faculty planned practice experiences for students based on program outcomes and goals. Practice experience examples include, but are not limited to: Indirect and direct patient care, patient or population teaching, population interventions, student nurse teaching or the teaching of nursing students, leadership and change projects, research, accessing client or population data for the purpose of doing quality assurance or improvement projects, informatics, thesis or dissertation development and defense.

(b) The number of practice hours must be equivalent to programs of similar type:

- (i) At least one hundred hours for registered nurse to bachelor's degree programs; and
- (ii) At least one hundred hours for graduate nursing education programs.

(3) Faculty shall organize clinical and practice experiences based on the educational preparation and skill level of the student.

(4) Faculty shall plan, oversee, and evaluate student clinical and practice experiences.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-531, filed 8/17/16, effective 9/17/16.]

## **246-840-532**

### **Faculty to student ratios for clinical and practice experience in nursing education programs.**

(1) Practical and prelicensure registered nursing education programs shall have a maximum faculty to student ratio of one faculty member to ten students in clinical settings involving direct patient care, and one faculty member to fifteen students at one time in practice settings that are observational, involve student precepted experiences, or are skills practice labs.

(2) Registered nurse to bachelor nursing education programs shall have a maximum faculty to student ratio of one faculty member to fifteen students at one time in clinical and practice settings.

(3) Advanced registered nurse practitioner nursing education programs shall have a maximum faculty to student ratio of one faculty member to six students in clinical and practice settings.

(4) Graduate nursing education programs (not leading to licensure as an advanced registered nurse practitioner) shall have a maximum faculty to student ratio of one faculty member to fifteen students in clinical and practice settings.

(5) A lower ratio of faculty to students may be required for students in initial or highly complex learning situations, or when student or patient safety warrant.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-532, filed 8/17/16, effective 9/17/16.]

## **246-840-533**

### **Preceptors, interdisciplinary mentors, and proctors in clinical or practice settings for nursing education programs located in Washington state.**

(1) Preceptors may be used to enhance clinical or practice-learning experiences after a student has received instruction and orientation from program faculty who assure the student is adequately prepared for the clinical or practice experience.

(2) Nursing education faculty in prelicensure nursing education programs shall not assign more than two students to each nurse preceptor.

(3) Nursing education faculty in a program leading to licensure as an advanced registered nurse practitioner shall not assign more than one student to each preceptor.

(4) A preceptor may be used in practical and registered nursing education programs when the preceptor:

(a) Has an unencumbered nursing license at or above the level for, which the student is preparing;

(b) Is experienced in the specialty area for at least two years;

(c) Is oriented to the written course and student learning objectives;

(d) Is not related to, or a personal friend of the student; and

(e) Is oriented to the written role expectations of faculty, preceptor, and student.

(5) A preceptor may be used in nursing education programs leading to licensure as an advanced registered nurse practitioner when the preceptor:

(a) Has an active, unencumbered license as an ARNP under chapter **18.79** RCW, a physician under chapter **18.71** RCW, an osteopathic physician under chapter **18.57** RCW, or equivalent license in other states or jurisdictions;

(b) Is experienced in the specialty area for at least two years;

(c) Is oriented to the written course and student learning objectives;

(d) Is not related to, or a personal friend of the student; and

(e) Is oriented to the written role expectations of faculty, preceptor, and student.

(6) A preceptor may be used in graduate nursing programs as appropriate to the course of study when the preceptor:

(a) Is experienced in the specialty area for at least two years;

(b) Is oriented to the written course and student learning objectives;

(c) Is not related to, or a personal friend of the student; and

(d) Is oriented to the written role expectations of faculty, preceptor, and student.

(7) An interdisciplinary mentor who has experience and educational preparation appropriate to the faculty planned student learning experience may be used in some clinical or practice experiences.

(8) Faculty are responsible for the overall supervision and evaluation of the student and must confer with each preceptor or interdisciplinary mentor and student at least once before the student learning experience, at the mid-point of the experience, and at the end of the learning experience.

(9) A proctor who monitors students during the performance of a task or skill must be qualified with educational and experiential preparation in the area being proctored and must be credentialed as a licensed health care provider listed in chapter **18.130** RCW. Such a person may be used on rare, short-term occasions to proctor students when a faculty member has determined that it is safe for a student to receive direct supervision from the proctor for the performance of a particular task or skill that is within the scope of practice for the nursing student.

[Statutory Authority: RCW **18.79.010**, **18.79.110**, **18.79.150**, **18.79.190**, and **18.79.240**. WSR 16-17-082, § 246-840-533, filed 8/17/16, effective 9/17/16.]

## **246-840-534**

### **Use of simulation for clinical experiences in LPN, RN, or RN to BSN nursing education programs located in Washington state.**

(1) An LPN, RN, or RN to BSN nursing education program may use simulation as a substitute for traditional clinical experiences, after approval by the commission, not to exceed fifty percent of its clinical hours for a particular course.

(a) Simulation as used in this section means a technique to replace or amplify real experiences with guided experiences evoking or replicating substantial aspects of the real world in a fully interactive manner.

(b) The nursing education program shall have an organizing framework providing adequate fiscal, human, technological, and material resources to support the simulation activities.

(c) Simulation activities must be managed by an individual who is academically and experientially qualified and who demonstrates currency and competency in the use of simulation while managing the simulation program.

(d) The nursing education program shall have a budget sustaining simulation activities and training of the faculty.

(e) The nursing education program shall have appropriate facilities, educational and technological resources and equipment to meet the intended objectives of the simulation.

(f) All faculty involved in simulations, both didactic and clinical, shall have training in the use of simulation and shall engage in ongoing professional development in the use of simulation.

(g) Faculty to student ratios in the simulation lab must be in the same ratio as identified in WAC [246-840-532](#) for clinical learning experiences.

(2) Faculty shall organize clinical and practice experiences based on the educational preparation and skill level of the student.

(3) Qualified simulation faculty must supervise and evaluate student clinical and practice experiences.

(a) The nursing education program shall demonstrate that simulation activities are linked to programmatic outcomes.

(b) The nursing education program shall have written policies and procedures on the following:

(i) Short-term and long-term plans for integrating simulation into the curriculum;

(ii) An identified method of debriefing each simulated activity; and

(iii) A plan for orienting faculty to simulation.

(c) Debriefing as used in this section means an activity following a simulation experience that is led by a facilitator, encourages reflective thinking, and provides feedback regarding the participant's performance.

(d) The nursing education program shall develop criteria to evaluate simulation activities.

(e) Students shall evaluate the simulation experience on an ongoing basis.

(f) The program shall include information about use of simulation in its annual report to the commission.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-534, filed 8/17/16, effective 9/17/16.]

## **246-840-536**

### **Dedicated education units for practical nurse or registered nurse nursing education programs.**

(1) Nursing education programs in collaboration with a health care facility may use dedicated education units as identified in WAC **246-840-010** to provide clinical education and practice experiences for nursing students.

(2) A nursing education program using a dedicated education unit shall have an affiliation agreement identifying the roles and responsibilities of health care staff, nursing education program faculty, and nursing students.

(3) Nursing education programs using dedicated education units shall use licensed nurses as preceptors as identified in WAC **246-840-533** (4)(a), (b), (c), (d), and (e) for practical and registered nurse programs, or WAC **246-840-533** (5)(a), (b), (c), (d), and (e) for programs leading to advanced registered nurse practitioner licensure.

(4) Nursing education program faculty shall only assign students to a licensed nurse preceptor as identified in subsection (3) of this section, based upon the nurse's knowledge, experience, and willingness to work with students.

(5) Nursing education faculty shall not assign more than two students to each licensed nurse preceptor.

(6) Nursing education faculty with the assistance from the preceptor shall be responsible for the evaluation of student clinical performance.

(7) Nursing education faculty shall be responsible for student learning in the dedicated education unit.

[Statutory Authority: RCW **18.79.010**, **18.79.110**, **18.79.150**, **18.79.190**, and **18.79.240**. WSR 16-17-082, § 246-840-536, filed 8/17/16, effective 9/17/16.]

## **246-840-537**

### **Curriculum for approved nursing education programs.**

(1) The curriculum of the nursing education program must enable the student to develop the nursing knowledge, skills, and professional identity necessary for the level, scope, and standards of competent nursing practice expected at the level of educational preparation.

(2) The curriculum will be revised as necessary to maintain a program reflecting advances in health care and its delivery.

(3) The curriculum, as defined by nursing education, professional and practice standards, shall include evidence-based learning experiences and methods of instruction, including distance education methods, consistent with the written curriculum plan.

(4) Clinical and practice experiences must include opportunities to learn and provide care to clients from diverse ethnic and cultural backgrounds. The emphasis placed on these areas and the scope encompassed shall be in keeping with the purpose and outcomes of the program.

(5) The length, organization, content, methods of instruction, and placement of courses must be consistent with the purpose and outcomes of the program.

(6) All nursing programs delivering curriculum through distance learning methods must ensure that students receive curriculum comparable to in-person teaching and the clinical and practice learning experiences are evaluated by faculty through formative and summative evaluations.

(7) Nursing programs shall not use external nursing examinations as the sole basis for program progression or graduation. External nursing exams for the purpose of this section, means examinations created by people or organizations outside a student's own nursing education program.

(8) Competency based testing for progression in nursing programs must be based on valid and reliable tools measuring the knowledge and skills expected at an identified level of student or nursing practice.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-537, filed 8/17/16, effective 9/17/16.]

## **246-840-539**

### **Curriculum for practical nurse nursing education programs.**

The practical nurse nursing education program of study must include both didactic and clinical learning experiences and must be:

(1) Effective September 1, 2017, designed to include prerequisite classes in the physical, biological, social and behavior sciences that are transferable to colleges and universities in the state of Washington;

(2) Planned, implemented, and evaluated by the faculty;

(3) Based on the philosophy, mission, objectives, and outcomes of the program and consistent with chapters [18.79](#) RCW and this chapter;

(4) Organized by subject and content to meet program outcomes;

(5) Designed to teach students to use a systematic approach to clinical decision making and safe patient care;

(6) Designed to teach students:

(a) Professional relationships and communication;

(b) Nursing ethics;

(c) Nursing history and trends;

(d) Commission approved scope of practice decision tree;

(e) Standards of practice;

(f) Licensure and legal aspects of nursing including the disciplinary process, substance abuse and professional values;

(g) Concepts and clinical practice experiences in geriatric nursing, and medical, surgical, and mental health nursing for clients throughout the life span;

(h) Concepts of antepartum, intrapartum, postpartum and newborn nursing with only an assisting role in the care of clients during labor and delivery and those with complications;

(i) Concepts and practice in the prevention of illness and the promotion, restoration, and maintenance of health in patients across the life span and from diverse cultural, ethnic, social, and economic backgrounds; and

(j) AIDS education as required in chapter 246-12 WAC, Part 8.

(7) Designed to prepare graduates for licensure and to practice practical nursing as identified in WAC 246-840-700 and 246-840-705; and

(8) Designed to prepare graduates to practice according to competencies recognized by professional nursing organizations.

(a) Practical nursing courses shall include:

(i) Components of: Client needs; safe, effective care environment; health promotion and maintenance; interdisciplinary communication and collaboration; discharge planning; basics of multicultural health; psychosocial integrity; and physiological integrity.

(ii) Skills laboratory and clinical practice in the functions of the practical nurse including, but not limited to, administration of medications, implementing and monitoring client care, and promoting psychosocial and physiological health.

(iii) Concepts of coordinated care, delegation and supervision.

(b) Practical nurse programs teaching intravenous infusion therapy shall prepare graduates for national certification by a nursing professional practical nurse certifying body.

[Statutory Authority: RCW 18.79.010, 18.79.110, 18.79.150, 18.79.190, and 18.79.240. WSR 16-17-082, § 246-840-539, filed 8/17/16, effective 9/17/16.]

## **246-840-546**

### **Distance-learning nursing education course or courses offered by approved nursing programs.**

Nursing education programs offering distance-learning courses shall:

(1) Ensure distance-learning courses meet established quality and security standards for online and distance learning education;

(2) Develop written policies and procedures ensuring quality assurance controls, security, maintenance, and service support for students and faculty who use the system;

(3) Ensure students receive curriculum comparable to in-person teaching;

(4) Complete ongoing student and faculty evaluations of distance learning courses; and

(5) Provide access to distance-learning courses when requested by the commission.

[Statutory Authority: RCW 18.79.010, 18.79.110, 18.79.150, 18.79.190, and 18.79.240. WSR 16-17-082, § 246-840-546, filed 8/17/16, effective 9/17/16.]

## **246-840-551**

### **Internationally educated practical nurse program in an approved nursing education program.**

For internationally educated practical nurses who do not meet educational requirements for licensure, the nursing education program shall offer the following:

(1) A minimum of sixty hours of core theory content and one hundred twenty hours of simulated competency-based practice experiences.

(2) The theory course content must include, but not be limited to, a minimum of sixty hours in current basic concepts of:

(a) Nursing process;

(b) Pharmacology;

(c) Practical nursing today including legal expectations, the commission approved scope of practice decision tree, the Washington Nurse Practice Act as identified in chapter **18.79** RCW, and the Uniform Disciplinary Act identified in chapter **18.130** RCW;

(d) Basic communications and observational practices needed for identification, reporting, and recording patient needs;

(e) Basic physical, biological, and social sciences necessary for practice; and

(f) Practical nursing knowledge, skills, and professional identity to include, but not be limited to: Concepts of fundamentals, medical, surgical, and mental health nursing across the life span. These concepts must address diverse cultural, ethnic, social, and economic backgrounds of patients and populations.

(3) The practice course content must include a minimum of one hundred twenty hours of competency-based simulation practice in the area(s) listed in subsection (2)(f) of this section. Exceptions may be approved by the commission after adequate rationale is provided by the nursing education program.

[Statutory Authority: RCW **18.79.010**, **18.79.110**, **18.79.150**, **18.79.190**, and **18.79.240**. WSR 16-17-082, § 246-840-551, filed 8/17/16, effective 9/17/16.]

## **246-840-553**

### **Innovation projects or program approach for approved nursing education programs located in Washington state.**

(1) A nursing education program may apply to implement an innovative program approach or project by complying with the provisions of this section.

(2) Nursing education programs approved to implement innovative approaches or programs shall continue to provide quality nursing education preparing graduates to practice safely, competently, and ethically within the scope of practice as defined in chapter **18.79** RCW and chapter **246-840** WAC.

(3) The purpose of innovations in nursing education program approval is to:

(a) Foster innovative models of nursing education to address the changing needs in health care;

- (b) Assure innovative approaches or programs protect the public; and
- (c) Assure innovative approaches or programs maintain quality outcome standards.
- (4) A nursing education program that holds full commission approval may be eligible to implement an innovative approach or program.
- (5) The following information shall be provided to the commission at least three months in advance of requested implementation date:
  - (a) Identifying information to include name of nursing program, address, responsible party and contact information;
  - (b) A brief description of the current program;
  - (c) Identification of the regulation(s) affected by the proposed innovative approach;
  - (d) Length of time for, which the innovative approach is requested;
  - (e) Description of the innovative approach, including objective(s);
  - (f) Brief explanation of why the nursing education program wants to implement an innovative approach at this time;
  - (g) Explanation of how the proposed innovation differs from approaches in the current program;
  - (h) Rationale with available evidence supporting the innovative approach;
  - (i) Identification of resources supporting the proposed innovative approach;
  - (j) Expected impact innovative approach will have on the program, including administration, students, faculty, and other program resources;
  - (k) Plan for implementation, including timeline;
  - (l) Plan for evaluation of the proposed innovation, including measurable criteria/outcomes, method of evaluation, and frequency of evaluation; and
  - (m) Additional application information as requested by the commission.
- (6) The following are the standards for approval:
  - (a) Eligibility and application criteria in subsections (4) and (5) of this section are met;
  - (b) The innovative approach or program will not compromise the quality of education or safe practice of students;
  - (c) Resources are sufficient to support the innovative approach or program;
  - (d) Rationale with available evidence supports the implementation of the innovative approach or program;
  - (e) Implementation plan is reasonable to achieve the desired outcomes of the innovative approach or program;
  - (f) Timeline provides for a sufficient period to implement and evaluate the innovative approach or program; and
  - (g) Plan for periodic evaluation is comprehensive and supported by appropriate methods of evaluation.
- (7) If the application meets the standards, the commission may:
  - (a) Approve the application; or
  - (b) Approve the application with modifications as agreed between the commission and the nursing education program.
- (8) If the submitted application does not meet the criteria in subsections (4) and (5) of this section, the commission may deny approval or ask for more information.

(9) The commission may rescind the approval or require the nursing education program to make modifications if:

(a) The commission receives evidence, which substantiates adverse impact; or

(b) The nursing education program fails to implement the innovative approach or program as presented and approved.

(10) The nursing education program shall provide the commission with progress reports conforming to the evaluation plan as requested by the commission.

(a) If any report indicates patients or students were adversely impacted by the innovation, the nursing education program shall provide documentation of corrective measures and their effectiveness; and

(b) The final evaluation report shall conform to the evaluation plan, detailing and analyzing the outcomes data.

(11) If the innovative approach or program achieves the desired outcomes, has not compromised public protection, and is consistent with core nursing education criteria, the nursing education program may request the innovative approach or program be continued.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-553, filed 8/17/16, effective 9/17/16.]

## **246-840-554**

### **Ongoing evaluation and approval of nursing education programs located in Washington state.**

(1) Nursing education programs meeting the requirements of WAC [246-840-511](#) through [246-840-556](#) may be approved by the commission for a maximum of ten years.

(2) To ensure continuing compliance with nursing education standards, nursing education programs may be required to participate in self-studies, self-evaluations and commission site visits at various times in the approval cycle depending on program outcomes and complaints received by the commission and as deemed necessary by the commission.

(3) Any proposed substantive nursing education program change must be presented to the commission for approval at least three months prior to implementation.

(a) Substantive changes include the following:

(i) Changes in legal status, control, ownership, or resources of the institution;

(ii) Faculty numbers below the required staff for clinical as found in WAC [246-840-532](#) or clinical simulation sections identified in WAC [246-840-534](#) (1)(g);

(iii) Changes in faculty composition when their expertise or experiences are not adequate to teach those areas of nursing described in WAC [246-840-523](#), [246-840-539](#), [246-840-541](#), [246-840-542](#), [246-840-543](#), and [246-840-544](#);

(iv) Changes in the number of students admitted requiring one or more additional clinical or practice groups, or changing the required faculty to student ratios of 1:10 for prelicensure programs and 1:6 for nursing education programs preparing students for advanced practice registered nurse licensure; or

- (v) Major curriculum revision or changes in the length of the program.
- (A) Major curriculum revisions include:
  - (I) Changes in curricular delivery method;
  - (II) Changes in nursing model or conceptual framework;
  - (III) Changes in curriculum meaning or direction of the curriculum such as philosophy, program goals, program terminal objectives, course objectives and descriptions;
  - (IV) Changes in total program credits; or
  - (V) Addition or deletion of a satellite or extended campus.
- (B) The following changes do not require commission approval:
  - (I) Movement of content from one course to another; or
  - (II) Formatting changes in syllabi.
- (b) The nurse administrator of the program shall submit the following when requesting approval for substantive changes:
  - (i) A letter explaining the substantive change request;
  - (ii) The rationale for the proposed change and anticipated effect on the program including faculty workload, students, resources, clinical or practice experiences, and facilities;
  - (iii) A summary or grid that explains the difference between the current practice and proposed change;
  - (iv) A timeline for implementation of the change; and
  - (v) The methods of evaluation to be used to determine the effect of the change.
- (4) The program shall submit annual reports on forms provided by the commission and on the date specified.

[Statutory Authority: RCW [18.79.010](#), [18.79.110](#), [18.79.150](#), [18.79.190](#), and [18.79.240](#). WSR 16-17-082, § 246-840-554, filed 8/17/16, effective 9/17/16.]

## **246-840-556**

### **Ongoing approval, accreditation and commission reviews.**

(1) The commission may accept accreditation by a commission-recognized national nursing education accreditation body approved by the United States Department of Education as evidence of compliance with the standards of nursing education programs.

(a) The nursing education program shall submit to the commission a copy of any self-study submitted to the national nursing education accrediting body at the time the report is sent to the national nursing education accrediting body.

(b) The nursing education program shall submit to the commission within thirty days of receiving any report or accreditation letter from the national nursing education accreditation body to include, but not limited to: Continuous improvement progress reports, substantive change notification and accreditation action letters, site visit reports and program response letters, final site visit report and letter.

(c) The nursing education program shall submit notice of any change in program or institution accreditation status with the commission within thirty days of receipt of notice from the national accreditation body.

(d) Failure to submit notice of accreditation survey results within thirty days may result in a site visit or other sanctions as described in WAC 246-840-558.

(e) Programs holding approval based upon national nursing education accreditation must comply with WAC 246-840-511 through 246-840-556.

(f) The commission may grant approval for a continuing period, not to exceed ten years, to nursing education programs with maximum continuing national accreditation.

(g) If the nursing program is accredited for less than maximum accreditation, the program must provide the commission with a copy of the report and a plan of correction for the items of noncompliance within thirty days of receipt from the accreditation body. The commission may require an additional report regarding noncompliance, or may conduct a site visit.

### **Evaluation of a Nursing Program by the Commission**

(2) Programs not nationally accredited by a commission-recognized national nursing accreditation body are subject to a site visit made by representative(s) of the commission on dates mutually agreeable to the commission and the nursing education program.

(a) Prior to the site visit, a nursing education program shall submit a self-evaluation report at least thirty days before the visit providing evidence of compliance with the standards of nursing education as identified in WAC 246-840-511 through 246-840-556.

(b) Prior to commission consideration, a draft of the commission site visit report will be made available to the school for review for corrections in statistical data.

(c) Following the commission's review and decision, the commission will send the program nurse administrator, the president and vice president of instruction or provost written notification regarding approval of the program.

[Statutory Authority: RCW 18.79.010, 18.79.110, 18.79.150, 18.79.190, and 18.79.240. WSR 16-17-082, § 246-840-556, filed 8/17/16, effective 9/17/16.]

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## **246-840-571**

### **Out-of-state distance learning nursing program approval for practice experiences in Washington state.**

(1) The commission may approve out-of-state distance learning nursing education programs for the purpose of placing student in clinical or practice experiences in the state of Washington. The out-of-state distance learning nursing education program shall:

(a) Complete and submit a commission approved application and demonstrate equivalency to requirements for in-state Washington nursing programs;

(b) Provide clinical and practice supervision and evaluation of students in Washington state;

(c) Ensure the faculty, preceptors and others who teach, supervise, or evaluate clinical or practice experiences in the state of Washington hold an active, unencumbered nursing license appropriate to the level of student teaching. Faculty must be licensed in the state of Washington as an ARNP if teaching advanced registered nurse practitioner practice;

(d) Preceptors for students in a nursing education program preparing nurses for advanced registered nurse practitioner licensure shall not be related to the student or personal friends, and shall have an active, unencumbered license as an ARNP under chapter 18.79 RCW, a physician under chapter 18.71 RCW, an osteopathic physician under chapter 18.57 RCW, or equivalent in other states or jurisdictions;

(e) Ensure the faculty who teach didactic distance learning nursing courses hold a current and active, unencumbered nursing license in the state where the nursing program has legal domicile;

(f) Be accredited by a nursing education accrediting body approved by the United States Department of Education;

(g) Maintain accreditation status by the nursing education accrediting body;

(h) Report to the commission within thirty days of notice from the nursing education accrediting body if the accreditation status has changed; and

(i) Submit an annual report to the commission as identified in commission approved survey.

(2) The commission may conduct site visits or complaint investigations to clinical or practice locations to ensure compliance with commission requirements.

(3) The commission may withdraw clinical placement approval if it determines a nursing education distance learning program fails to meet the standards for nursing education as contained in WAC 246-840-511 through 246-840-556.

(4) The commission may refer complaints regarding the distance learning nursing education program to the home state board of nursing and appropriate nursing education accreditation body.

(5) A distance learning nursing education program wishing to contest a decision of the commission affecting its approval status for clinical or practice experiences shall have the right to a brief adjudicative proceeding under the Administrative Procedure Act, chapter 34.05 RCW.

[Statutory Authority: RCW 18.79.010, 18.79.110, 18.79.150, 18.79.190, and 18.79.240. WSR 16-17-082, § 246-840-571, filed 8/17/16, effective 9/17/16.]

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## 246-840-700

### Standards of nursing conduct or practice.

(1) The purpose of defining standards of nursing conduct or practice through WAC 246-840-700 and 246-840-710 is to identify responsibilities of the professional registered nurse and the licensed practical nurse in health care settings and as provided in the Nursing Practice Act, chapter 18.79 RCW. Violation of these standards may be grounds for disciplinary action under chapter 18.130 RCW. Each individual, upon entering the practice of nursing, assumes a measure of responsibility and public trust

and the corresponding obligation to adhere to the professional and ethical standards of nursing practice. The nurse shall be responsible and accountable for the quality of nursing care given to clients. This responsibility cannot be avoided by accepting the orders or directions of another person. The standards of nursing conduct or practice include, but are not limited to the following;

(2) The nursing process is defined as a systematic problem solving approach to nursing care which has the goal of facilitating an optimal level of functioning and health for the client, recognizing diversity. It consists of a series of phases: Assessment and planning, intervention and evaluation with each phase building upon the preceding phases.

<p>(a) <b>Registered Nurse:</b></p> <p>Minimum standards for registered nurses include the following:</p> <p>(i) <b>Standard I Initiating the Nursing Process:</b></p> <p>(A) <b>Assessment and Analysis:</b> The registered nurse initiates data collection and analysis that includes pertinent objective and subjective data regarding the health status of the clients. The registered nurse is responsible for ongoing client assessment, including assimilation of data gathered from licensed practical nurses and other members of the health care team;</p> <p>(B) <b>Nursing Diagnosis/Problem Identification:</b> The registered nurse uses client data and nursing scientific principles to develop nursing diagnosis and to identify client problems in order to deliver effective nursing care;</p> <p>(C) <b>Planning:</b> The registered nurse shall plan nursing care which will assist clients and families with maintaining or restoring health and wellness or supporting a dignified death;</p>	<p>(b) <b>Licensed Practical Nurse:</b></p> <p>Minimum standards for licensed practical nurses include the following:</p> <p>(i) <b>Standard I - Implementing the Nursing Process:</b> The practical nurse assists in implementing the nursing process;</p> <p>(A) <b>Assessment:</b> The licensed practical nurse makes basic observations, gathers data and assists in identification of needs and problems relevant to the clients, collects specific data as directed, and, communicates outcomes of the data collection process in a timely fashion to the appropriate supervising person;</p> <p>(B) <b>Nursing Diagnosis/Problem Identification:</b> The licensed practical nurse provides data to assist in the development of nursing diagnoses which are central to the plan of care;</p> <p>(C) <b>Planning:</b> The licensed practical nurse contributes to the development of approaches to meet the needs of clients and families, and, develops client care plans utilizing a standardized nursing care plan and assists in setting priorities for care;</p>
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(D) **Implementation:**The registered nurse implements the plan of care by initiating nursing interventions through giving direct care and supervising other members of the care team; and

(E) **Evaluation:** The registered nurse evaluates the responses of individuals to nursing interventions and is responsible for the analysis and modification of the nursing care plan consistent with intended outcomes;

(ii) **Standard II Delegation and Supervision:** The registered nurse is accountable for the safety of clients receiving nursing service by:

(A) Delegating selected nursing functions to others in accordance with their education, credentials, and demonstrated competence as defined in WAC 246-840-010(10);

(B) Supervising others to whom he/she has delegated nursing functions as defined in WAC 246-840-010(10);

(C) Evaluating the outcomes of care provided by licensed and other paraprofessional staff;

(D) The registered nurse may delegate certain additional acts to certain individuals in community-based long-term care and in-home settings as provided by WAC 246-840-910 through 246-840-970 and WAC 246-841-405; and

(E) In a home health or hospice agency regulated under chapter 70.127 RCW, a

(D) **Implementation:**The licensed practical nurse carries out planned approaches to client care and performs common therapeutic nursing techniques; and

(E) **Evaluation:** The licensed practical nurse, in collaboration with the registered nurse, assists with making adjustments in the care plan. The licensed practical nurse reports outcomes of care to the registered nurse or supervising health care provider;

(ii) **Standard II Delegation and Supervision:** Under direction, the practical nurse is accountable for the safety of clients receiving nursing care:

(A) The practical nurse may delegate selected nursing tasks to competent individuals in selected situations, in accordance with their education, credentials and competence as defined in WAC 246-840-010(10);

(B) The licensed practical nurse in delegating functions shall supervise the persons to whom the functions have been delegated;

(C) The licensed practical nurse reports outcomes of delegated nursing care tasks to the RN or supervising health care provider; and

(D) In community based long-term care and in-home settings as provided by WAC 246-840-910 through 246-840-970 and WAC 246-841-405, the practical nurse may delegate only personal care tasks to qualified care givers;

registered nurse may delegate the application, instillation, or insertion of medications to a registered or certified nursing assistant under a plan of care pursuant to chapter 246-335WAC;

(iii) **Standard III Health Teaching.** The registered nurse assesses learning needs including learning readiness for patients and families, develops plans to meet those learning needs, implements the teaching plan and evaluates the outcome.

(iii) **Standard III Health Teaching.** The practical nurse assists in health teaching of clients and provides routine health information and instruction recognizing individual differences.

**(3) The following standards apply to registered nurses and licensed practical nurses:**

(a) The registered nurse and licensed practical nurse shall communicate significant changes in the client's status to appropriate members of the health care team. This communication shall take place in a time period consistent with the client's need for care. Communication is defined as a process by which information is exchanged between individuals through a common system of speech, symbols, signs, and written communication or behaviors that serves as both a means of gathering information and of influencing the behavior, actions, attitudes, and feelings of others; and

(b) The registered nurse and licensed practical nurse shall document, on essential client records, the nursing care given and the client's response to that care; and

(c) The registered nurse and licensed practical nurse act as client advocates in health maintenance and clinical care.

**(4) Other responsibilities:**

(a) The registered nurse and the licensed practical nurse shall have knowledge and understanding of the laws and rules regulating nursing and shall function within the legal scope of nursing practice;

(b) The registered nurse and the licensed practical nurse shall be responsible and accountable for his or her practice based upon and limited to the scope of his/her education, demonstrated competence, and nursing experience consistent with the scope of practice set forth in this document; and

(c) The registered nurse and the licensed practical nurse shall obtain instruction, supervision, and consultation as necessary before implementing new or unfamiliar techniques or procedures which are in his/her scope of practice.

(d) The registered nurse and the licensed practical nurse shall be responsible for maintaining current knowledge in his/her field of practice; and

(e) The registered nurse and the licensed practical nurse shall respect the client's right to privacy by protecting confidential information and shall not use confidential health care information for other than legitimate patient care purposes or as otherwise provided in the Health Care Information Act, chapter 70.02 RCW.

[Statutory Authority: RCW 18.79.110, 18.79.260 (3)(f), 18.88A.210, 2003 c 140. WSR 04-14-065, § 246-840-700, filed 7/2/04, effective 7/2/04. Statutory Authority: RCW 18.79.110. WSR 02-06-117, § 246-840-700, filed 3/6/02, effective 4/6/02. Statutory Authority: Chapter 18.79 RCW. WSR 97-13-100, § 246-840-700, filed 6/18/97, effective 7/19/97.]

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## 246-840-705

### Functions of a registered nurse and a licensed practical nurse.

**(1) Registered Nurses:**

The registered nurse performs acts that require substantial knowledge, judgment and skill based on the principles of biological, behavioral, health, and nursing sciences. Such acts are grounded in the elements of the nursing process which includes, but is not limited to, the assessment, analysis, diagnosis, planning, implementation and evaluation of nursing care and health teaching in the maintenance and the promotion of health or prevention of illness of others and the support of a dignified death. The registered nurse using specialized knowledge can perform the activities of administration, supervision, delegation and evaluation of nursing practice; and

**(3) Registered Nurses:**

The registered nurse functions in an **independent role** when utilizing the nursing process as defined in WAC 246-840-700(2) to meet the complex needs of the client.

**(2) Licensed Practical Nurses:**

The licensed practical nurse performs services requiring knowledge, skill and judgment necessary for carrying out selected aspects of the designated nursing regimen. The licensed practical nurse recognizes and is able to meet the basic needs of the client, and gives nursing care under the direction and supervision, to clients in **routine** nursing situations. A routine nursing situation is one that is relatively free of complexity, and the clinical and behavioral state of the client is relatively stable, requires care based upon a comparatively fixed and limited body of knowledge. In **complex** nursing care situations the licensed practical nurse functions as an assistant to the registered nurse and facilitates client care by carrying out selected aspects of the designated nursing regimen to assist the registered nurse in the performance of nursing care; and

**(4) Licensed Practical Nurses:**

The licensed practical nurse functions in an **interdependent** role to deliver care as directed and assists in the revision of care plans in collaboration with the registered nurse. The licensed practical nurse functions in a **dependent** role when executing a medical

regimen under the direction and supervision of an advanced registered nurse practitioner, licensed physician and/or surgeon, dentist, osteopathic physician and/or surgeon, physician assistant, osteopathic physician assistant, podiatric physician and/or surgeon, or naturopathic physician. A licensed practical nurse may not accept delegation of acts not within his or her scope of practice.

In an interdependent role as a member of a health care team, the registered nurse functions to coordinate and evaluate the care of the client and independently revises the plan and delivery of nursing care.

The registered nurse functions in an interdependent **role** when executing a medical regimen under the direction of an advanced registered nurse practitioner, licensed physician and/or surgeon, dentist, osteopathic physician and/or surgeon, physician assistant, osteopathic physician assistant, podiatric physician and/or surgeon, or naturopathic physician. A registered nurse may not accept delegation of acts not within his or her scope of practice.

This shall not be construed as authorizing an independent role for the LPN.

[Statutory Authority: RCW 18.79.110. WSR 02-06-117, § 246-840-705, filed 3/6/02, effective 4/6/02. Statutory Authority: Chapter 18.79 RCW. WSR 97-13-100, § 246-840-705, filed 6/18/97, effective 7/19/97.]

## **SPECIALTY TRAINING WACs**

### **WAC 388-112A-0430**

#### **What are the competencies and learning objectives for the long-term care worker developmental disability specialty training?**

The following developmental disabilities specialty competencies describe the behavior and skills a long-term care worker must exhibit when working with residents and include learning objectives associated with each competency:

(1) Regarding the competency on an overview of developmental disabilities, draw upon a basic understanding of developmental disabilities and demonstrate awareness of the unique needs of residents with developmental disabilities:

- (a) Define developmental disability and describe intellectual disability, cerebral palsy, epilepsy, and autism;
- (b) Identify common myths and misconceptions about developmental disabilities;
- (c) Describe the negative effects of using labels such as "retarded" or "handicapped" to represent people and positive alternatives; and
- (d) Differentiate between developmental disabilities and mental illness.

(2) Regarding the competency on values of service delivery, promote and support a resident's self-determination:

- (a) Identify the principle of normalization and its significance to the work of long-term care workers;
- (b) Explain how understanding each resident's needs leads to better services and supports, which lead to better outcomes for the resident;
- (c) Describe each of the residential services guidelines and identify how the values represented in the guidelines are important in the lives of people with developmental disabilities;
- (d) Describe the principle of self-determination; and
- (e) Identify positive outcomes for residents with developmental disabilities when they are connected to the community they live in.

(3) Regarding the competency on communication, provide culturally compassionate and individualized care by utilizing a basic understanding of a resident or resident's history, experience, and cultural beliefs:

- (a) List the key elements of effective communication;
- (b) Describe the impact communication has on the lives of residents with developmental disabilities;
- (c) Explain the impact a long-term care worker's behavior can have on eliciting communication;
- (d) Explain the impact of a resident's physical environment on his or her ability to communicate;
- (e) Describe methods of communication, other than verbal, that long-term care workers might use when supporting residents with developmental disabilities; and
- (f) List tips for communication with residents with developmental disabilities.

(4) Regarding the competency on interactive planning, using person-centered and interactive planning when working with residents with developmental disabilities:

- (a) Identify the benefits of using a person-centered planning process rather than the traditional planning methods used to develop supports for people with developmental disabilities;
  - (b) Identify key elements involved in interactive planning;
  - (c) Identify ways to include people with developmental disabilities and their families in the planning process; and
  - (d) Identify the required planning document for the setting and list ways to have a positive impact on the plan.
- (5) Regarding the competency on challenging behaviors, use a problem solving approach and positive support principles when dealing with challenging behaviors:
- (a) Identify the essential components of the concept of positive behavioral supports;
  - (b) Define the "ABCs" and describe how to use that process to discover the function of behavior;
  - (c) Explain why it is critical to understand the function of behavior before developing a support plan;
  - (d) Define reinforcement and identify ways to utilize it as a tool to increase a resident's ability to be successful;
  - (e) Identify the problems with using punishment to manage behavior;
  - (f) Identify behavior management techniques that are not allowed under DSHS policies and applicable laws;
  - (g) Identify factors that can positively and negatively influence the behavior of residents with developmental disabilities; and
  - (h) List steps to be taken when crisis or danger to people is immediate.
- (6) Regarding the competency on crisis prevention, support a resident experiencing a crisis and get assistance when needed:
- (a) Identify behaviors in people with developmental disabilities that might constitute "normal stress";
  - (b) Define "crisis";
  - (c) Differentiate the behaviors a resident who is in crisis exhibits from mental illness;
  - (d) Identify the principles of crisis prevention and intervention;
  - (e) Identify what types of situations require outside assistance and at what point it becomes necessary; and
  - (f) Name several ways to provide support to a resident experiencing a crisis.
- (7) Regarding the competency on legal rights, promote and protect the legal and resident rights of residents with developmental disabilities:
- (a) Explain how the rights of residents with disabilities compare to those of the general population;
  - (b) List the rights of residents living in adult family homes and assisted living facilities and the laws that support those rights;
  - (c) Describe how long-term care workers can help residents to exercise their rights;
  - (d) List ways a caregiver or long-term care worker must safeguard each resident's confidentiality;

(e) Describe the three types of guardianship a resident with developmental disabilities might be subject to and why;

(f) List less restrictive alternatives to guardianship;

(g) Describe the responsibilities, powers, and limitations of a guardian; and

(h) Describe the relationship between long-term care workers and guardians/families.

[Statutory Authority:

RCW [74.39A.009](#), [74.39A.070](#), [74.39A.074](#), [74.39A.351](#), [74.39A.341](#), [18.20.270](#), [18.88B.021](#), [18.88B.035](#), [70.128.230](#), [71A.12.030](#). WSR 17-22-036, § 388-112A-0430, filed 10/24/17, effective 11/24/17.]

## **WAC 388-112A-0440**

### **What must dementia specialty training include?**

Curricula developed and approved as dementia specialty training must include all of the knowledge, skills, topics, competencies, and learning objectives described in this section.

(1) Understanding dementia.

(a) Introduction to dementia. The caregiver will review common signs, symptoms, and types of dementia and identify the difference between dementia and conditions that might look like dementia.

(i) What is dementia: Symptoms, causes, parts of the brain, types of dementia; and

(ii) What is not dementia: Forgetfulness, depression, delirium, urinary tract infection, mild cognitive impairment.

(b) Hallucinations and delusions. The caregiver will identify common hallucinations and delusions a person with dementia may exhibit and identify physical, emotional, and environmental causes of hallucinations and delusions.

(i) What is baseline;

(ii) Hallucinations: Visual, auditory, causes; and

(iii) Delusions: What are delusions, other causes.

(c) Setting the tone. The caregiver will distinguish between positive and negative interactions and ways to enhance quality of life for the individual.

(i) The role and characteristics of the caregiver: Empathy, dependability, patience, strength, flexibility, creativity;

(ii) Self-care: Reducing personal stress, setting goals, communicating effectively, asking for help, exercise, nutrition;

(iii) Learning from emotions;

(iv) Support;

(v) Environmental influences on the tone;

(vi) Enhancing the environment; and

(vii) Schedule planning.

(d) Working with families. The caregiver will recognize common emotions family members experience with a loved one who has dementia, identify some difficulties family members may experience or express about their loved one's care, and provide resources for families.

(i) Understanding the family unit;

(ii) Working with and supporting family members and friends; and

(iii) Building trust.

(2) Living with dementia.

(a) Sexuality and intimacy. The caregiver will identify safe and unsafe expressions of sexuality and steps to take in the best interest of the individual.

- (i) Sexuality and intimacy;
  - (ii) Sexualized behavior;
  - (iii) Do no harm;
  - (iv) Attitudes;
  - (v) Lesbian, gay, bisexual, transgender, questioning (LGBTQ);
  - (vi) Changes: reduced interest, increased interest, sexual aggression, inhibitions, coping and frustrations;
  - (vii) Client rights;
  - (viii) Consent;
  - (ix) Abuse;
  - (x) Talking to families about sex;
  - (xi) Caregiver responsibility; and
  - (xii) Reporting nonconsensual sexual contact.
- (b) Medications, treatments, and therapies. The caregiver will identify possible medication side effects, ways to respond to side effects, and recognize nondrug therapies to alleviate some symptoms of dementia.
- (i) Conventional medicine: general dementia medication, other drugs used with people who have dementia;
  - (ii) Medication side effects and reporting side effects;
  - (iii) Chemical restraints;
  - (iv) Medication refusal; and
  - (v) Nondrug therapies: natural medicine, cannabis, holistic therapies, nutrition.
- (3) Activities of daily living (ADL). The caregiver will identify ways to assist with activities of daily living such as bathing, dressing, eating, oral care, and toileting while focusing on the individual's strengths.
- (a) Helping with activities of daily living;
  - (b) Self-directed and staff-directed activities;
  - (c) Creating an environment to support activities;
  - (d) Assisting with challenging ADLs;
  - (e) Assisting with bathing;
  - (f) Assisting with dressing;
  - (g) Assisting with eating;
  - (h) Assisting with oral care; and
  - (i) Assisting with toileting.
- (4) Fostering communication and understanding.
- (a) Communicating with people who have dementia. The caregiver will be able to demonstrate an ability to recognize communication styles and ways to communicate effectively.
- (i) Verbal and nonverbal communication;
  - (ii) Progression of dementia and communication impact;
  - (iii) Early, middle, and late phase dementia; and
  - (iv) Approach: Nonverbal gestures, giving and receiving information, listening and interpreting information, communicating respect, open-ended questions, reason, logic and time, asking not telling, saying less, gentle deception.

(b) Trauma informed care. The caregiver will recognize that past traumas can affect current thinking, behaviors, and actions, and will identify strategies to provide trauma informed care.

- (i) Coping mechanisms;
  - (ii) Impact of culture;
  - (iii) Trauma informed care;
  - (iv) Principles of trauma informed care: Safety, trustworthiness, choice, collaboration, empowerment; and
  - (v) Strategies for care.
- (5) Challenging behaviors.

(a) Approaching challenging behaviors. The caregiver will demonstrate the sequence of steps to approach challenging behaviors.

(i) Strategy for approaching behaviors: Stop, identify, take action.

- (A) Stop, identify, take action;
- (B) Calming techniques;
- (C) Expressing a need or desire;
- (D) Physical, environmental, and emotional triggers;
- (E) Minimizing or eliminating the trigger;
- (F) Approaching a client; and

(ii) Document and report.

(b) Tips for dealing with specific challenging behaviors. The caregiver will demonstrate an understanding of navigating challenging situations.

- (i) Anger;
- (ii) Combative during personal care;
- (iii) Cries and tearfulness;
- (iv) Disrobes in public;
- (v) Eats nonedible substances/objects;
- (vi) Hallucinations and delusions;
- (vii) Inappropriate toileting/menses activity;
- (viii) Injures self;
- (ix) Intimidates/threatens;
- (x) Mood swings;
- (xi) Repetitive anxious complaints or questions;
- (xii) Repetitive physical movements and pacing;
- (xiii) Resistive to care with words and gestures;
- (xiv) Rummages through or takes belongings of others;
- (xv) Seeks vulnerable sexual partner;
- (xvi) Sexual acting out;
- (xvii) Spitting;
- (xviii) Unrealistic fears or suspicions;
- (xix) Unsafe smoking;
- (xx) Up at night while others are sleeping and requires interventions;
- (xxi) Verbally abusive; and
- (xxii) Wanders and is exit seeking.

[Statutory Authority:

RCW [74.39A.009](#), [74.39A.070](#), [74.39A.074](#), [74.39A.351](#), [74.39A.341](#), [18.20.270](#), [18.88B.021](#),

## **WAC 388-112A-0450**

### **What must mental health specialty training include?**

Curricula approved as mental health specialty training must include all of the knowledge, skills, topics, competencies and learning objectives described in this section.

(1) Introduction to mental disorders. The caregiver will review definitions, common signs, and symptoms and identify types of mental illness.

- (a) Understanding mental disorders;
- (b) Stigma and mental disorders;
- (c) Myths and facts;
- (d) Differentiating forms of mental disorders; and
- (e) Mental health conditions:
  - (i) Attention deficit hyperactivity disorder;
  - (ii) Anxiety disorder;
  - (iii) Autism;
  - (iv) Bipolar disorder;
  - (v) Borderline personality disorder;
  - (vi) Depression;
  - (vii) Dissociative disorder;
  - (viii) Eating disorders;
  - (ix) Obsessive-compulsive disorder;
  - (x) Posttraumatic stress disorder;
  - (xi) Schizoaffective disorder;
  - (xii) Schizophrenia; and
  - (xiii) Related conditions including but not limited to:
    - (A) Anosognosia;
    - (B) Dual diagnosis;
    - (C) Psychosis;
    - (D) Risk of suicide;
    - (E) Self-harm;
    - (F) Sleep disorders; and
    - (G) Substance abuse.

(2) Compassionate and trauma-informed caregiving for mental health. The caregiver will recognize that culture, generation, religion, and past trauma experiences can affect current thinking, behaviors, and actions, and will identify strategies to provide informed care and support resilience.

- (a) Impact of culture and ethnicity;
- (b) Impact of generation;

- (c) Impact of religion;
- (d) Trauma and mental disorders;
- (e) Trauma informed care;
- (f) Trauma informed approach; and
- (g) Resilience.

(3) Supports for wellness. The caregiver will identify possible medication side effects, ways to respond to side effects, and recognize individualized nondrug therapies to alleviate symptoms of mental illness.

- (a) Baseline;
- (b) What good mental health looks like;
- (c) Person centered care planning; and
- (d) Medication, treatments, and therapies.
  - (i) Conventional medicine:
    - (A) Antipsychotic;
    - (B) Antimania;
    - (C) Anticonvulsants;
    - (D) Antianxiety; and
    - (E) Other drugs used with people who have mental disorders;
  - (ii) Medication side effects and reporting side effects;
  - (iii) Chemical restraints;
  - (iv) Medication refusal; and
  - (v) Nondrug therapies:
    - (A) Natural medicine;
    - (B) Cannabis;
    - (C) Holistic therapies; and
    - (D) Nutrition.

(4) Getting help and self-care. The caregiver will recognize the importance of caregiver wellness and identify strategies to prevent secondary trauma and burnout.

- (a) Caregiver mental wellness;
- (b) Secondary trauma;
- (c) Strategies to cope with caregiver burnout; and
- (d) Seeking outside help.

(5) Respectful communication. Communication dynamics. The care-giver will demonstrate an ability to recognize communication styles and ways to communicate effectively.

- (a) Communication and privacy;
- (b) Listening;
- (c) Empathy;
- (d) Nonverbal vs verbal communication;
- (e) Seeking clarification;
- (f) Communication and triggering challenging behaviors; and
- (g) Behaviors impacting communication.

(6) Boundaries. The caregiver will demonstrate an understanding of creating healthy professional boundaries.

- (a) Importance of boundaries for good mental health;
- (b) Personal and professional boundaries;

- (c) Setting boundaries; and
- (d) Assertiveness.

(7) Creative approaches to challenging behaviors. The caregiver will demonstrate the sequence of steps to approach challenging behaviors.

- (a) Approach: Stop, identify, take action;
- (b) Set limits and providing consistency; and
- (c) Specific behaviors and tips on how to respond:
  - (i) Anger;
  - (ii) Combative during personal care;
  - (iii) Cries and tearfulness;
  - (iv) Disrobes in public;
  - (v) Eats nonedible substances/objects;
  - (vi) Hallucinations and delusions;
  - (vii) Inappropriate toileting/menses activity;
  - (viii) Injures self;
  - (ix) Intimidates/threatens;
  - (x) Mood swings;
  - (xi) Repetitive anxious complaints or questions;
  - (xii) Repetitive physical movements and pacing;
  - (xiii) Resistive to care with words and gestures;
  - (xiv) Rummages through or takes belongings of others;
  - (xv) Seeks vulnerable sexual partner;
  - (xvi) Sexual acting out;
  - (xvii) Spitting;
  - (xviii) Unrealistic fears or suspicions;
  - (xix) Unsafe smoking;
  - (xx) Up at night while others are sleeping and requires interventions;
  - (xxi) Verbally abusive; and
  - (xxii) Wanders and is exit seeking.

(8) Crisis management. The caregiver will identify potential stressors to prevent crisis and demonstrate steps for de-escalation.

- (a) What is crisis;
- (b) Averting crisis;
- (c) Decompensation;
- (d) Aggression and violence; and
- (e) When a crisis occurs.

(9) Suicide prevention. The caregiver will identify suicide facts, recognize warning signs, and communicate about suicide.

- (a) History;
- (b) Risk facts;
- (c) Indicators;
- (d) Asking questions;
- (e) Talking about suicide;
- (f) Resources;
- (g) Hazards;
- (h) Stigma;

- (i) History of the caregiver;
- (j) Medically assisted suicide; and
- (k) Grief support.

[Statutory Authority:

RCW [74.39A.009](#), [74.39A.070](#), [74.39A.074](#), [74.39A.351](#), [74.39A.341](#), [18.20.270](#), [18.88B.021](#), [18.88B.035](#), [70.128.230](#), [71A.12.030](#)  
 . WSR 17-22-036, § 388-112A-0450, filed 10/24/17, effective 11/24/17.]

## Long-Term Care Workshop Evaluation of Session 2

Eight filled out the Session 2 Evaluation forms. All eight filled out numeric ratings and six provided narrative comments as noted. The results are as follows:

### **Content:**

Average -- 3.25 Stars

Comments specific to Content:

- Great presentations packed with facts

### **Outcomes:**

Average – 2.69 Stars

Comments specific to Outcomes:

- Potential recommendations

### **Process:**

Average – 3.0 Stars

Comments specific to Process:

- Too scattered – Kept straying from tasks as legislature requests
- Too much emphasis on the Specialty Trainings instead of looking at the entire preparation for working in Community Based and SNF settings.
- Right mix of individual small group work

### **Facilities:**

Average – 3.38 Stars

Comments specific to Facilities:

- OK
- Need a few more microphones

### **General Comments:**

- Wow! Covered a lot of territory today – kept it at appropriate level, generated potential recommendations.
- Ensure that breakouts are directed to achieving legislative objectives
- Lots of work in a tough crowd!
- Thank you for making the changes to the work plan.
- I appreciate the respectful exchange of ideas and issues from all perspectives.
- I would like to make sure we don't forget that HCA is the most common door to LTC work. This is, in part, what must be expanded.

### **Other Topics:**

- None.

## **LTC Workgroup – July 30, 2018 Session #2 – Notes**

*Workgroup session began at 1:00 PM.*

**Workgroup members in attendance:** Tracy Rude, Senator Steve Conway, Candace Goehring, Rachel McAloon, Trina Crawford, Lori Banaszak, Pamela Pasquale, Abby Solomon, John Ficker, Patricia Hunter and Alexis Wilson.

**Welcome:**

- Tracy Rude called the meeting to order and welcomed everyone.

**Introductions:**

- Workgroup members introduced themselves and stated who they represent.

**Follow up from Previous Meeting:**

- Porsche Everson, the facilitator for the workgroup, reminded everyone of the ground rules and follow-up from the previous session. She also reminded the group that today focuses on issues surrounding training the CNA.
- Mindy Schaffner, Project Manager, reported findings from small group with ESD regarding current and projected workers. It was stated that vacancy projections are hard to determine. WSHA plans to have data on vacancy rates by end of August.
- Patricia Hunter made the point that this work must be done through an equity lens.
- Senator Steve Conway made the point that this group needs to build a job ladder for CNA's to climb.

**Presentation – Current State of CNA Training in WA:**

- Kathy Moisio, DOH Nursing Education Consultant, presented information on CNA training in WA State.
- Questions raised included:
  - What is the history behind the 85 hour requirement?
  - Why is there a gap between the skills and written portion of the test?
  - What is the relationship between pass rates/recruitment/retention and hours in CNA programs?
  - California requires 100 clinical and 50 classroom hours and have pass rates of skills. They have higher pass rates than WA. How can we use this knowledge to learn?

**Presentation – Training for the care of clients with dementia, developmental disabilities, or mental health issues:**

- Lorrie Mahar, DSHS/ALISA Chief, Training Unit presented information regarding the specialty training classes required to be employable in Adult Family Homes and Adult Living Facilities and how these classes are currently taught including:
  - Dementia
  - Developmentally Disabled
  - Mental Health

**Public Comment** received from Lori St. Ours, Terri Myers, Julie Ferguson, Vicki McNealy, Terri Brandley, Glenna Wickett, Donna Goodman, Mary Baroni, Lisa Waisath, and Cheryl Carino-Burr.

**Issues Identified and Recommendations** made by Committee members included:

- CNA Training Time – extra hours does not always equate to quality, but evidence suggests a relationship between higher hours of training and pass rates.
- CNA Training Content – need to include specialty training in basic CNA training and focus on CNA scope of practice and employer needs.
- Training Oversight Complexity – need to eliminate duplication of efforts.
- Create a crosswalk between HCA and CAN trainings
- 120 Day Rule should be eliminated.
- Scope of Practice and education need to be thoroughly evaluated since CNAs and HCAs do the same type of work, but are educated differently.
- Identify areas of overlap of HCA and CNAs.
- Worker need to be ready to practice once trained.
- Workforce turnover needs to be addressed, which will be addressed in upcoming work sessions.
- Pass Rates – need have reliable and valid testing for CNAs
  - What does testing reflect?
  - What variables are affecting test takers?

Wrap up/ Action items:

- Additional recommendations should be emailed to Amber

Next meeting: August 6, 2018 in Point Plaza East Building, Room 152/153

- Presentation on LPN education
- What are barriers for academic progression for CNAs

Session ended at 4:57pm.

**Long-Term Care Session 2**  
**July 30, 2018**  
**Questions and Comment Log**

Q: I am concerned that we may be overlooking something. Home health agencies hire NACs as well. This is not the same as a home care agency but agencies licensed as home health under DOH. The demand for NACs is significant in this area as well. [Donna Goodwin]

Q: Do you have data on NAC pass rate variations between types of locations as well as variations in theory/practice hours? [Mary Baroni]

Q: The programs run by our organization include a SNF, ALF, Adult Day Social, and Home Care (not Home Health). Qualifications for each seem to be completely disconnected and all but Adult Day are running short-staffed. Training for ALF is out-of-pocket for employees and includes DSHS-required specialty trainings and DSHS-approved ongoing CEs. SNF requires NACs, reimburses them for their class, and CEs can be obtained from sources that don't require DSHS pre-approval. It costs less for the employee and they earn more money but have fewer requirements than ALF staff. Why can't we simplify the credential for long-term care to be a NAC minimum with a standardized curriculum that includes the DSHS-required specialty trainings and remove the DSHS pre-approval requirement for ALF staff so that all LTC staff can work in any setting? [Lisa Waisath]

Q: Do they have NAC pass rates split into internationally educated vs domestic students? [Cheryl Carino-Burr]

C:

This is the second webinar I have attended.

As program director for Prestige care and as a nurse educator, I would like to offer a perspective. I see CNA's as taking over the care that nurses no longer provide. They have the least education, they often lack professionalism, and it is challenging to provide a professional atmosphere in a short training period. Like nurses, I think we should consider not training, but rather education. We use the same 155 hour curriculum in Oregon and Washington (plus the 7 hours of HIV). Selling the 6 hour classes is a challenge to administration, they want 8 hours to have more classes (difficult for student to pay attention that long). I understand that nurses who are CNA's make better nurses, but not sure if taking spots is helpful (especially since we do not charge for classes). Helping to change the attitude towards the CAN like the work done to change the attitude toward the nurse as a professional is a step, one step includes using scope of practice (and not just listed duties). We do need to allow for flexibility in training, but must meet minimum requirements, as well as meet needs of companies. Like nurses, testing and education (in my opinion) should prepare for practice at first year practice level (just like NCLEX) is supposed to test at. Some people get carried away. A nursing assistant is a nursing assistant, not a nurse, should be respected and encouraged. This is a hard and respected profession. [Mike Ginovsky]

# LTC Session 3 Evaluation Form

1	2	3	4
Poor	Satisfactory	Good	Excellent

You have four areas to evaluate, please use the numeric system above to evaluate the Content – Process – Outcomes and Facilities as noted in the boxes below:

Content:	Process:
Outcomes:	Facilities:

Additional comments:

Are there other topics you would like to hear about?

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Vital and Health Statistics

Series 3, Number 38

February 2016

# Long-Term Care Providers and Services Users in the United States: Data From the National Study of Long-Term Care Providers, 2013–2014



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

Long-Term Care Workforce Packet

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# Vital and Health Statistics

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Series 3, Number 38

## Long-Term Care Providers and Services Users in the United States: Data From the National Study of Long-Term Care Providers, 2013–2014

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

Hyattsville, Maryland  
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# Long-Term Care Providers and Services Users in the United States: Data From the National Study of Long-Term Care Providers, 2013–2014

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

## Executive Summary

Long-term care services provided by paid, regulated providers are an important component of personal health care spending in the United States. This report presents the most current national descriptive results from the National Study of Long-Term Care Providers (NSLTCP), which is conducted by the Centers for Disease Control and Prevention’s National Center for Health Statistics (NCHS). Data presented are drawn from multiple sources, primarily NCHS surveys of adult day services centers and residential care communities (covers 2014 data year); and administrative records obtained from the Centers for Medicare & Medicaid Services (CMS) on home health agencies, hospices, and nursing homes (covers 2013 and 2014 data years). This report provides information on the supply, organizational characteristics, staffing, and services offered by paid, regulated providers of long-term care services; and the demographic, health, and functional composition of users of these services. Services users include residents of nursing homes and residential care communities, patients of home health agencies and hospices, and participants of adult day services centers.

This report updates “Long-Term Care Services in the United States: 2013 Overview” (available from: [http://www.cdc.gov/nchs/data/nsltcp/long\\_term\\_care\\_services\\_2013.pdf](http://www.cdc.gov/nchs/data/nsltcp/long_term_care_services_2013.pdf)), which covered data years 2011 and 2012. In contrast, the title of this report and future reports will reflect the years of the data used rather than the publication year, in this case 2013 through 2014. A forthcoming companion product to this report, “Long-Term Care Providers and Services Users in the United States—State Estimates Supplement: National Study of Long-Term Care Providers, 2013–2014,” contains tables and maps showing comparable state estimates for the national findings in this report, and will be available from: [http://www.cdc.gov/nchs/nsltcp/nsltcp\\_products.htm](http://www.cdc.gov/nchs/nsltcp/nsltcp_products.htm).

**Keywords:** home- and community-based services • long-term services and supports • post-acute care • National Study of Long-Term Care Providers

## Key Findings

**In 2014, about 67,000 paid, regulated long-term care services providers served about nine million people in the United States.** Long-term care services were provided by 4,800 adult day services centers, 12,400 home health agencies 4,000 hospices, 15,600 nursing homes, and 30,200 assisted living and similar residential care communities ([Appendix B, Table 1](#)). In this report, “current” participants or residents in 2014 refers to those participants enrolled in the adult day services center, or residents living in the nursing home or residential care community on the day of data collection in 2014, rather than the total number of participants ever enrolled in the center or residents ever living in the nursing home or residential care

community at any time throughout the 2014 calendar year. In 2014, there were an estimated 282,200 current participants enrolled in adult day services centers, 1,369,700 current residents in nursing homes, and 835,200 current residents living in residential care communities. In 2013, about 4,934,600 patients were discharged from home health agencies, and 1,340,700 patients received services from hospices (Appendix B, Table 4).

**Provider sectors differed in ownership, chain status, and average size, and supply varied by sector and region.** At least 60% of home health agencies, hospices, nursing homes, and residential care communities were for profit, while about 40% of adult day services centers were for profit (Figure 4). The majority of nursing homes and residential care communities were chain-affiliated, while the majority of adult day services centers were not chain-affiliated (Figure 5).

The average number of people served per provider varied by sector (Appendix B, Table 1). The absolute and relative supply of nursing home beds, residential care beds, and adult day services center capacity varied by region (Figure 3). The supply of residential care beds per 1,000 persons aged 65 and over was higher in the Midwest and West than in the Northeast and the South, and the capacity of adult day services centers was higher in the West than in the other regions.

**In 2014, more than 1.5 million nursing employee full-time equivalents (FTEs)—including registered nurses (RNs), licensed practical nurses (LPNs) or licensed vocational nurses (LVNs), and aides—and about 35,200 social work employee FTEs worked in the five sectors.** Of these nursing and social work employee FTEs, almost two-thirds worked in nursing homes, about one-fifth were residential care community employees, almost one-tenth were employed by home health agencies, and less than one-twentieth were employed by hospices and adult day services centers. The relative distribution of nursing and social work employee FTEs varied across sectors; the most common employee FTEs were aides in adult day services centers, nursing homes, and residential care communities, while RNs were the most common employee FTEs in home health agencies and hospices (Figure 9).

**Provider sectors differed in their average staffing levels for nursing, social work, and activities employees, and in a variety of services offered.** Among the three sectors where nursing staff levels (RNs, LPNs or LVNs, and aides) could be examined, the average total nursing staff hours per resident or participant day were higher in nursing homes than in residential care communities and adult day services centers (Figure 11). In contrast, the average social work staff hours per resident or participant day was higher in adult day services centers than in nursing homes or residential care communities, and the average activities staff hours per resident or participant day in adult day services centers was more than twice the size of the ratio for nursing homes or residential care communities. Sectors also varied in the services offered (Figures 12–19).

**Rates of use of long-term care services varied by sector.** Reflecting similar differences found on the supply side, 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, and the lowest daily-use rate was for adult day services center participants.

**Users of long-term care services varied by sector in their demographic and health characteristics, functional status, and experience of adverse events.** Adult day services center participants tended to be younger than services users in other sectors. Adult day services center participants were the most racially and ethnically diverse among the five sectors: about one-fifth was Hispanic and one-fifth was non-Hispanic black. Although a sizeable portion of services users in all five sectors had a diagnosis of Alzheimer’s disease or other dementias, the prevalence differed among sectors (Figure 26). Among the five sectors, nursing homes had the largest shares of services users diagnosed with Alzheimer’s disease and depression. Depression ranged in prevalence from about one-fifth of hospice patients up to almost one-half of nursing home residents. Diabetes was most prevalent among home health patients (almost one-half)

and least prevalent among residential care community residents (less than one-fifth). Although the need for assistance with activities of daily living (ADLs) was common in all sectors, functional ability varied by sector (Figure 27). A higher percentage of nursing home residents needed assistance with dressing, eating, and toileting compared with services users in other sectors. Compared with adult day participants and residential care residents, more home health patients had overnight hospital stays and emergency department visits (Figure 28). More residential care residents had falls compared with adult day participants and nursing home residents.

**The adult day services sector was different from other sectors in notable ways.** There were fewer adult day services center providers when compared with the number of providers in other sectors, except for hospices (Appendix B, Table 1). A higher percentage of adult day services centers were nonprofit or government-owned compared with providers in other sectors (Figure 4). Compared with providers in other sectors, a lower percentage of adult day services centers offered mental health or counseling services (Figure 13) or therapeutic services (Figure 14). Adult day services center participants tended to be younger than services users in other sectors (Figure 22), and they were the most racially and ethnically diverse among the five sectors (Figure 24).

The NSLTCP findings in this report provide the most current national picture of providers and services users in five major sectors of paid, regulated long-term care services in the United States. Findings on differences and similarities in supply, provision, and use, and the characteristics of providers and users of long-term care services can inform policy and planning to meet the needs of an aging population. NCHS plans to conduct NSLTCP every 2 years to monitor national and state trends. NSLTCP study results and publications are available from its website: <http://www.cdc.gov/nchs/nsltcp.htm>.

# Chapter 1

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## Introduction

# Chapter 1. Introduction

## Long-Term Care Services

Long-term care services<sup>1</sup> 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 [U.S. Department of Health and Human Services (HHS)]. 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.<sup>2</sup> Long-term care services assist people to improve or maintain an optimal level of physical functioning and quality of life, and can include help from other people and special equipment or assistive devices.

Individuals may receive long-term care services in a variety of settings (Congressional Budget Office, 2013):

1. In the community, such as at an **adult day services center**
2. In the home, for example from a **home health agency, hospice**, or family and friends
3. In institutions, such as in a **nursing home**
4. In other residential settings, for instance in an assisted living or similar **residential care community**

Long-term care services provided by paid, regulated providers are an important component of personal health care spending in the United States (O’Shaughnessy, 2014). 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, 2014) and \$317.1 billion<sup>3</sup> (Colello, Mulvey, & Talaga, 2013). The cost of long-term care services varies by the type of paid care provided and the type of provider or sector (e.g., adult day services

---

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> The \$210.9 billion estimate for 2011 is based on analysis by the National Health Policy Forum (O’Shaughnessy, 2014) using published (Hartman, Martin, Benson, & Catlin, 2013) and unpublished data from the National Health Expenditure Account data provided by CMS, Office of the Actuary. The \$317.1 billion estimate for 2011 is based on analysis by the Congressional Research Service (CRS) (Colello et al., 2013) of National Health Expenditure Accounts published annually by the U.S. Department of Health and Human Services, and LTSS personal care expenditures by payer and setting for 2011 obtained by CRS through personal communication with the Centers for Medicare & Medicaid Services, Office of the Actuary, prepared December 16, 2012. Excluding Medicare spending on home health and skilled nursing facilities, total long-term care services spending was \$241.7 billion in 2011.

centers, assisted living and similar residential care communities, home health agencies, or hospices) (Genworth, 2012; MetLife Mature Market Institute, 2012).

Finding a way to pay for long-term care services is a growing concern for older adults, other persons with disabilities, and their families, and it is a major challenge facing state and federal governments (Bipartisan Policy Center, 2014; Reinhard, Kassner, Houser, & Mollica, 2011; U.S. Senate Commission on Long-Term Care, 2013). Medicaid finances a major portion of paid long-term care services,<sup>4</sup> followed by Medicare,<sup>5</sup> and out-of-pocket payments by individuals and families (Colello et al., 2013; O’Shaughnessy, 2014). However, the distribution of financing sources varies by sector and population. For example, most residents pay out of pocket for assisted living and similar residential care communities (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 (HHS, 2003). 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. Results from the National Health and Aging Trends study show that, of the 10.9 million older adults who reported receiving help with daily activities in a given month in 2011, about 3 in 10 received paid help (Freedman & Spillman, 2014). Projections estimate that among people who reach age 65, more than two-thirds will need long-term care services during their lifetime (Kemper, Komisar, & Alexih, 2005–2006), and they have a 46% chance of spending time in a nursing home (Spillman & Lubitz, 2002). More recent projections using microsimulation modeling estimate that, on average, an American turning 65 today will incur \$138,000 in future long-term care services costs (Favreault & Dey, 2015).

The number of Americans over age 65 is projected to more than double from 40.2 million in 2010 to 88.5 million in 2050 (Vincent & Velkoff, 2010). Those aged 85 and over are projected to almost triple, from 6.3 million in 2015 to 17.9 million in 2050 and will account for 4.5% of the total population (United States Census Bureau, 2012). This “oldest old” population tends to have the highest disability rate and highest need for long-term care services, and is also more likely to be widowed and without someone to provide assistance with daily activities (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 (Congressional Budget Office, 2013; Johnson, Toohey, & Wiener, 2007; Kaye, 2013; Stone, 2006; The Lewin Group, 2010). As a

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<sup>4</sup> Medicaid finances a variety of long-term care services through multiple mechanisms (e.g., Medicaid State Plan, home- and community-based services waiver program, and other options for community-based long-term care services), including an array of home- and community-based services and institutional services (O’Malley Watts, Musumeci, & Reaves, 2013; Scully et al., 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.

<sup>5</sup> Experts disagree on whether Medicare expenditures for skilled nursing facilities and home health agencies, since they are post-acute services, should be considered long-term care services (Colello et al., 2013). This report includes Medicare-certified skilled nursing facilities and home health agencies, which are often referred to as post-acute care services. See [Technical Notes](#) for details on types of providers included.

substantial share of paid long-term care services is publicly funded through programs such as Medicaid and Medicare, accurate and timely statistical information can help guide those programs and inform relevant policy decisions. The National Study of Long-Term Care Providers (NSLTCP) is designed to help supply this information.

## The National Study of Long-Term Care Providers

The long-term care services delivery system in the United States has changed substantially over the last 30 years. For example, although nursing homes are still a major provider of long-term care services, there has been growing use of skilled nursing facilities for short-term post-acute care and rehabilitation (Decker, 2005). Further, consumers’ desire to stay in their own homes, as well as federal and state policy developments,<sup>6</sup> 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.

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

The main goals of NSLTCP are to:

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

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

- Broaden NCHS’ ongoing coverage of paid, regulated long-term care services providers beyond home health agencies, hospices, and nursing homes to also include adult day services centers and assisted living and similar residential care communities (called “residential care communities” in this report)
- Have the potential over time to add other types of paid, regulated long-term care services providers (e.g., home care agencies)

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<sup>6</sup> Examples of these federal and state policy developments include the Supreme Court’s Olmstead decision; introduction of the Medicare Prospective Payment System; and a variety of initiatives to encourage balancing of Medicaid-financed services from institutional to noninstitutional settings, such as Money Follows the Person, Community First Choice Option, and the Balancing Incentives Payment Program (White House Conference on Aging Staff, 2015).

- Capitalize on existing national administrative data from the Centers for Medicare & Medicaid Services (CMS) on home health agencies, hospices, and nursing homes
- Collect primary data every other year from cross sectional, nationally representative, establishment-based surveys of adult day services centers and residential care communities, because administrative data do not exist
- Produce state estimates, where feasible
- Monitor trends

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

## Structure of Report and Other NSLTCP Products

This is the second in a series of descriptive overview reports 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). Chapter 2 topics include geographic distribution, operating characteristics, staffing, and services.

Staffing is especially important to examine because paid long-term care services are provided by a wide array of trained professionals and paraprofessionals, with the largest share—an estimated 70% to 80%—being direct care workers that include certified nursing assistants and personal care aides and home health aides, generally referred to as aides (Paraprofessional Healthcare Institute, 2013; The SCAN Foundation, 2012). Previous studies have provided evidence that higher nurse staffing levels are associated with higher quality of care outcomes for nursing home residents (Bostick, Rantz, Flesner, & Riggs, 2006; Castle & Engberg, 2007; Collier & Harrington, 2008); nursing homes are required to meet minimum nurse staffing ratios for participation in Medicare and Medicaid. Less research has been conducted on staffing levels and outcomes in adult day, home health, hospice, and residential care settings (for an exception see Stearns et al., 2007). In its 2008 report, “Retooling for an Aging America: Building the Health Care Workforce,” the Institute of Medicine (IOM) documented the growing need for gerontological social workers and the lack of interest among social workers in working with older adults (IOM, 2008). According to a recent study, while about 36,100 to 44,200 professional social workers were employed in long-term care settings, approximately 110,000 social workers would be needed in these settings by 2050 (HHS, 2006). Projections estimate that social workers and home health and personal care aides are among the long-term care services occupations that will grow the most by 2030 (Spetz, Trupin, Bates, & Coffman, 2015). This report contributes to the literature on the long-term care services workforce by using NSLTCP data to provide information on numbers of nursing, licensed social work, and activities employees, and average hours per service user day, by sector.

Chapter 3 presents findings on users of long-term care services, including participants of adult day services centers, patients of home health agencies and of hospices, and residents of nursing homes and of residential care communities. Chapter 3 topics include demographic characteristics; functional status; selected health conditions, including dementia; and adverse events among services users. Dementia is a common precipitating factor for transition to receiving long-term care services. According to the Alzheimer’s Association, in 2015, there were about 5.3 million Americans living with Alzheimer’s disease or other

dementias; 5.1 million of them were aged 65 and over (Alzheimer’s Association, 2015). Alzheimer’s disease is also a common precipitating factor for using long-term care services (Alzheimer’s Association, 2013). The number of people with Alzheimer’s disease or other dementias will continue to increase along with the growth of the older population (Alzheimer’s Association, 2013).

Chapter 4 describes the data sources used to produce the information on providers and services users in each of the five sectors, outlines the approach used for data analyses, and discusses study limitations. Appendix A defines each variable used for each sector in the study, and [Appendix B](#) presents the data tables for the figures in Chapters 2 and 3.

This report presents national results from the second wave of NSLTCP,<sup>7</sup> using data from surveys about adult day services centers and participants, and residential care communities and residents that were fielded by NCHS between June 2014 and January 2015. The report also uses data from administrative records obtained from CMS on home health agencies and patients, hospices and patients, and nursing homes and residents, which reflect these providers and services users between 2013 and 2014.<sup>8</sup> A forthcoming companion product, “Long-Term Care Providers and Services Users in the United States—State Estimates Supplement: National Study of Long-Term Care Providers, 2013–2014,” which contains tables and maps showing comparable state estimates for the national findings in this report, will be available from: [http://www.cdc.gov/nchs/nsltcp/nsltcp\\_products.htm](http://www.cdc.gov/nchs/nsltcp/nsltcp_products.htm).<sup>9</sup> Additional NSLTCP results and publications are also available from: [http://www.cdc.gov/nchs/nsltcp/nsltcp\\_products.htm](http://www.cdc.gov/nchs/nsltcp/nsltcp_products.htm). NCHS intends to field the third wave of NSLTCP surveys between May and November 2016, obtain the third wave of administrative data along a similar time frame, and produce future reports to examine trends over time.

The findings in this report provide the most current national picture of providers and users of five major sectors of paid, regulated long-term care services in the United States. Findings on differences and similarities in supply, provision, and use; and the characteristics of providers and users of long-term care services offer useful information to policymakers, providers, and researchers as they plan to meet the needs of an aging population.

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<sup>7</sup> This report provides an update to “Long-Term Care Services in the United States: 2013 Overview” ([http://www.cdc.gov/nchs/data/nsltcp/long\\_term\\_care\\_services\\_2013.pdf](http://www.cdc.gov/nchs/data/nsltcp/long_term_care_services_2013.pdf)), which reported findings from the first NSLTCP wave conducted in 2012.

<sup>8</sup> See [Technical Notes](#) for definitions of the five sectors and the corresponding data sources used in this report.

<sup>9</sup> These state tables and maps provide an update to “Long-Term Care Services in the United States: 2013 State Web Tables and Maps” (available from: [http://www.cdc.gov/nchs/data/nsltcp/State\\_estimates\\_for\\_NCHS\\_Series\\_3\\_37.pdf](http://www.cdc.gov/nchs/data/nsltcp/State_estimates_for_NCHS_Series_3_37.pdf)).

# Chapter 2

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## National Profile of Long-Term Care Services Providers

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

## Introduction

As of 2014, in the United States, there were an estimated 4,800 adult day services centers, 12,400 home health agencies, 4,000 hospices, 15,600 nursing homes, and 30,200 residential care communities.<sup>10,11</sup> Of these approximately 67,000<sup>12</sup> paid, regulated,<sup>13</sup> long-term care services providers, 7.2% were adult day services centers, 18.5% were home health agencies, 6.0% were hospices, 23.3% were nursing homes, and 45.1% were residential care communities.

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

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<sup>10</sup> Estimates are rounded as whole numbers to the nearest hundred.

<sup>11</sup> See [Technical Notes](#) for a discussion of the differences between the 2010, 2012, and 2014 estimates of the number of residential care communities.

<sup>12</sup> Estimates are rounded as whole numbers to the nearest hundred; estimates may not add to totals because of rounding.

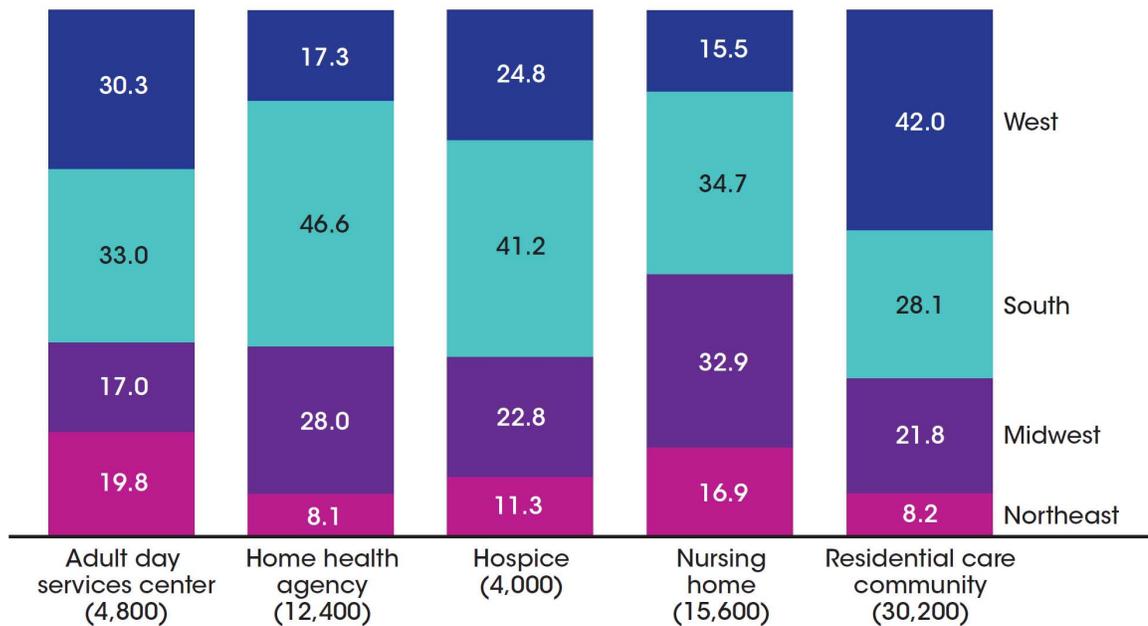
<sup>13</sup> The report includes only providers that are in some way regulated by federal or state government. Adult day services centers and residential care communities were state-regulated, home health agencies and nursing homes were Medicare- or Medicaid-certified, and hospices were Medicare-certified. 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 (33.0%), home health agencies (46.6%), hospices (41.2%), and nursing homes (34.7%) was in the South, while the largest share of residential care communities (42.0%) was in the West (Figure 1).

**Figure 1. Percent distribution of long-term care services providers, by sector and region: United States, 2014**

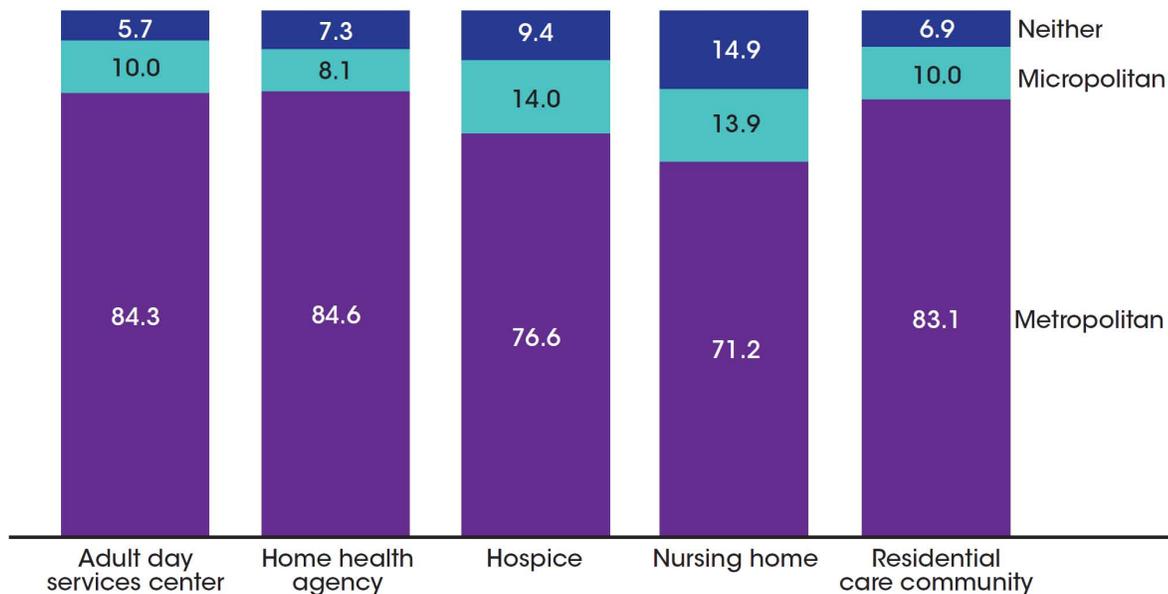


NOTE: Percentages are based on the unrounded numbers.

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<sup>14</sup> (Figure 2). This distribution reflects the higher population density in these areas. Compared with hospices (76.6%) and nursing homes (71.2%), a greater percentage of adult day services centers (84.3%), home health agencies (84.6%), and residential care communities (83.1%) were located in metropolitan areas.

**Figure 2. Percent distribution of long-term care services providers, by sector and metropolitan statistical area status: United States, 2014**



NOTES: Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers. Metropolitan statistical areas and micropolitan statistical areas are geographic entities delineated by the Office of Management and Budget for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics. A metropolitan statistical area contains a core urban area of 50,000 or more population, and a micropolitan statistical area contains an urban core of at least 10,000 (but less than 50,000) population. Each metropolitan or micropolitan statistical area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core (Office of Management and Budget, 2009).  
 SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 1 in Appendix B.

<sup>14</sup> Metropolitan and micropolitan statistical areas are geographic entities delineated by the Office of Management and Budget for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics. A metropolitan statistical area contains a core urban area of 50,000 or more population, and a micropolitan statistical area contains an urban core of at least 10,000 (but less than 50,000) population. Each metropolitan or micropolitan statistical area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core (Office of Management and Budget, 2009).

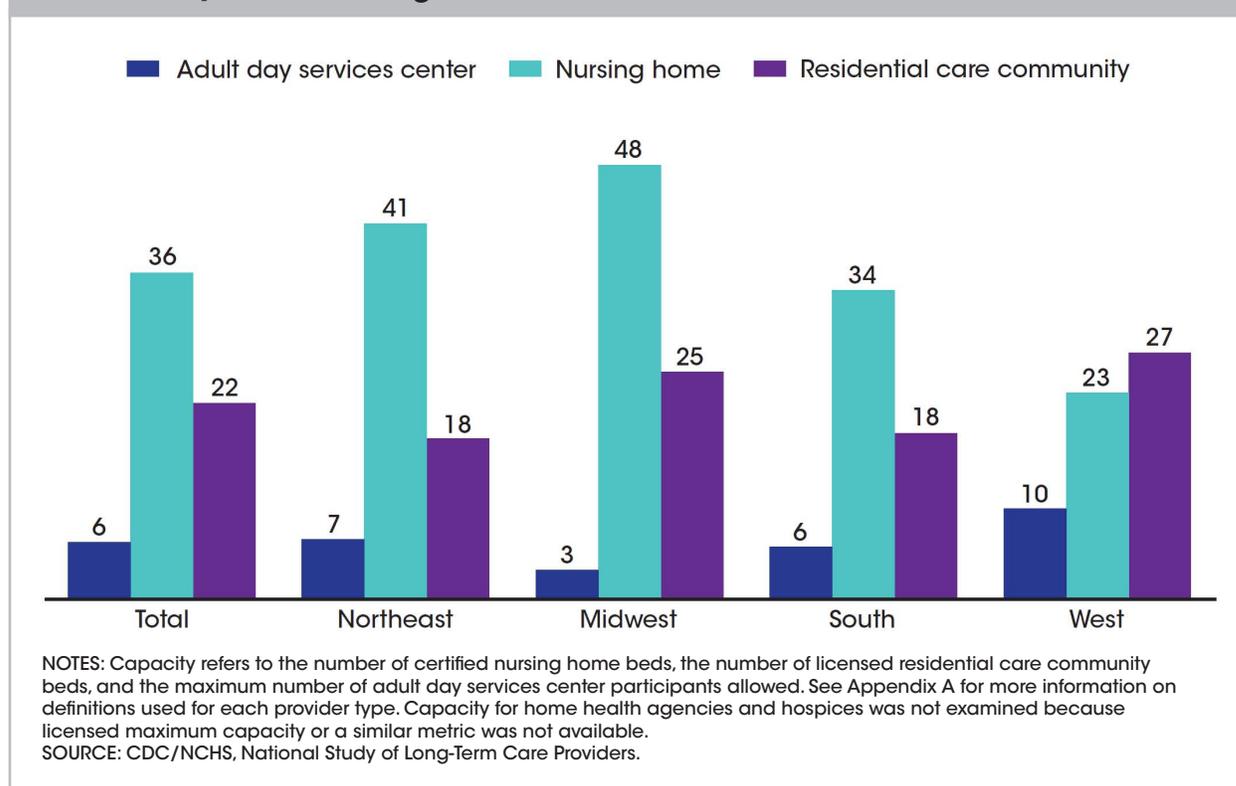
## Capacity

Based on the maximum number of participants allowed, the 4,800 adult day services centers in the country could serve a daily maximum of up to 289,400 participants nationally ([Appendix B, Table 1](#)). The allowable daily capacity of adult day services centers ranged from 1 to 530, with an average of 62 participants. The 15,600 nursing homes in the country provided a total of 1,663,300 certified beds. Nursing homes ranged in capacity from 2 to 1,389 certified beds, with an average of 106 certified beds. The 30,200 residential care communities in the United States provided 1,000,000 licensed beds. Residential care communities ranged in capacity from 4 to 499 licensed beds, with an average of 33 licensed beds.<sup>15</sup>

The supply of adult day services center capacity and nursing home and residential care beds varied by region ([Figure 3](#)). Compared with other regions, the Midwest had the largest supply of nursing home beds (48) and the smallest supply of adult day services center capacity (3) per 1,000 persons aged 65 and over. The West (27) and Midwest (25) had a larger supply of resident care beds per 1,000 persons aged 65 and over compared with the Northeast (18) and the South (18).

In the West, the supply of residential care beds (27) was greater than the supply of nursing home beds (23) per 1,000 persons aged 65 and over, whereas nursing home beds outnumbered residential care beds in all other regions.

**Figure 3. Long-term care services provider capacity per 1,000 people aged 65 and over, by sector and region: United States, 2014**



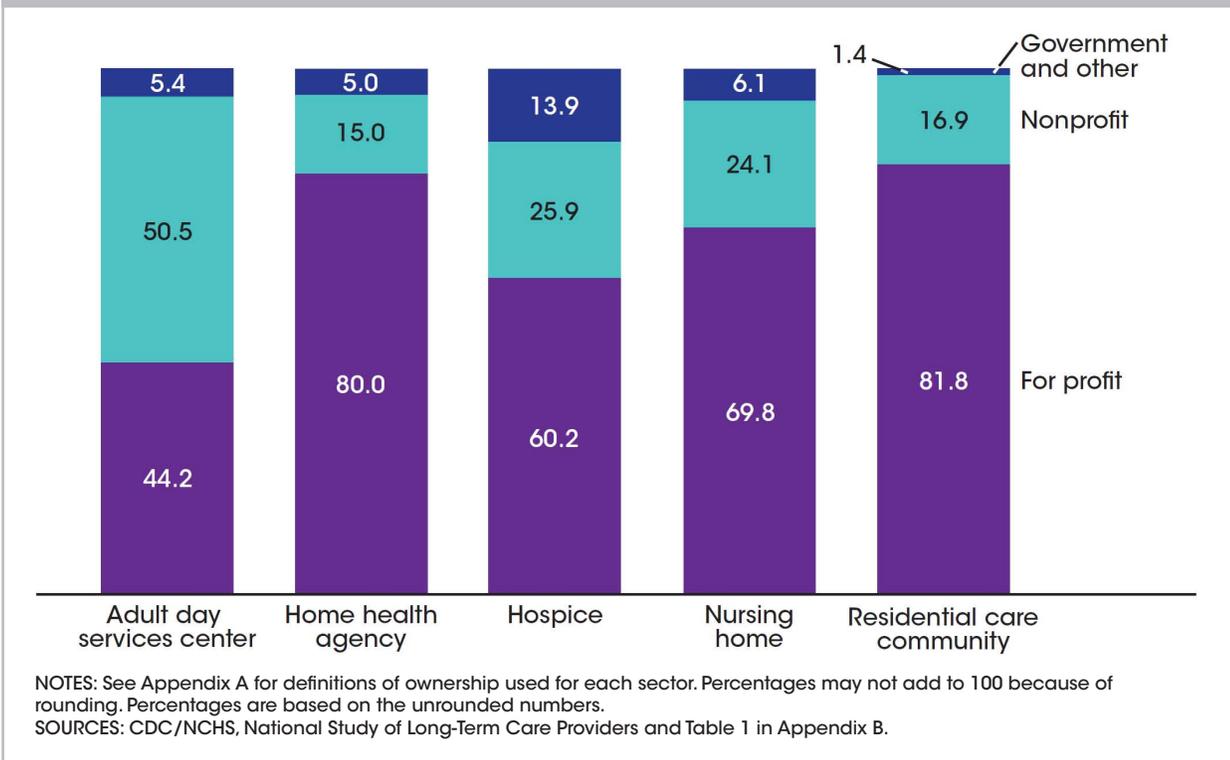
<sup>15</sup> Capacity for home health agencies and hospices was not examined because licensed maximum capacity or a similar metric was not available.

# 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 (80.0%) and residential care communities (81.8%) had the highest percentage of for-profit ownership, while adult day services centers (44.2%) had the lowest percentage. About one-half of adult day services centers were nonprofit (50.5%).

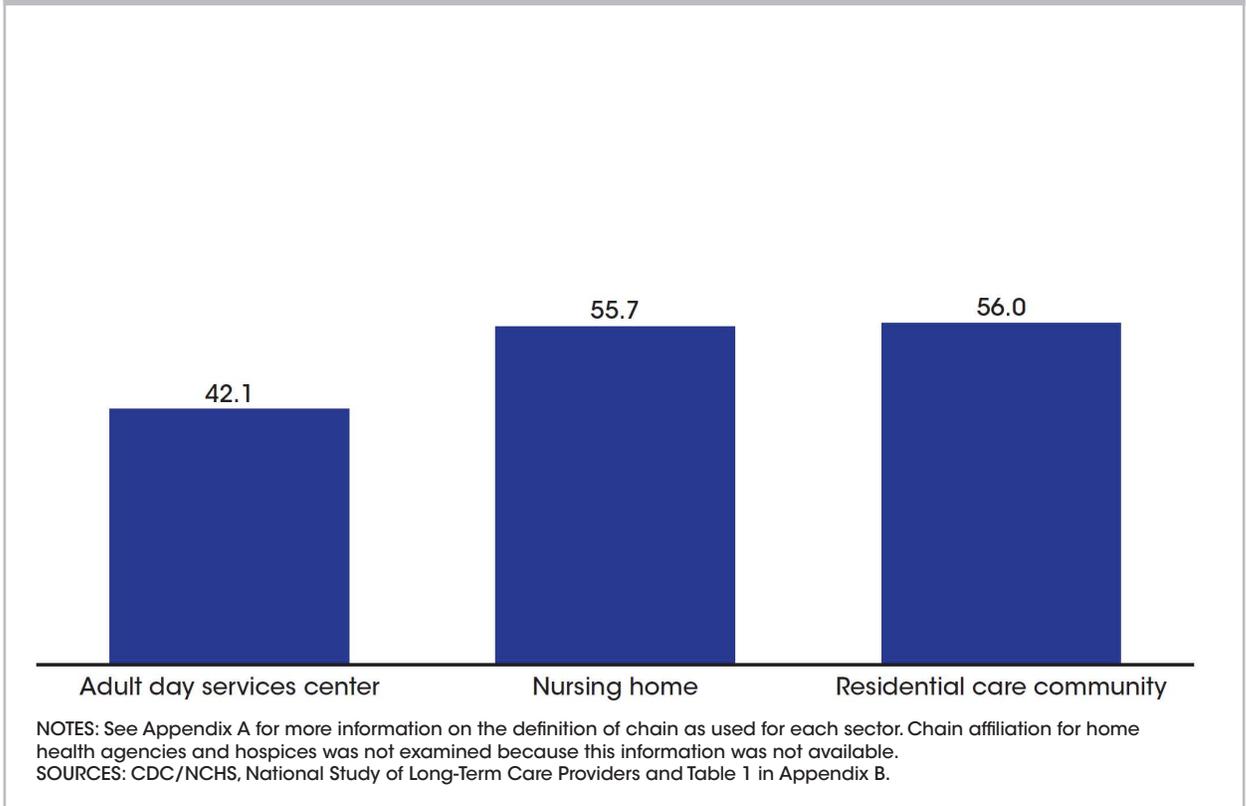
**Figure 4. Percent distribution of long-term care services providers, by sector and ownership: United States, 2014**



## Chain status

The majority of nursing homes (55.7%) and residential care communities (56.0%) were chain-affiliated, while fewer adult day services centers (42.1%) were part of a chain (Figure 5).<sup>16</sup>

**Figure 5. Percentage of long-term care services providers that are chain-affiliated, by sector: United States, 2014**

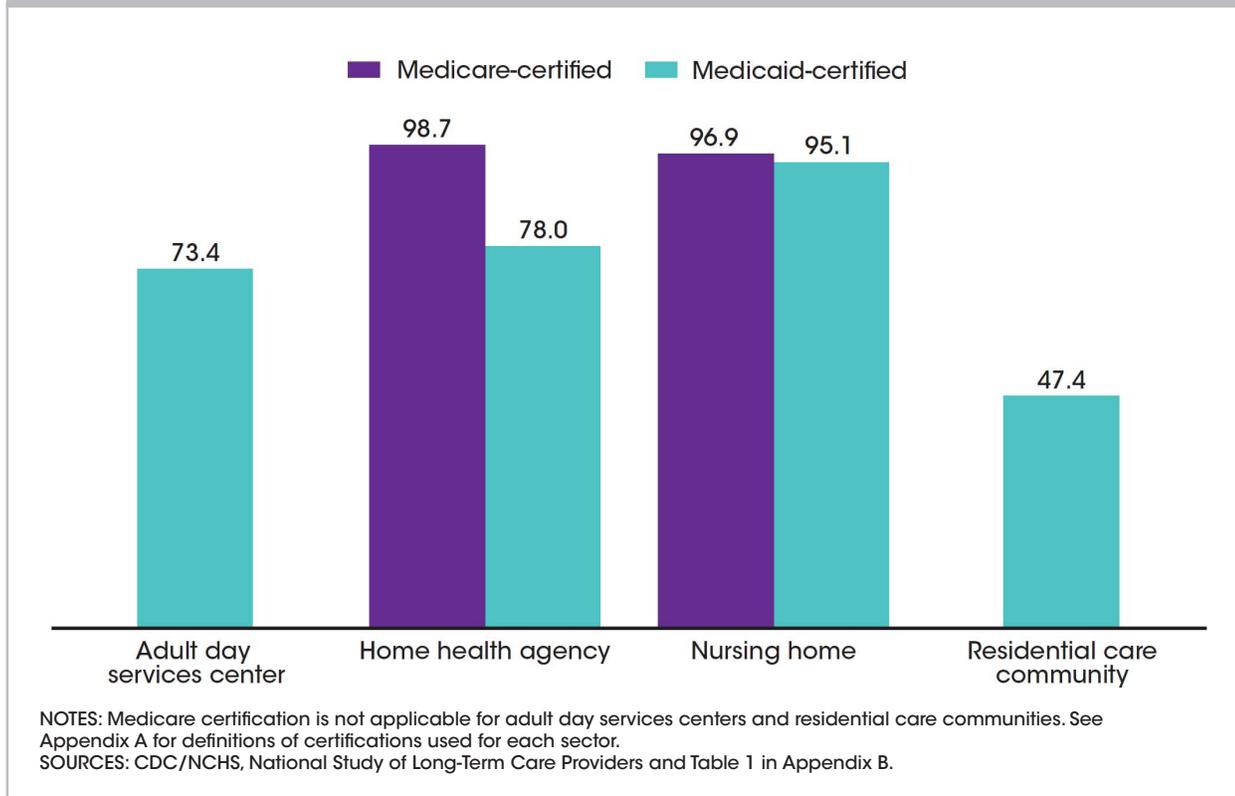


<sup>16</sup> Chain affiliation for home health agencies and hospices was not examined because this information was not available.

## Medicare and Medicaid certification

All data on home health agencies and nursing homes used in this report are only for Medicare- or Medicaid-certified providers, and all data on hospices are only for Medicare-certified hospices. Almost all nursing homes (95.1%), about three-quarters of adult day services centers (73.4%) and home health agencies (78.0%), and almost one-half of residential care communities (47.4%) were authorized or certified to participate in Medicaid (Figure 6). Information was not available on whether any of the Medicare-certified hospices were also certified by Medicaid. Virtually all home health agencies (98.7%), hospices (100.0%; data not shown in figure), and nursing homes (96.9%) were Medicare-certified.<sup>17</sup>

**Figure 6. Percentage of long-term care services providers that are Medicare- and Medicaid-certified, by sector: United States, 2014**



<sup>17</sup> 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 served daily per provider,<sup>18</sup> nursing homes served, on average, more than twice the number of people as adult day services centers, and three times the number of people as residential care communities. Nursing homes housed an average of 88 current residents daily, while adult day services centers had a mean weekday daily attendance of 39 participants, and residential care communities served an average of 28 residents daily ([Appendix B, Table 1](#)).

The majority of nursing homes (62.4%) served between 26 and 100 residents daily, while the majority of residential care communities (67.0%) served 25 residents or fewer daily ([Figure 7](#)).<sup>19</sup> Adult day services centers were about evenly split between those serving 25 participants or fewer daily (46.6%) and those serving 26 to 100 participants daily (47.4%).

**Figure 7. Percent distribution of long-term care services providers, by sector and number of people served daily: United States, 2014**



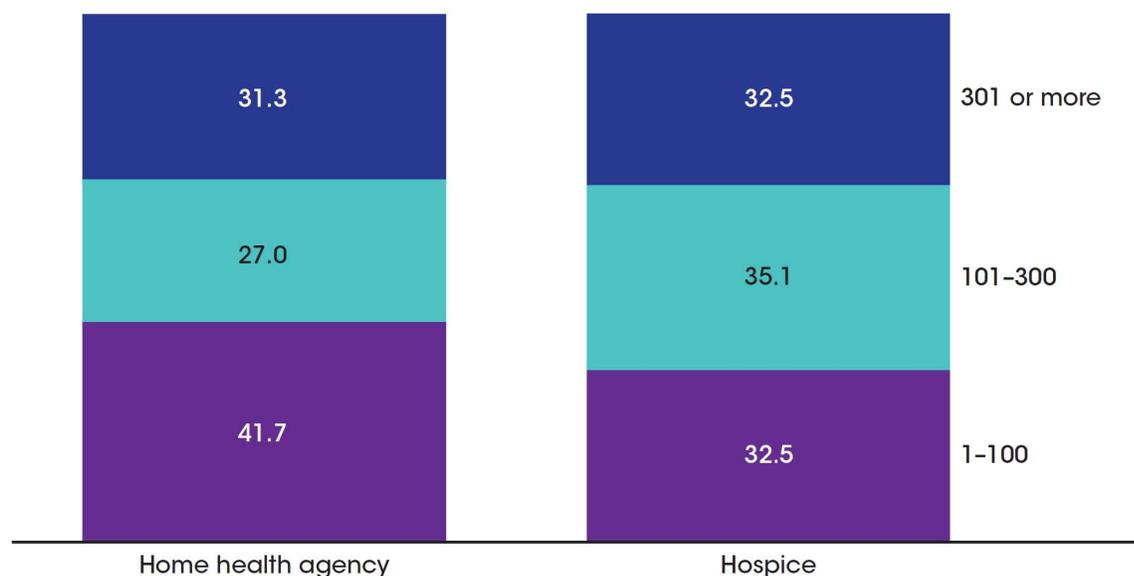
<sup>18</sup> See [Appendix A](#) for how number of people served was defined for each sector.

<sup>19</sup> [Figure 7](#) does not include data for home health agencies or hospices because the data on services users in these sectors that were used for this report are about patients served annually, not daily. Daily use among home health agencies and hospices could not be derived from these data.

The percentage of nursing homes (32.0%) serving more than 100 persons daily was more than five times as large as the percentage of adult day services centers (6.0%) and residential care communities (4.7%) doing so (Figure 7).

In terms of persons served annually,<sup>20</sup> a home health agency served an average of 427 patients who were then discharged from the agency in 2013, while a hospice served an average of 355 patients during the year (Appendix B, Table 1). About four-tenths of home health agencies (41.7%) discharged 100 patients or fewer annually, while one-quarter (27.0%) discharged 101 to 300, and almost one-third (31.3%) discharged more than 300 (Figure 8).<sup>21</sup> The average number of patients served annually per hospice agency was about evenly distributed, with about one-third of agencies each serving 1 to 100 patients (32.5%), 101 to 300 patients (35.1%), and more than 300 patients (32.5%).

**Figure 8. Percent distribution of long-term care services providers, by sector and number of people served annually: United States, 2013**



NOTES: Number of people served is derived from the number of home health patients whose episode of care ended at any time in 2013 and the number of hospice patients receiving care at any time in 2013, respectively, and has three categories: 1-100, 101-300, and more than 300. See Appendix A for more information on how number of people served was defined for each sector. Percentages may not add to 100 because of rounding. Percentages are based on the unrounded numbers. This figure does not include adult day services centers, nursing homes, or residential care communities because the data on services users in these sectors that were used for this report are about services users served daily, not annually. Annual use among adult day services centers, nursing homes, or residential care communities could not be derived from these data. SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 1 in Appendix B.

<sup>20</sup> See Appendix A for how number of people served was defined for each sector.

<sup>21</sup> Figure 8 does not include data for adult day services centers, nursing homes, or residential care communities because the data on services users in these sectors that were used for this report are about services users served daily, not annually. Annual use among adult day services centers, nursing homes, or residential care communities could not be derived from these data.

## Staffing: Nursing, Social Work, and Activities Employees

This section focuses on workers employed directly by adult day services centers, home health agencies, hospices, nursing homes, and residential care communities. Information is provided about registered nurses (RNs), licensed practical nurses (LPNs) or licensed vocational nurses (LVNs), aides, social workers, and activities staff. Contract staff that work for these providers were excluded because comparable information on contract staff was not available for all five sectors.<sup>22</sup>

### Nursing and social work employee full-time equivalents

In 2014, more than 1.5 million nursing employee full-time equivalents (FTEs)—including RNs, LPNs and LVNs, and aides—and about 35,200 social work employee FTEs were working in the five sectors (data not shown). Of these nursing and social work employees in the five sectors, almost two-thirds (62.9% or 971,100 FTEs) worked in nursing homes, about one-fifth (21.5% or 332,400 FTEs) were residential care community employees, almost one-tenth (9.3% or 143,900 FTEs) were employed by home health agencies, and less than one-twentieth were employed by hospices (4.7% or 73,200 FTEs) and adult day services centers (1.5% or 23,100 FTEs) (Figure 9).

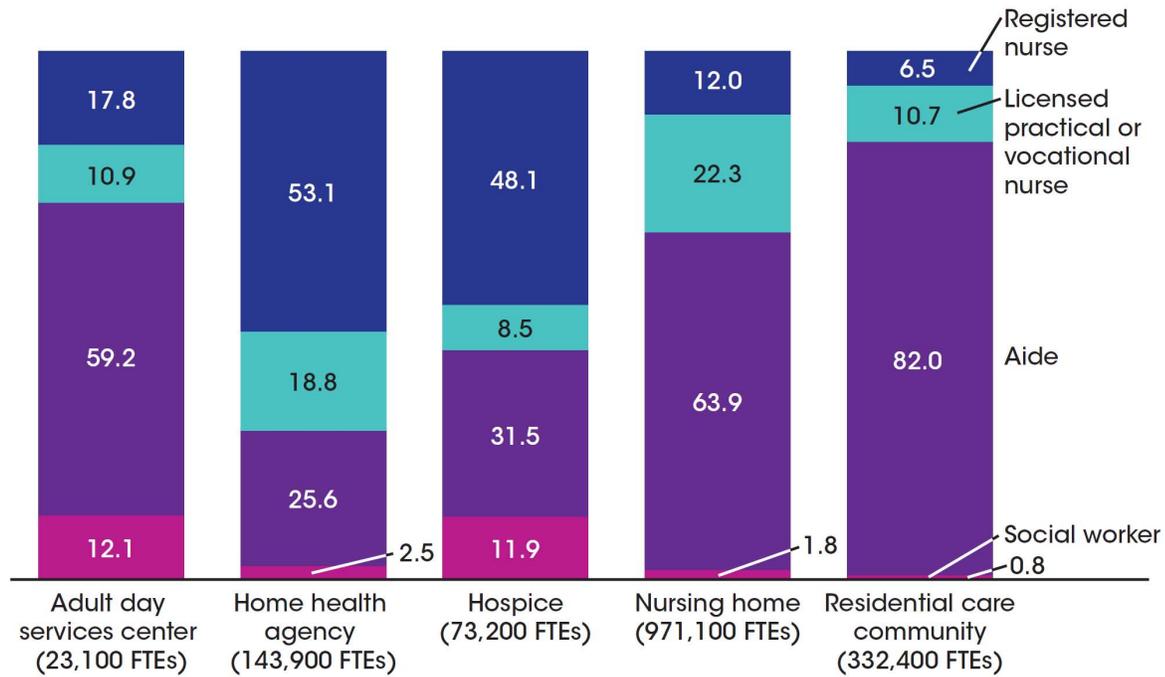
The relative distribution of social work and nursing employee FTEs varied across sectors. In adult day services centers (59.2%), nursing homes (63.9%), and residential care communities (82.0%), the majority of these employee FTEs were aides. However, in home health agencies (53.1%) and hospices (48.1%), RNs were the most common of these employee FTEs.<sup>23</sup> Social work FTE employees were more common in adult day services centers (12.1%) and hospices (11.9%) than in the other sectors.

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<sup>22</sup> See [Appendix A](#) for the definition of full-time equivalent and each staff type used for each sector.

<sup>23</sup> The administrative data used in this report for the home health, hospice, and nursing home sectors used less-inclusive wording to capture aides than was used in the questionnaire data for adult day services centers and residential care communities. Consequently, estimates using the administrative data may undercount the number of aides employed by providers in those sectors. See [Appendix A](#) for how aide was defined for each sector.

**Figure 9. Percent distribution and total number of nursing and social work employee full-time equivalents, by sector and staff type: United States, 2014**



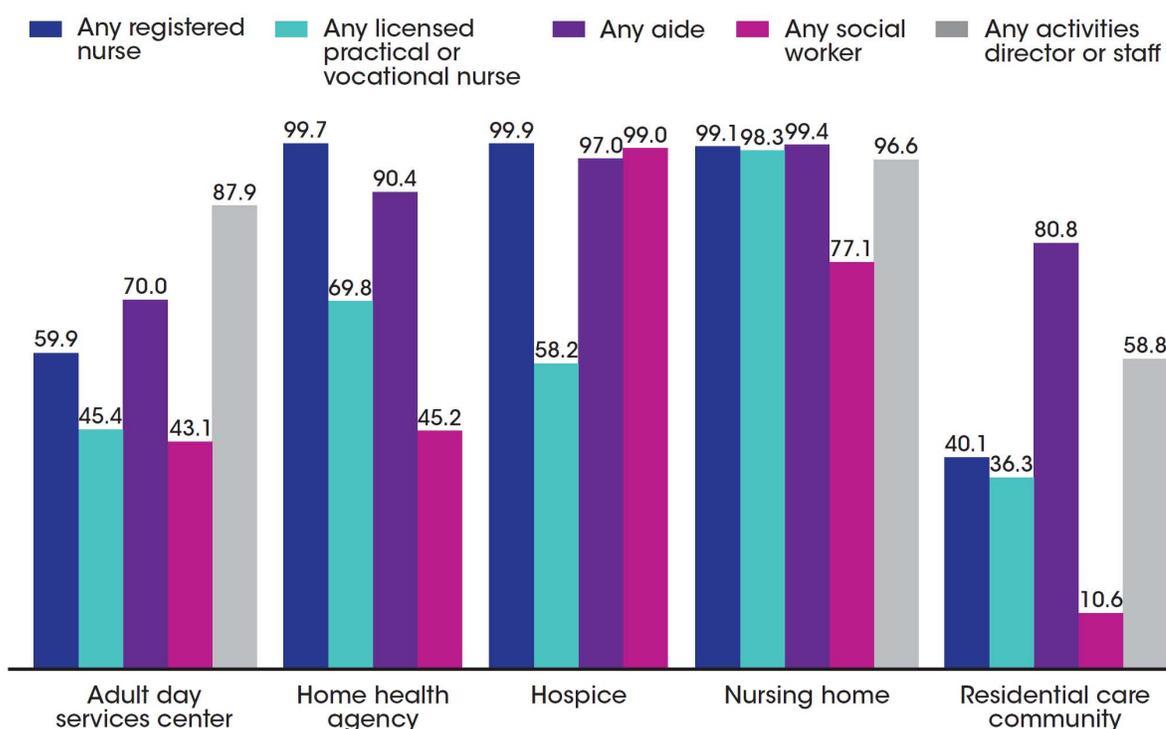
NOTES: FTEs are full-time equivalents. Only employees are included for all staff types; contract staff are not included. For adult day services centers and residential care communities, aides refer to certified nursing assistants, home health aides, home care aides, personal care aides, personal care 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.  
 SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 2 in Appendix B.

## Providers employing any nursing, social work, or activities staff

Among the four staff types examined across all five sectors, employing any aides showed the least variation by sector (Figure 10). In all five sectors, the majority of providers employed aides; nursing homes (99.4%) were most likely and adult day services centers (70.0%) were least likely to have any aides on staff.

The majority of providers in all sectors except residential care communities employed licensed nursing staff (either RNs or LPNs and LVNs). Virtually all home health agencies, hospices, and nursing homes employed at least one RN (99.7%, 99.9%, and 99.1%, respectively). In contrast, 59.9% of adult day services centers and 40.1% of residential care communities directly employed any RNs. The majority of nursing homes (98.3%), home health agencies (69.8%), and hospices (58.2%) employed at least one LPN or LVN, whereas a minority of adult day services centers (45.4%) and residential care communities (36.3%) directly employed any LPNs or LVNs.

**Figure 10. Percentage of long-term care services providers with any full-time equivalent employees, by sector and staff type: United States, 2014**



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. Data for activities director and staff are not available for home health agencies and hospices. 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.

Employing any social workers showed the most variation across five sectors. Virtually all hospices (99.0%) employed social workers, as did more than three-fourths of nursing homes (77.1%). More than four-tenths of home health agencies (45.2%) and adult day services centers (43.1%) employed social workers; however, only one-tenth (10.6%) of residential care communities directly employed social workers.

The majority of nursing homes (96.6%), adult day services centers (87.9%), and residential care communities (58.8%) directly employed an activities director or activities staff.<sup>24</sup>

### **Staffing hours for nursing, social work, and activities staff**

For every measure of nursing staff type examined (i.e., RN, LPN and LVN, and aides, respectively), the average nursing staff hours per resident or participant per day were higher in nursing homes than in residential care communities and adult day services centers (Figure 11).<sup>25</sup> In contrast, the average social work staff hours per resident or participant per day was higher in adult day services centers (0.14 hours or 8 minutes) than in nursing homes (0.08 hours or 5 minutes) or residential care communities (0.03 hours or 2 minutes), and the average activities staff hours per resident or participant per day in adult day services centers (0.72 hours or 43 minutes) was more than twice the size of the ratio for nursing homes (0.19 hours or 11 minutes) or residential care communities (0.33 hours or 20 minutes).

The average total nursing hours (combining RNs, LPN and LVNs, and aides) per resident or participant per day were 3.88 (3 hours and 53 minutes) for nursing home residents, 2.53 (2 hours and 32 minutes) for residential care residents, and 1.39 (1 hour and 23 minutes) for adult day participants. The average total nursing hours per resident per day in nursing homes was more than twice the size of the ratio for adult day services centers.

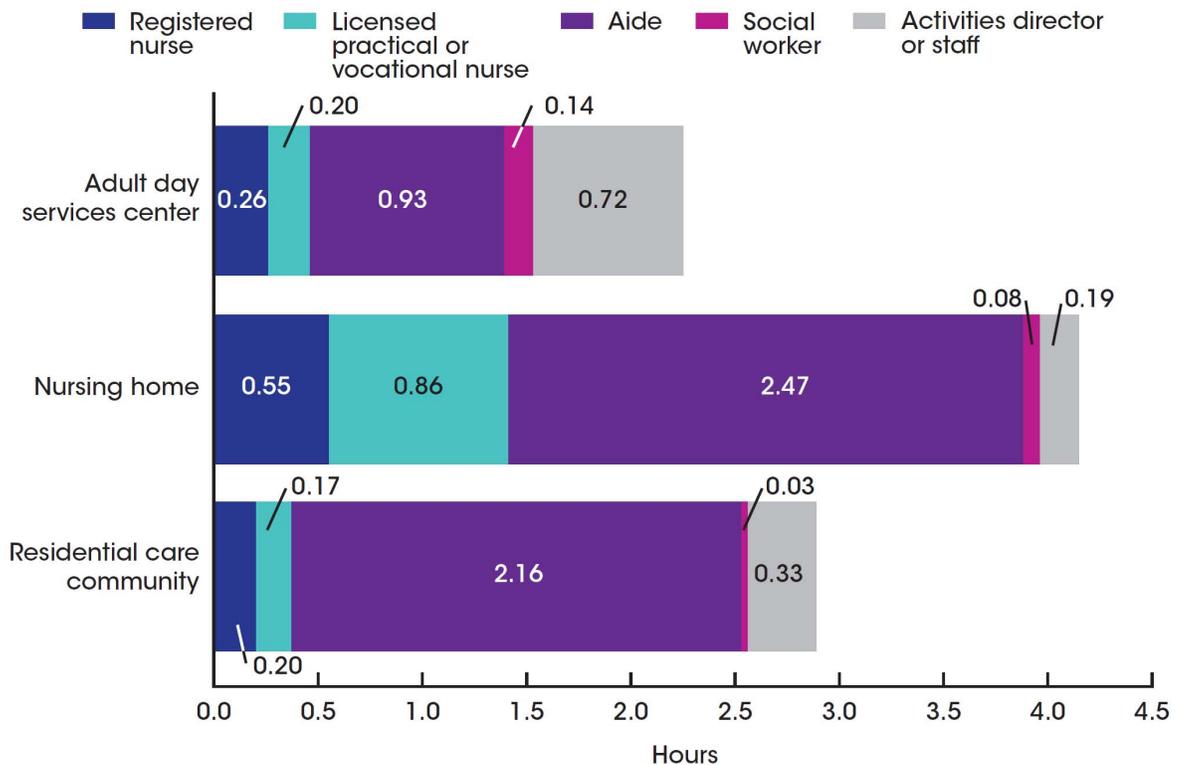
The average total licensed nursing hours (combining RNs with LPNs and LVNs) per resident or participant per day were 1.41 (1 hour and 25 minutes) for nursing home residents, 0.46 (28 minutes) for adult day participants, and 0.37 (22 minutes) for residential care residents. The average licensed nursing hours per resident or participant per day in nursing homes were more than twice the size of the corresponding ratios for residential care communities and adult day services centers.

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<sup>24</sup> Use of any activities staff was not examined for home health agencies and hospices because this information was not available.

<sup>25</sup> Rather than hours per day, which have been used in nursing home and residential care settings, alternative staffing metrics have been reported in the literature for adult day services centers, home health agencies, and hospices, such as average number of visits per 8-hour day (National Association for Home Care & 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) per day are provided in this report. See [Technical Notes](#) and [Appendix A](#) for details on how hours per resident or participant per day were computed for adult day services centers, nursing homes, and residential care communities. Hours per patient per day could not be provided for home health agencies or hospices, because the administrative data available provided total number of all patients served in a year, not the number served on a given day, which is needed to produce this estimate.

**Figure 11. Average hours per resident or participant per day, by sector and staff type: United States, 2014**



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

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

## Services Provided

This section provides information on what percentage of providers in each sector (where data were applicable and available) offered each of eight services: social work; mental health or counseling; therapies (physical, occupational, and speech); skilled nursing or nursing; pharmacy or pharmacist; hospice; dental; and podiatry. Services could be provided directly by the provider or by others through arrangement by the provider.<sup>26</sup> In contrast to the 2012 adult day and residential care community questionnaires, for each service in the 2014 questionnaires, if an adult day services center or residential care community reported offering only referrals to participants or residents, respectively, the provider was considered as not providing the service.<sup>27</sup> This section also reports on provision of dementia special care units and depression screening.

### Social work services

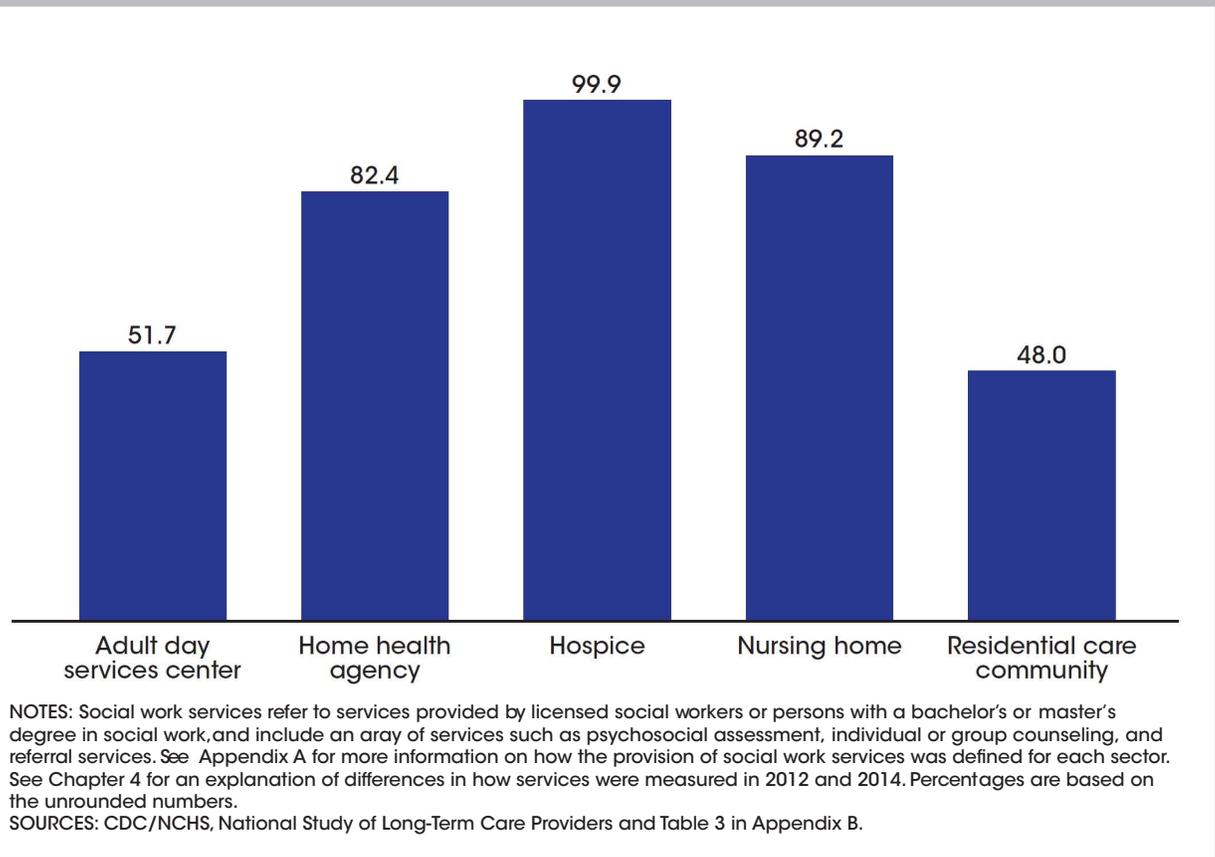
The majority of providers in all sectors except residential care offered social work services (Figure 12). Virtually all hospices (99.9%) provided social work services, as did most nursing homes (89.2%) and home health agencies (82.4%), likely because providing these services is required for Medicare certification. Fewer adult day services centers (51.7%) and residential care communities (48.0%) reported providing social work services.

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<sup>26</sup> These eight services were chosen because they are commonly provided by Medicare- and Medicaid-certified long-term care services providers, and administrative data were available for most sectors. However, the available administrative data did not have information on whether or not the following sectors provided these services: mental health or counseling services (home health agencies), pharmacy or pharmacist services (hospices), dental services (home health agencies or hospices), and podiatrist services (home health agencies or hospices). See Appendix A for definitions of services included for each sector.

<sup>27</sup> See Chapter 4 for more information on differences in how services were measured in the 2012 and 2014 adult day and residential care community questionnaires.

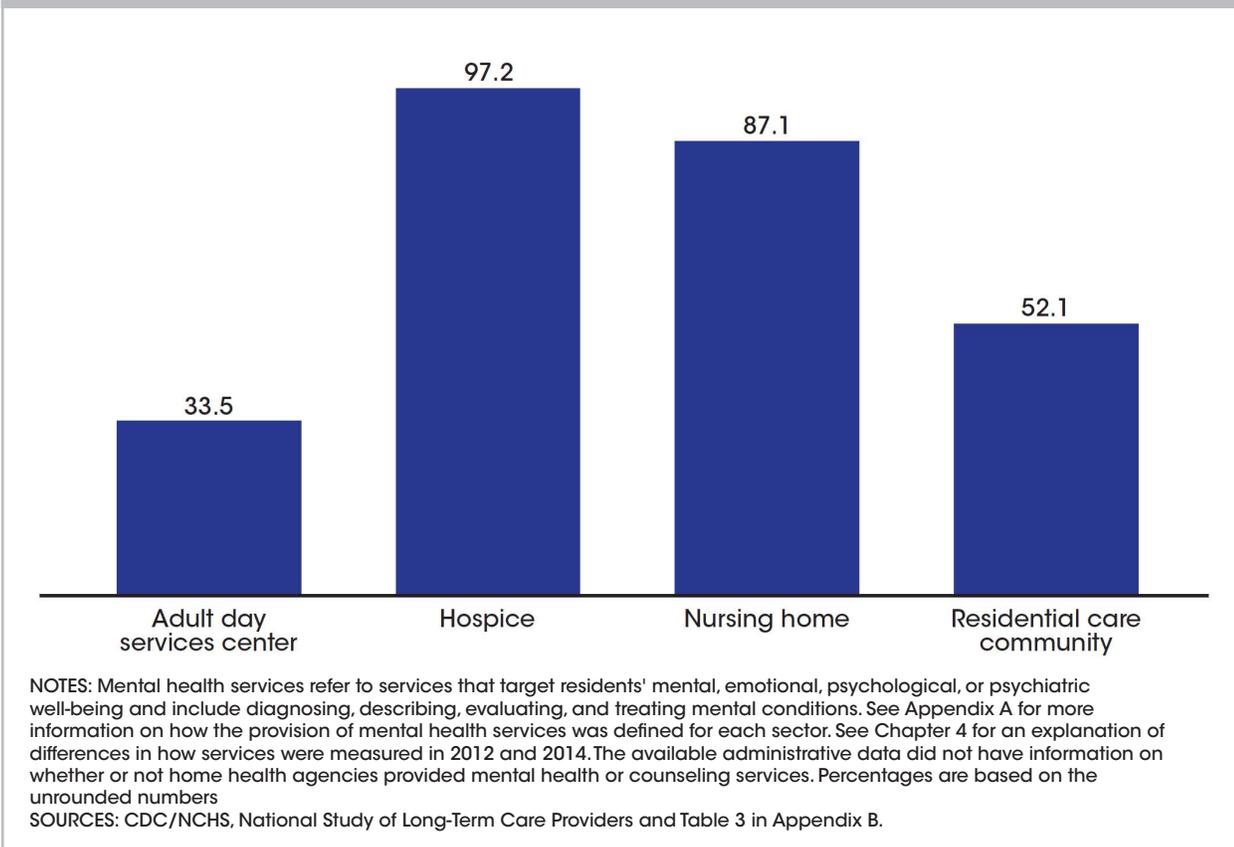
**Figure 12. Percentage of long-term care services providers that provide social work services, by sector: United States, 2014**



## Mental health or counseling services

Mental health or counseling services were offered by most hospices (97.2%), nursing homes (87.1%), and the majority of residential care communities (52.1%), while about one-third of adult day services centers (33.5%) reported offering these services (Figure 13).

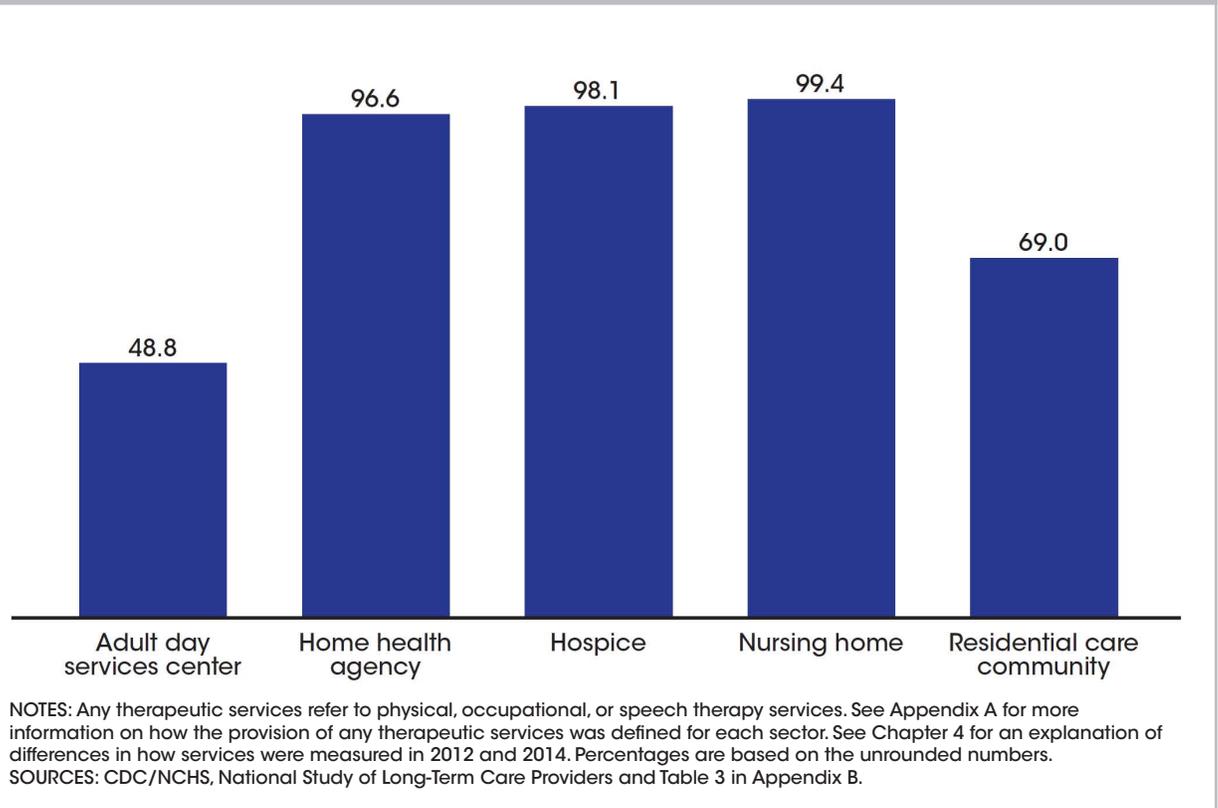
**Figure 13. Percentage of long-term care services providers that provide mental health or counseling services, by sector: United States, 2014**



## Therapeutic services

Virtually all nursing homes (99.4%), hospices (98.1%), and home health agencies (96.6%) offered therapeutic services, as did more than two-thirds of residential care communities (69.0%) and almost one-half of adult day services centers (48.8%) (Figure 14).

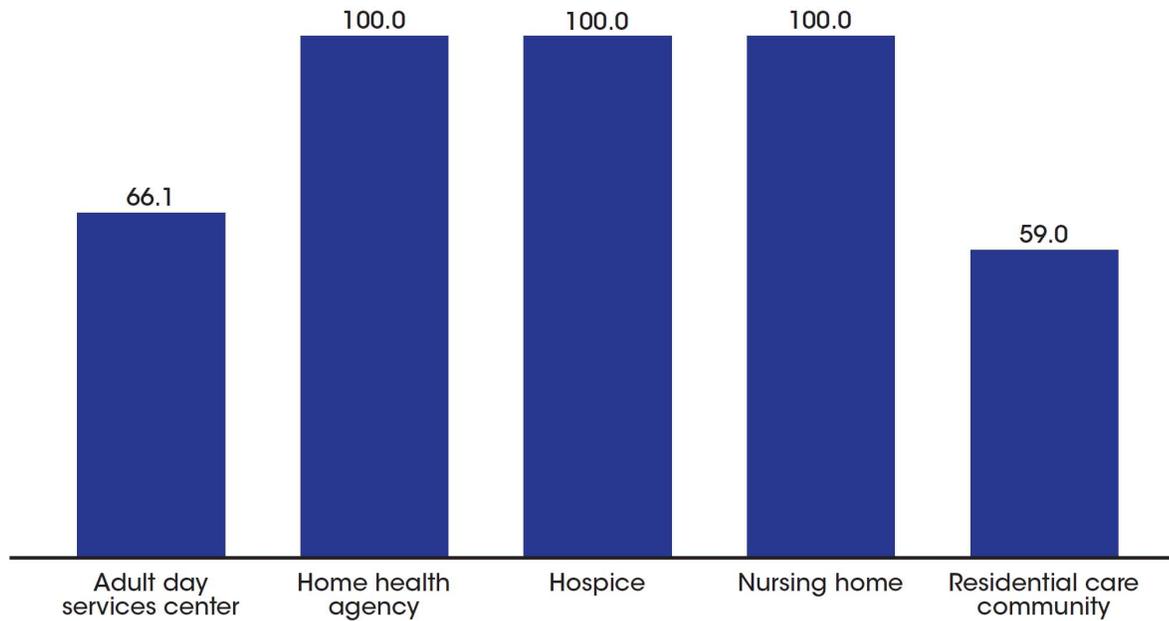
**Figure 14. Percentage of long-term care services providers that provide any therapeutic services, by sector: United States, 2014**



## Skilled nursing or nursing services

All home health agencies, hospices, and nursing homes (100.0%) offered skilled nursing or nursing services, as did the majority of adult day services centers (66.1%) and residential care communities (59.0%) (Figure 15).

**Figure 15. Percentage of long-term care services providers that provide skilled nursing or nursing services, by sector: United States, 2014**

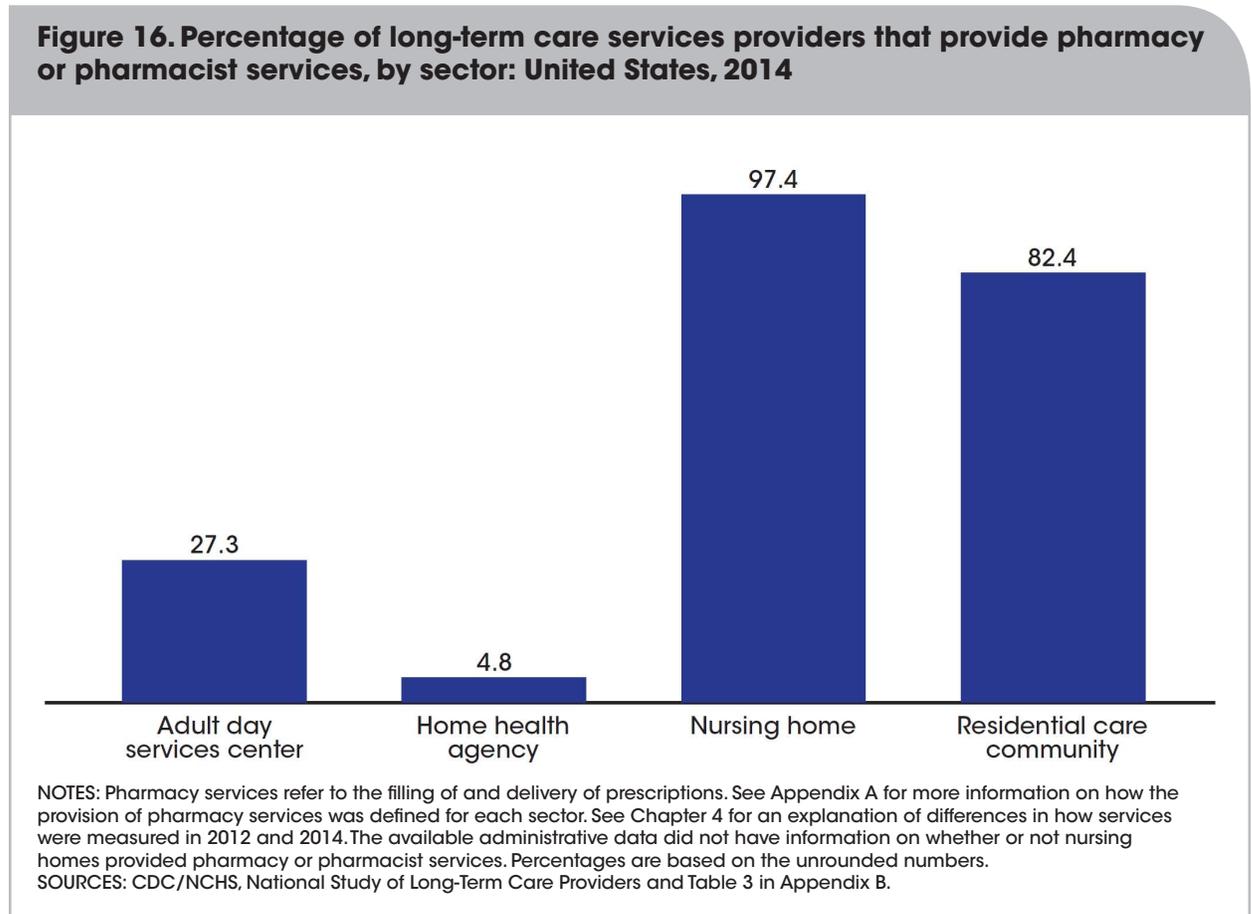


NOTES: Skilled nursing services refer to services that must be performed by a registered nurse or licensed practical nurse and are medical in nature. See Appendix A for more information on how the provision of skilled nursing services was defined for each sector. See Chapter 4 for an explanation of differences in how services were measured in 2012 and 2014. 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

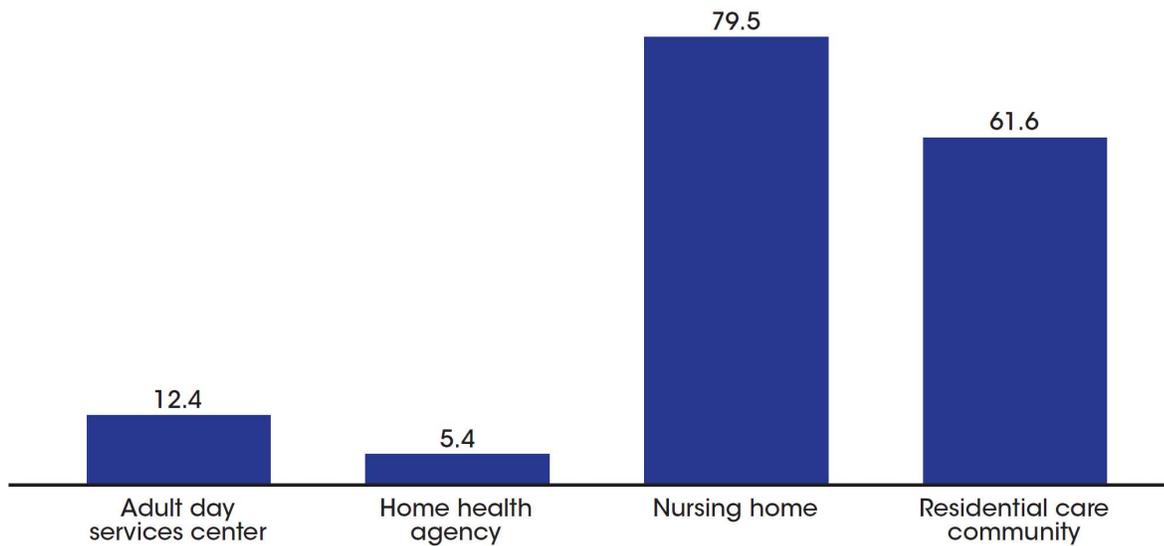
Nearly all nursing homes (97.4%) and more than four-fifths of residential care communities (82.4%) offered pharmacy or pharmacist services, while fewer adult day services centers (27.3%) and home health agencies (4.8%) provided these services (Figure 16).



## Hospice services

About eight-tenths of nursing homes (79.5%) offered hospice services, compared with six-tenths of residential care communities (61.6%), one-tenth of adult day services centers (12.4%), and less than one-tenth of home health agencies (5.4%) (Figure 17).

**Figure 17. Percentage of long-term care services providers that provide hospice services, by sector: United States, 2014**

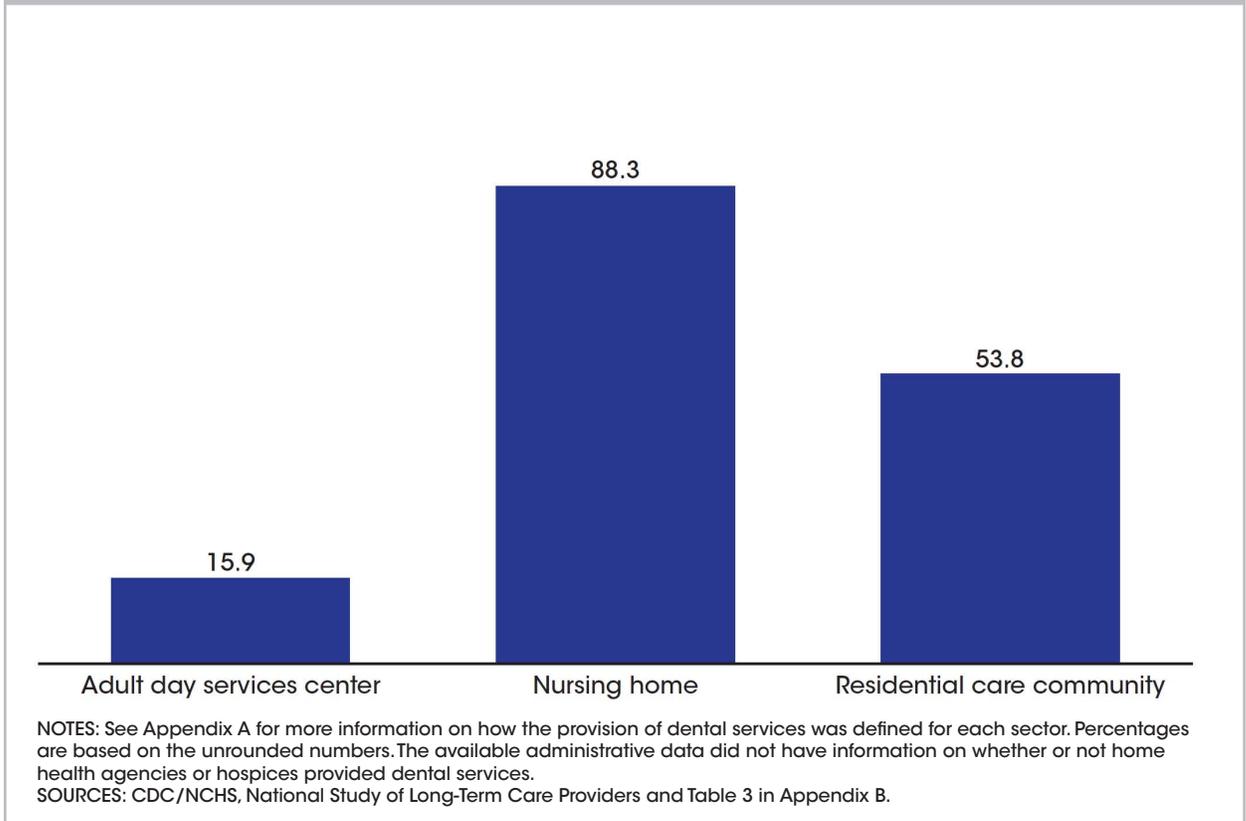


NOTES: See Appendix A for more information on how the provision of hospice services was defined for each sector. See Chapter 4 for an explanation of differences in how services were measured in 2012 and 2014. Percentages are based on the unrounded numbers. All hospices were expected to provide hospice services.  
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

## Dental services

Most nursing homes (88.3%) offered dental services compared with about one-half of residential care communities (53.8%) and almost one-fifth of adult day services centers (15.9%) (Figure 18).

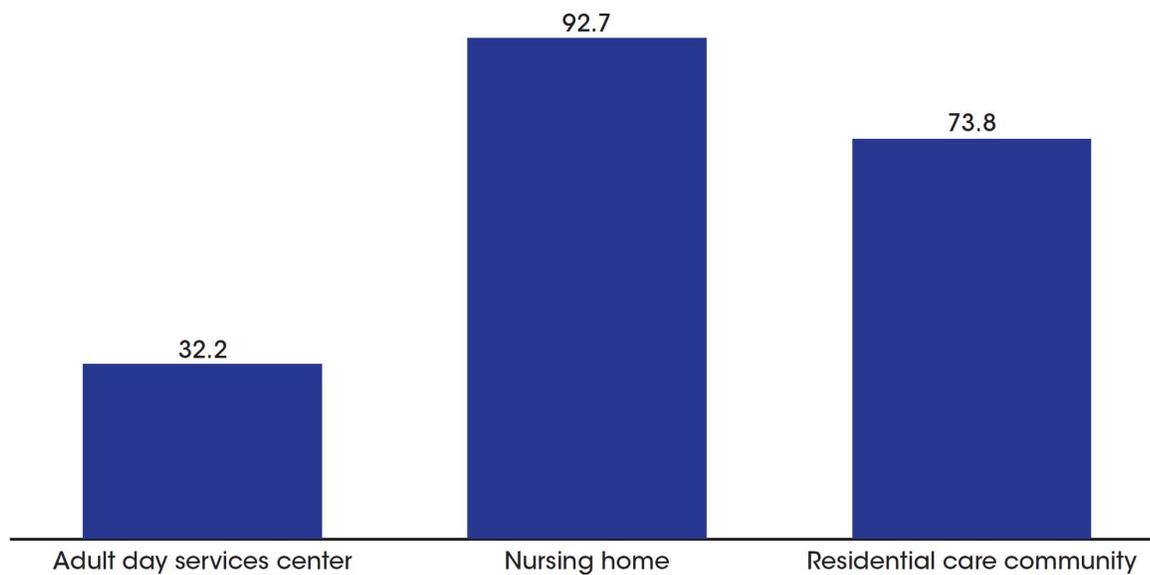
**Figure 18. Percentage of long-term care services providers that provide dental services, by sector: United States, 2014**



## Podiatry services

Most nursing homes (92.7%) offered podiatry services compared with almost three-quarters of residential care communities (73.8%) and almost one-third of adult day services centers (32.2%) (Figure 19).

**Figure 19. Percentage of long-term care services providers that provide podiatry services, by sector: United States, 2014**



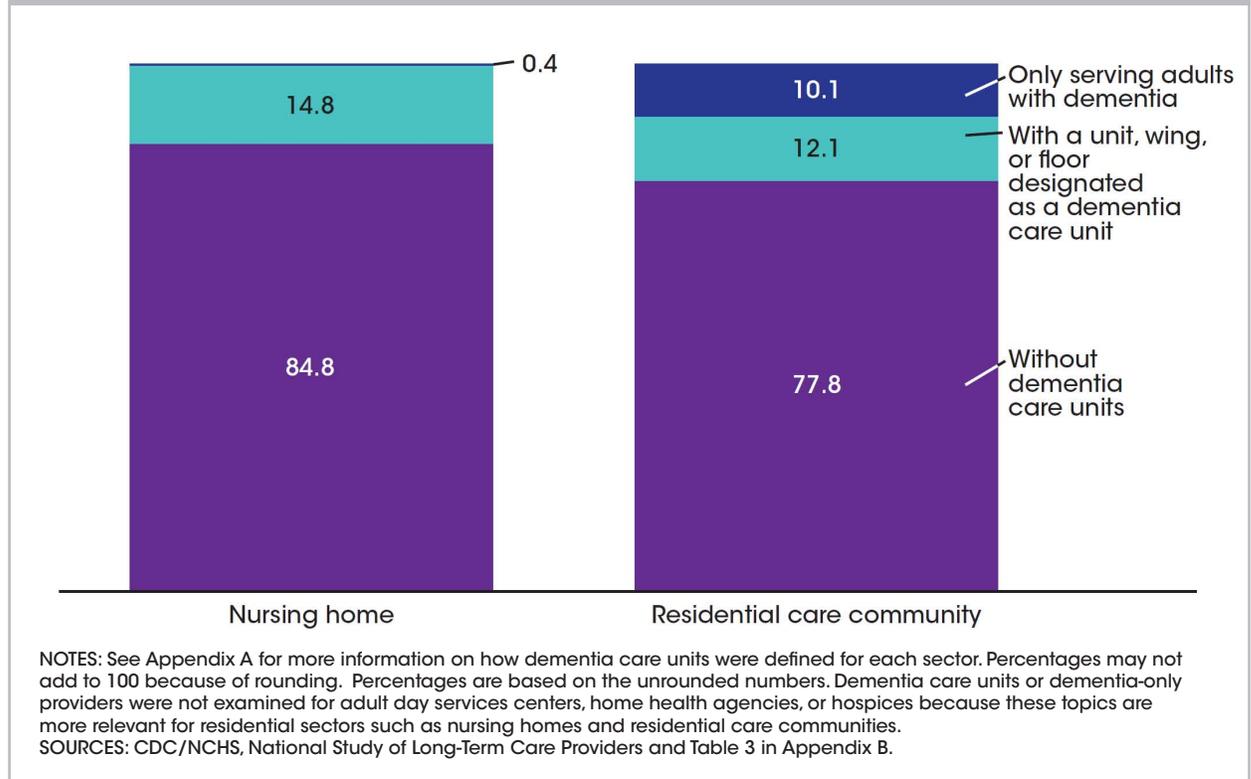
NOTES: See Appendix A for more information on how the provision of podiatry services was defined for each sector. Percentages are based on the unrounded numbers. The available administrative data did not have information on whether or not home health agencies or hospices provided podiatry services.

SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 3 in Appendix B.

## Dementia care units

More than one-tenth of nursing homes (14.8%) and residential care communities (12.1%) offered a dementia care unit within a larger facility or community (Figure 20).<sup>28</sup> While another one-tenth of residential care communities (10.1%) served only residents with dementia, few nursing homes (0.4%) did so.

**Figure 20. Percent distribution of long-term care services providers, by sector and dementia care unit: United States, 2014**

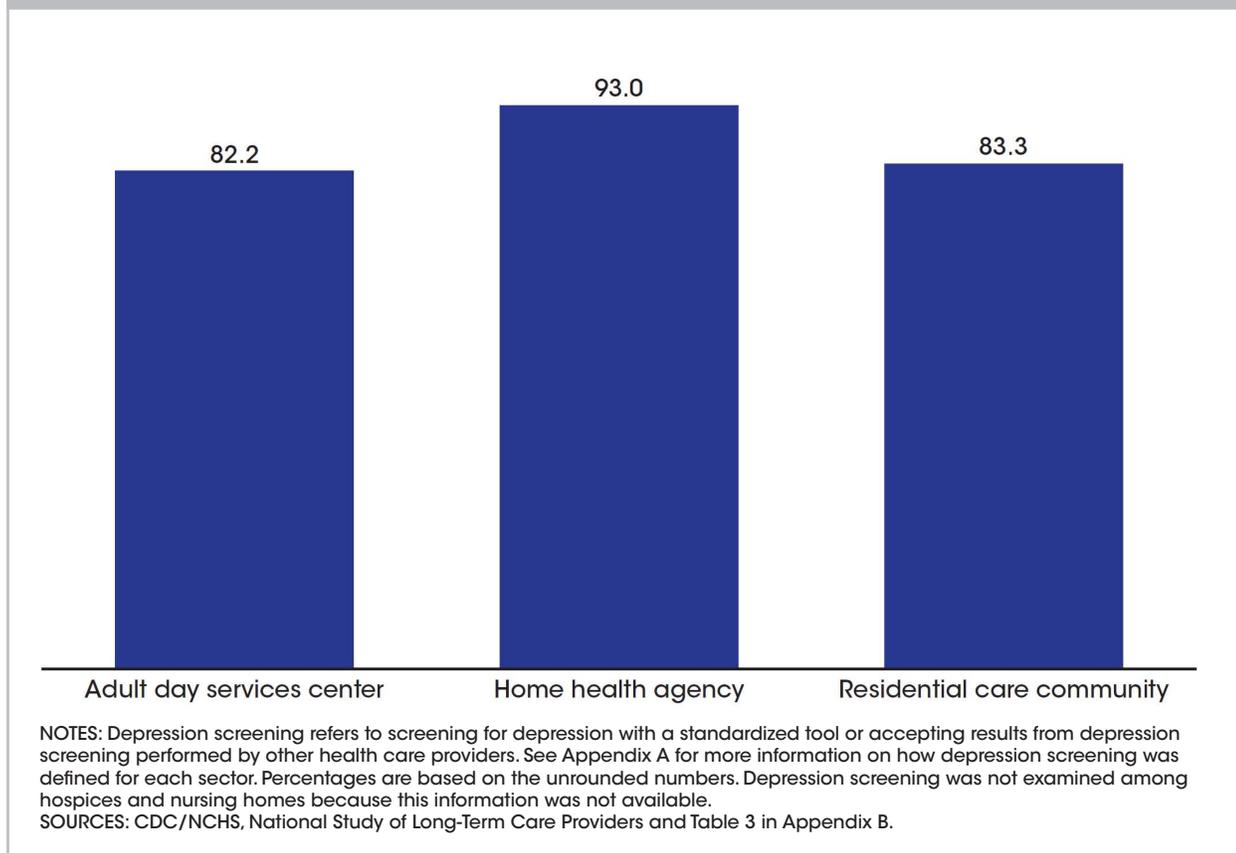


<sup>28</sup> Dementia care units or dementia-only providers were not examined for adult day services centers, home health agencies, or hospices because these topics are more relevant for residential sectors such as nursing homes and residential care communities.

## Depression screening

Although many adult day services centers, home health agencies, and residential care communities screened their services users for depression using a standardized tool or accepted screening results performed by another health care provider, a higher percentage of home health agencies (93.0%) performed this service compared with adult day services centers (82.2%) and residential care communities (83.3%) (Figure 21).<sup>29</sup>

**Figure 21. Percentage of long-term care services providers that screen for depression, by sector: United States, 2014**



<sup>29</sup> Depression screening was not examined among hospices and nursing homes because this information was not available.

# Chapter 3

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## National Profile of Long-Term Care Services Users

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

## Introduction

In this report, “current” participants or residents in 2014 refers to those participants enrolled in the adult day services center, or residents living in the nursing home or residential care community, on the day of data collection in 2014, rather than the total number of participants ever enrolled in the center or residents ever living in the nursing home or residential care community at any time throughout the 2014 calendar year. In 2014, there were an estimated 282,200 current participants enrolled in adult day services centers,<sup>30</sup> 1,369,700 current residents in nursing homes, and 835,200 current residents living in residential care communities. In 2013, about 4,934,600 patients received services from home health agencies, and 1,340,700 patients received services from hospices. Together these five long-term care services sectors served about nine million (8,762,400) people annually.<sup>31</sup>

This chapter provides an overview of the demographic, health, and functional composition of users of long-term care services, and their experience of adverse events, by sector. Demographic measures include age, race and ethnicity, and sex. Medicaid as a payer source is used to measure payment characteristics. Measures of health status include diagnosis of Alzheimer’s disease and other dementias, depression, and diabetes. Measures of functional status include needing assistance with selected activities of daily living [(ADLs) i.e., bathing, dressing, eating, toileting, transferring in and out of a chair or bed, and walking]. Measures of adverse events include overnight hospital stays, emergency department visits, and falls.

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<sup>30</sup> In 2014, there were an estimated 282,200 current participants enrolled in adult day services centers, of which 187,200 attended on a typical day.

<sup>31</sup> This estimate is the sum of the estimates of the people served in each of the five sectors, and is a rough approximation. The data used for each sector captured services users in different ways, and the data year used for each sector varied across sectors. The estimated number of adult day services center participants represents current participants in 2014. The estimated number of home health patients represents patients who ended care in 2013 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2013.

The estimated number of nursing home residents represents current residents in 2014. The estimated number of residential care community residents represents current residents in 2014. The same person may be included more than once in the sum of services users in the five sectors, if a person received care in more than one sector in a similar time period (e.g., a residential care resident receiving care from a home health agency). Given that the estimate for the number of current adult day, nursing home, and residential care services users in a given year is likely less than the number of all services users in these sectors throughout that year, it is expected that the estimate of all services users in all five sectors as of 2014 is at least nine million, in spite of the possibility of double counting of the same person across sectors.

## Use of Long-Term Care Services

As noted in the introduction to this chapter, participants in adult day services centers and residents in nursing homes and residential care communities are current users in 2014.<sup>32</sup> Home health patients refer to patients who ended home health care anytime in 2013. Hospice patients refer to patients who received care anytime in 2013. Use of long-term care services by individuals aged 65 and over per 1,000 persons aged 65 and over varied by sector.<sup>33</sup> The daily-use rate was higher for nursing homes (25 per 1,000), compared with residential care communities (17 per 1,000) and adult day services centers (4 per 1,000). The annual-use rate was higher for home health agencies (91 per 1,000) compared with hospices (28 per 1,000).

## Demographic Characteristics of Long-Term Care Services Users

### Long-term care services users by age

The majority of long-term care services users were aged 65 and over: 94.4% of hospice patients, 92.9% of residential care residents, 84.9% of nursing home residents, 82.6% of home health patients, and 63.7% of participants in adult day services centers (Figure 22).

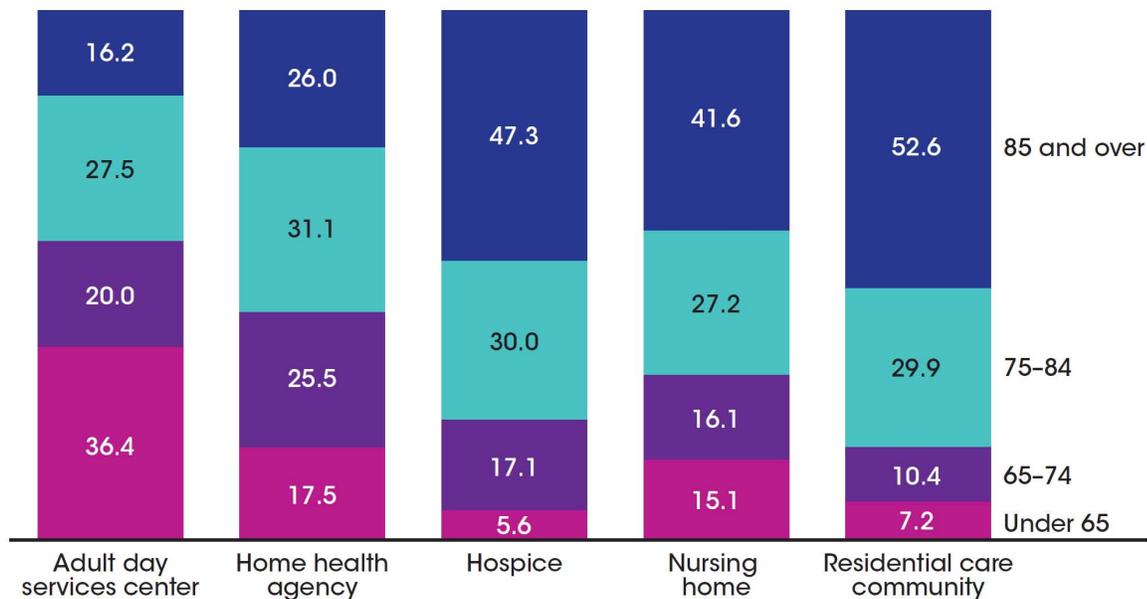
The age composition of services users varied by sector, with residential care communities (52.6%), hospices (47.3%), and nursing homes (41.6%) serving more persons aged 85 and over, and adult day services centers (36.4%) serving more persons under age 65 than other sectors.

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<sup>32</sup> See [Technical Notes](#) for more information on the definitions of services users and data sources used for each sector

<sup>33</sup> 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.

**Figure 22. Percent distribution of long-term care services users, by sector and age group: United States, 2013 and 2014**

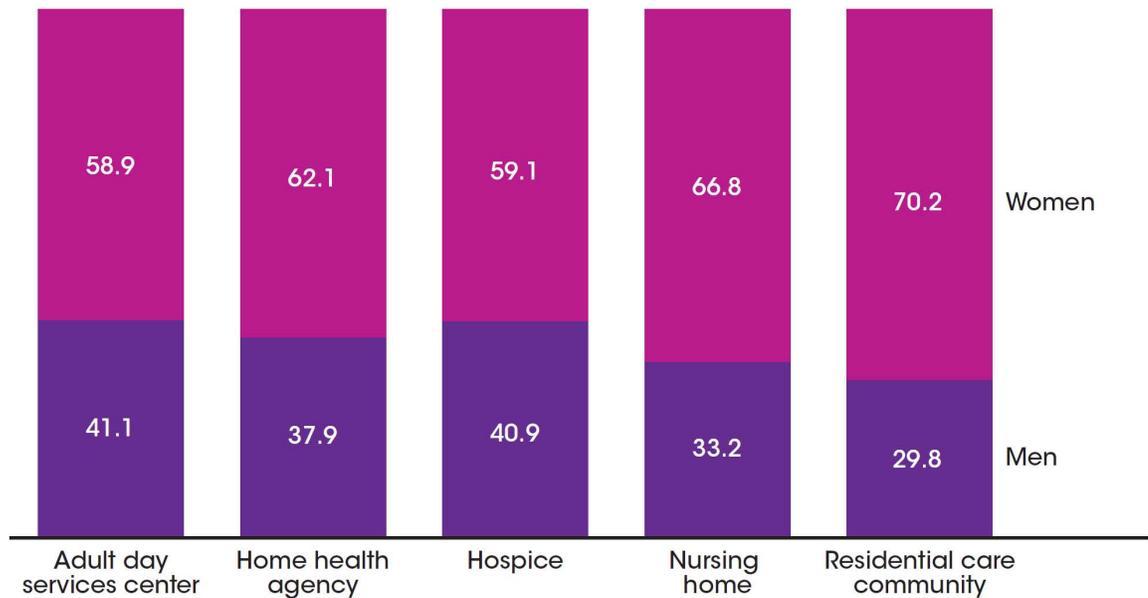


NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of current participants enrolled in adult day services centers, the number of current residents in nursing homes, and the number of current residents in residential care communities in 2014, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients who received care from Medicare-certified home health agencies at any time in 2013 and the number of patients who received care from Medicare-certified hospices at any time in 2013, respectively. See Technical Notes for more information on the data sources used for each sector. 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.

### Long-term care services users by sex

In all five sectors, the users of long-term care services were overwhelmingly women, with residential care communities having the highest proportion (70.2%) (Figure 23).

**Figure 23. Percent distribution of long-term care services users, by sector and sex: United States, 2013 and 2014**



NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of current participants enrolled in adult day services centers, the number of current residents in nursing homes, and the number of current residents in residential care communities in 2014, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients whose episode of care ended at any time in 2013 and the number of patients who received care from Medicare-certified hospices at any time in 2013, respectively. See 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.

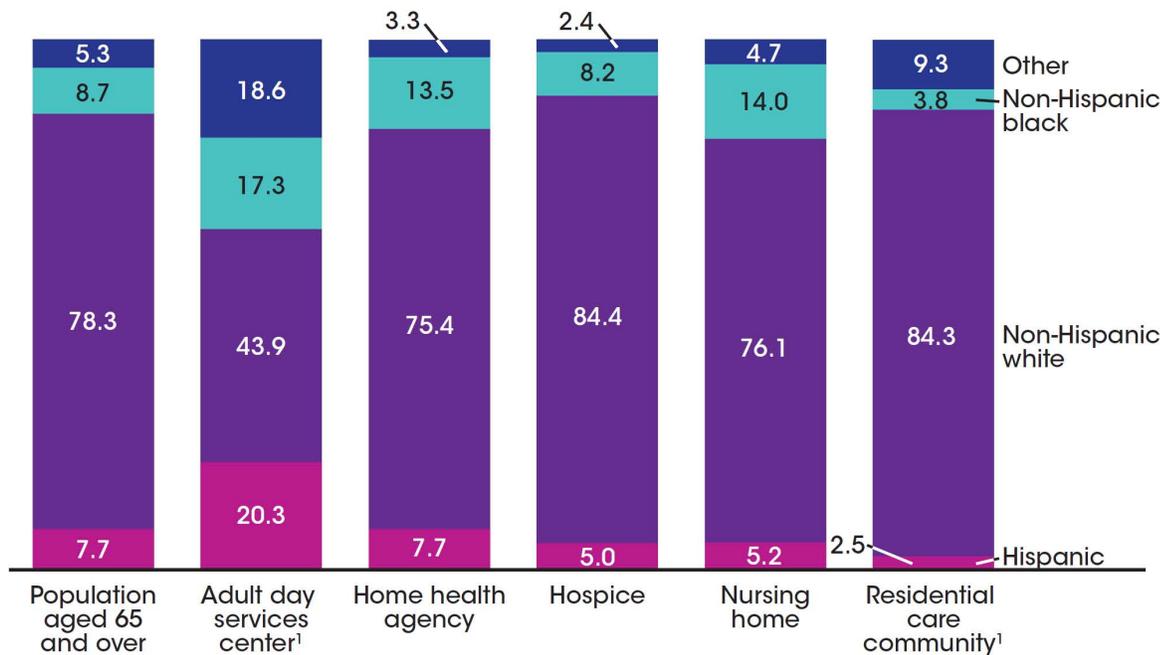
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

## Long-term care services users by race and ethnicity

Non-Hispanic white persons accounted for at least three-quarters of users in all long-term care services sectors except adult day services centers (Figure 24).

The percentage of non-Hispanic white persons was highest in hospice (84.4%) and residential care communities (84.3%), followed by nursing homes (76.1%) and home health agencies (75.4%). Less than one-half of the participants in adult day services centers were non-Hispanic white (43.9%). Adult day services centers were the most racially and ethnically diverse among the five sectors: 17.3% of services users were non-Hispanic black and 20.3% of services users were Hispanic. More than one-tenth of home health patients and nursing home residents were non-Hispanic black. About 8.2% of hospice patients and 3.8% of residential care residents were non-Hispanic black. About 8.2% of hospice patients and 3.8% of residential care residents were non-Hispanic black. About 8.2% of hospice patients and 3.8% of residential care residents were non-Hispanic black.

**Figure 24. Percent distribution of long-term care services users, by sector and race and Hispanic origin: United States, 2013 and 2014**



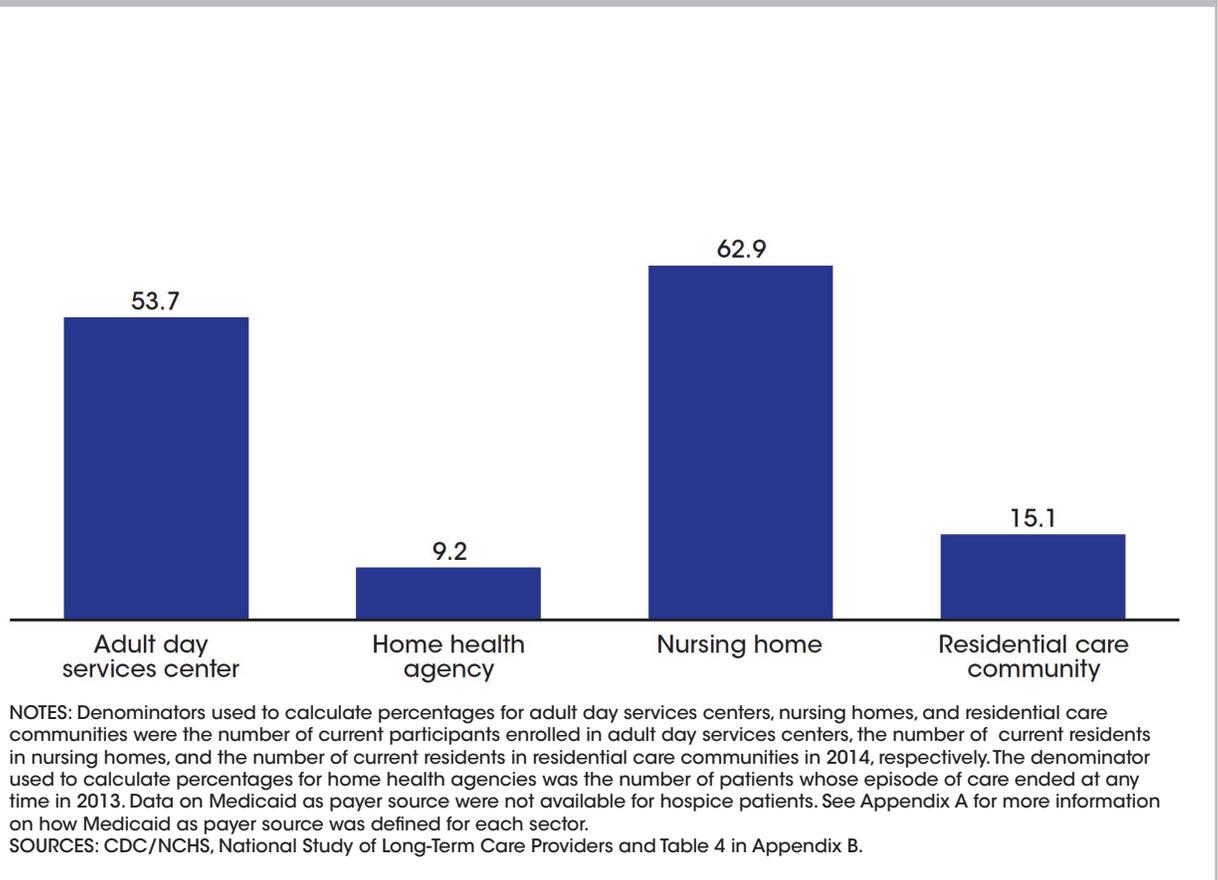
<sup>1</sup>Includes non-Hispanic American Indian or Alaska Native, non-Hispanic Asian, non-Hispanic Native Hawaiian or other Pacific Islander, non-Hispanic of two or more races, and unknown race and ethnicity.

NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of current participants enrolled in adult day services centers, the number of current residents in nursing homes, and the number of current residents in residential care communities in 2014, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients who received care from Medicare-certified home health agencies at any time in 2013 and the number of patients who received care from Medicare-certified hospices at any time in 2013, respectively. See 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; Table 4 in Appendix B; and U.S. Census Bureau, Population Division, Population Estimates, July 1, 2014.

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

The percentage of long-term care services users using Medicaid as a payer source was highest in nursing homes (62.9%), followed by adult day services centers (53.7%) (Figure 25). Among residential care residents, 15.1% used Medicaid as a payer source, followed by less than one-tenth of home health patients (9.2%).<sup>34</sup>

**Figure 25. Percentage of long-term care services users with Medicaid as payer source, by sector: United States, 2013 and 2014**



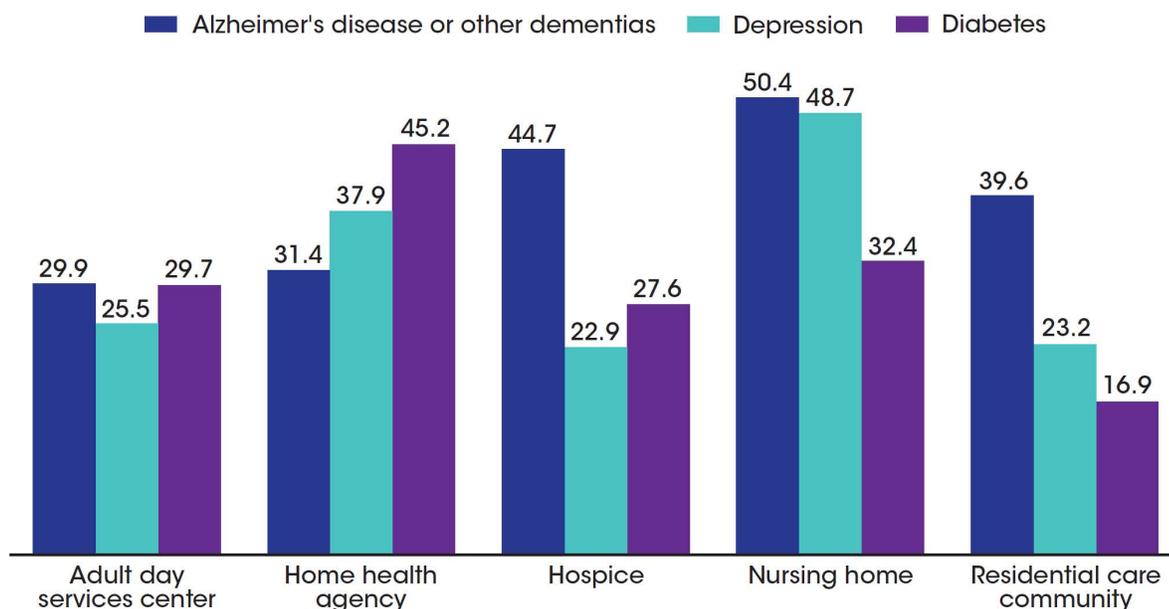
<sup>34</sup> Data on Medicaid as payer source were not available for hospice patients.

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

### Alzheimer's disease or other dementias, depression, and diabetes among long-term care services users

Alzheimer's disease or other dementias were most prevalent among nursing home residents (50.4%) and were least prevalent among adult day services center participants (29.9%) (Figure 26). The percentage of long-term care services users with a diagnosis of depression was highest in nursing homes (48.7%) and lowest in hospices (22.9%) and residential care communities (23.2%). Diabetes was most prevalent among home health patients (45.2%) and was least prevalent among residential care community residents (16.9%).

**Figure 26. Percentage of long-term care services users with a diagnosis of Alzheimer's disease or other dementias, depression, and diabetes, by sector: United States, 2013 and 2014**



NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of current participants enrolled in adult day services centers, the number of current residents in nursing homes, and the number of current residents in residential care communities in 2014, respectively. Denominators used to calculate percentages for home health agencies and hospices were the number of patients who received care from Medicare-certified home health agencies at any time in 2013 and the number of patients who received care from Medicare-certified hospices at any time in 2013, respectively. See Technical Notes for more information on the data sources used for each sector. Percentages are based on the unrounded numbers.

SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

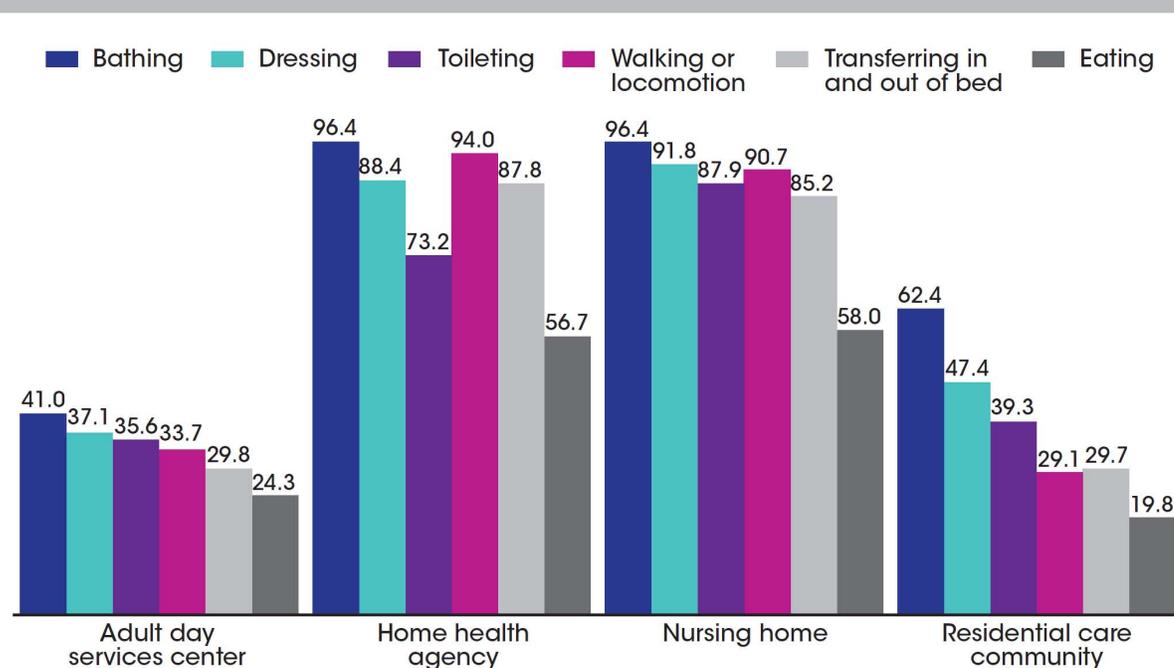
## Need for assistance with ADLs among long-term care services users

This report uses the need for assistance with six ADLs: bathing, dressing, toileting, walking, transferring in and out of bed, and eating to measure physical and cognitive functioning among residents in nursing homes and residential care communities, home health patients, and adult day services center participants.<sup>35</sup>

Overall, functional ability varied by sector. Within each sector, the need for assistance with bathing was most common, whereas the need for assistance with eating was least common (Figure 27). Compared with services users in other sectors, more nursing home residents needed assistance in dressing, eating, toileting, and walking. For three of the six ADLs (bathing, dressing, and toileting), fewer adult day services center participants than services users in other sectors needed assistance.

While the prevalence of ADL needs differed by sector, at least 41.0% of long-term care services users in all sectors needed assistance with at least one of the six ADLs.<sup>36</sup>

**Figure 27. Percentage of long-term care services users needing any assistance with activities of daily living, by sector and activity: United States, 2013 and 2014**



NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of current participants enrolled in adult day services centers, the number of current residents in nursing homes, and the number of current residents in residential care communities in 2014, respectively. The denominator used to calculate percentages for home health agencies was the number of patients whose episode of care ended at any time in 2013. Participants, patients, or residents were considered needing any assistance with a given activity if they needed help or supervision from another person or used special equipment to perform the activity. Data on need for assistance with activities of daily living were not available for hospice patients. See Appendix A for more information on how needing any assistance with a given activity was defined. Percentages are based on the unrounded numbers.  
SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

<sup>35</sup> Data on need for assistance with ADLs were not available for hospice patients.

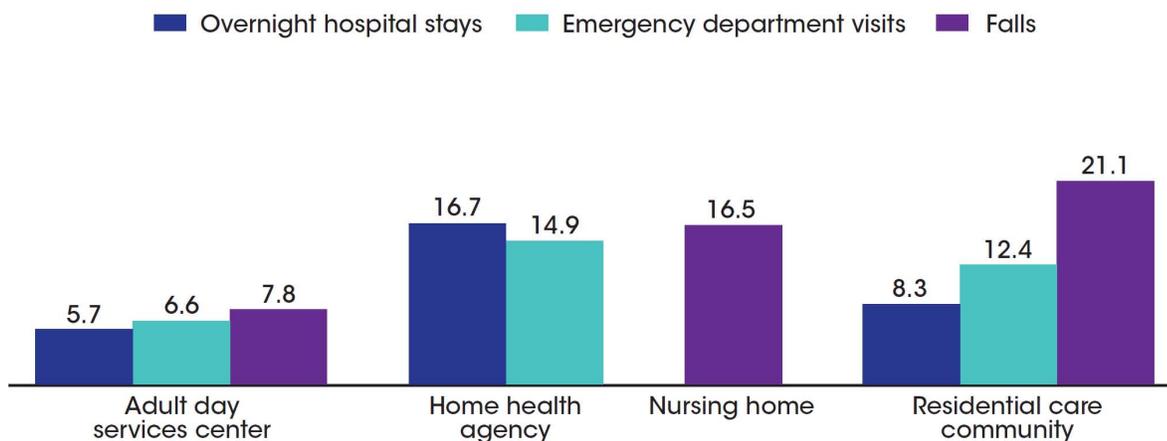
<sup>36</sup> In all sectors, the need for assistance with bathing was most common. Fewer adult day services center participants (41%) than services users in other sectors needed assistance with bathing. Therefore, at a minimum, 41% of services users across all sectors needed assistance with an ADL.

## Adverse events among long-term care services users

This report estimates the prevalence of overnight hospitalizations, emergency department visits, and falls as indicators of adverse, potentially avoidable events.<sup>37</sup>

About 2 in 10 home health patients had overnight hospital stays (16.7%) and emergency department visits (14.9%); about 1 in 10 adult day services center participants and residential care community residents had overnight hospital stays (5.7% of adult day services center participants and 8.3% of residential care community residents) and emergency department visits (6.6% of adult day services center participants and 12.4% of residential care community residents) (Figure 28). About one-fifth of residential care community residents (21.1%) and nursing home residents (16.5%) had falls; 7.8% of adult day services center participants had falls.<sup>38</sup>

**Figure 28. Percentage of long-term care services users with overnight hospital stays, emergency department visits, and falls, by sector: United States, 2013 and 2014**



NOTES: Denominators used to calculate percentages for adult day services centers, nursing homes, and residential care communities were the number of current participants enrolled in adult day services centers, the number of current residents in nursing homes, and the number of current residents in residential care communities in 2014, respectively. The denominator used to calculate percentages for home health agencies was the number of patients whose episode of care ended at any time in 2013. For adult day services centers and residential care communities, adverse events refer to a period of 90 days prior to the survey. For home health agencies, adverse events refer to a period since the last Outcome and Assessment Information Set assessment. For nursing homes, falls refer to the period since admission or since the prior assessment, whichever is more recent. For home health agencies, data were not available for falls. For nursing homes, data were not available for emergency department visits, and hospitalizations were not included in this report because the timing of Medicare claims data did not match the other nursing home data sets used here. For hospice patients, data were not available for any adverse event. See Technical Notes for more information on the data sources used for each sector. Percentages are based on the unrounded numbers.

SOURCES: CDC/NCHS, National Study of Long-Term Care Providers and Table 4 in Appendix B.

<sup>37</sup> For adult day services centers and residential care communities, adverse events refer to a period of 90 days prior to the survey. For home health agencies, adverse events refer to a period since the last Outcome and Assessment Information Set (OASIS) assessment. For nursing homes, falls refer to the period since admission or since the prior assessment, whichever is more recent. Varying reference periods by sector do not allow for direct comparisons between sectors.

<sup>38</sup> For home health patients, data for falls were not available. For nursing home residents, data for emergency department visits were not available, and data for hospitalizations were not reported because the timing of Medicare claims data did not match the other nursing home data sets used for this report. For hospice patients, data for emergency department visits, overnight hospital stays, and falls were not available.

# Chapter 4

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## Technical Notes

## Chapter 4. Technical Notes

### Data Sources

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

### 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 2014. CASPER data were collected to support the survey and certification regulatory function of CMS; every nursing home, home health agency, and hospice in the United States that was certified to provide services under Medicare, Medicaid, or both was included in the data. The number of variables in each file and frequency of certification survey data collection varied by sector because different provider sectors had to report different information during the survey and certification process.

**Home health agency file**—Included 12,439 home health agencies coded as active providers located in the United States. About 76.7% were Medicare- and Medicaid-certified, 22.0% were Medicare-certified only, and 1.3% were Medicaid-certified only. About 88.0% of these home health agencies completed a certification survey during the last 3 years (including 57.3% during the last 2 years).

**Hospice file**—Included 4,026 hospices coded as active providers located in the United States; information on type of certification (Medicare-only, Medicaid-only, or both) was not available. CMS requires certification surveys of Medicare hospices every 6 to 8 years, on average (HHS, 2007). About 94.3% of Medicare hospices completed a certification survey during the last 8 years (including 56.3% during the last 3 years).

**Nursing home file**—Included 15,639 nursing homes coded as active providers located in the United States. About 92.0% were Medicare- and Medicaid-certified, 4.9% were Medicare-certified only, and 3.1% were Medicaid-certified only. Nearly all of these nursing homes (98.6%) completed a certification survey during the last 18 months (including 79.7% during the last 12 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 the unique provider identification (ID) number. These user-level data were merged to respective provider-specific 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 (OASIS). OBQI data were used as the primary source of information on home health patients whose episode of care ended at any time in calendar year 2013 (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, 888 (7.1%) of 12,439 agencies in the CASPER file had no patient information in the OBQI data. The total number of patients in this merged file (4,934,620) was used as the denominator when calculating percentages of home health patients in different age categories and sex categories; to compute percentages of those receiving Medicaid, needing any assistance with activities of daily living (ADLs), having hospitalizations, and having emergency department visits; 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 or other dementias, depression, and diabetes. IPBS data were used because the OBQI data did not use racial and ethnic categories and did not contain information on patient’s diagnosis of dementia, depression, or diabetes that was comparable to those used in other data sources. The IPBS data file contained information on home health patients for whom Medicare-certified home health agencies submitted a Medicare claim at any time in calendar year 2013. When merged with the CASPER home health agency file, 984 (7.9%) of the 12,439 agencies in the CASPER file had no patient information in the IPBS home health data. The total number of patients in this merged file (4,074,822) 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 or other dementias, depression, and diabetes.

### **Hospice patients**

The ***IPBS hospice data*** file contained information on hospice patients for whom Medicare-certified hospice agencies submitted a Medicare claim at any time in calendar year 2013. 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 or other dementias, depression, and diabetes) were available; information on patients needing ADL assistance was not available. When merged with the CASPER hospice agency file, 251 (6.2%) of the 4,026 hospices in CASPER had no patient information in the IPBS hospice data. The total number of hospice patients in this merged file (1,340,723) 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 2014, regardless of payment source. Excluded were residents whose last assessment during the third quarter of 2014 was a discharge assessment. Minimum Data Set (MDS) assessment records provided by nursing homes and maintained by CMS were used to create a profile of the most recent standard information for each active resident. 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 263 (1.7%) of 15,639 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 (1,288,010) 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), to obtain the number of residents diagnosed with Alzheimer’s disease or other dementias, depression, and diabetes, and to compute the daily-use rates of nursing homes.

Because the MARET data exclude residents whose last assessment was a discharge assessment, information on hospitalizations collected as part of an MDS discharge assessment is not available. Hospitalization rates among nursing home residents can be obtained by linking Medicare claims data like the Medicare Provider Analysis and Review (MedPAR) file with MDS data. However, the latest MedPAR file available is from 2013; the time frame is older than the CASPER and MARET data used in this report to estimate nursing home resident characteristics. Consequently, hospitalization rates of nursing home residents are not included in this report.

The **CASPER nursing home file** for the third quarter of 2014 included information on selected measures for 1,369,687 current residents living in 15,639 nursing homes; this information was collected using Form CMS-672 (Resident Census and Conditions of Residents). The resident census information was designed to represent the facility at the time of the certification survey. CMS defined current residents as “residents in certified beds regardless of payer source.” Because the data were provided at the 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 with ADL limitations.

## **Survey data: adult day services centers and residential care communities**

NCHS designed and conducted surveys for the adult day services center and residential care community components of the second wave of the National Study of Long-Term Care Providers (NSLTCP) in 2014.<sup>39</sup> The NSLTCP questionnaires consist of topics common or comparable across all five sectors (“core topics”) and topics that are specific to a particular sector (“sector-specific topics”). To facilitate comparisons across sectors, the core 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.

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<sup>39</sup> The 2014 NSLTCP questionnaires for adult day services centers and residential care communities, respectively, are available from: [http://www.cdc.gov/nchs/data/nsltcp/2014\\_NSLTCP\\_Adult\\_Day\\_Services\\_Center\\_Questionnaire.pdf](http://www.cdc.gov/nchs/data/nsltcp/2014_NSLTCP_Adult_Day_Services_Center_Questionnaire.pdf) and [http://www.cdc.gov/nchs/data/nsltcp/2014\\_NSLTCP\\_Residential\\_Care\\_Communities\\_Questionnaire.pdf](http://www.cdc.gov/nchs/data/nsltcp/2014_NSLTCP_Residential_Care_Communities_Questionnaire.pdf).

## Adult day services centers

The sampling frame obtained from the National Adult Day Services Association (NADSA) contained 5,678 adult day services centers that self-identified as adult day care, adult day services, or adult day health services centers. After removing duplicates, the final frame consisted of 5,443 adult day services centers that were included in the data collection efforts. Unlike 2012, the 2014 wave had a set of eligibility criteria for study participation that was determined by self-report in the screener section of the questionnaire. In addition to inclusion in NADSA's database, adult day services centers had to: 1) be licensed or certified by the state specifically to provide adult day services, or authorized or otherwise set up to participate in Medicaid; 2) have average daily attendance of at least one participant based on a typical week; and 3) have at least one participant enrolled at the center at the time of the survey. As a result, all responding centers participated in Medicaid or were in some way regulated by the state. There were 174 (3.2%) centers in the frame that were ultimately determined to be out of business during data collection. Additionally, 222 (4.1%) centers in the frame were determined to be ineligible for other reasons during data collection. A total of 396 (7.3%) centers were either invalid or out of business. However, 2,284 centers (42.0%) could not be contacted by the end of data collection and, therefore, the final eligibility status of these communities was unknown. Using the eligibility rate,<sup>40</sup> a proportion of these centers of unknown eligibility was estimated to be eligible. This estimated number and the total number of eligible centers resulting from the screening process were used to estimate the total number of eligible adult day services centers in the United States. Of the 4,751 in-scope and presumed in-scope adult day services centers, 2,763 completed the questionnaire, for a response rate of 58.0%,<sup>41</sup> resulting in an estimated national total of 4,800 adult day services centers and 282,200 participants.

Data were collected through three modes: self-administered, hard copy mail questionnaires; self-administered web questionnaires; and Computer-Assisted Telephone Interview (CATI). Response rates by state ranged from 38.5% to 80.2% and are presented in [Table 4.1](#). Weights were used to adjust the record counts of the respondents to the total number of valid adult day services centers (4,751).

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<sup>40</sup> Eligibility rate is calculated by the number of known eligible adult day services centers divided by the total number of adult day services centers with known eligibility status. Centers that were invalid or out of business and centers that screened out as ineligible were classified as "known ineligibles."

<sup>41</sup> Response rates are calculated using standards set by the American Association of Public Opinion Research (AAPOR). AAPOR Response Rate #4 calculations include assumptions of eligibility among potential respondents that are not interviewed. AAPOR Response Rate #4 formula was used to calculate response rates for adult day services centers [completed questionnaires / (completed eligible questionnaires) + (eligibility rate x cases of unknown eligibility)].

**Table 4.1. Response rates for adult day services centers for the National Study of Long-Term Care Providers, by state**

Area	Rate	Area	Rate
United States	58.0	Missouri	63.2
Alabama	51.5	Montana	58.9
Alaska	76.9	Nebraska	64.4
Arizona	59.1	Nevada	75.0
Arkansas	61.5	New Hampshire	70.8
California	49.9	New Jersey	62.1
Colorado	58.0	New Mexico	38.5
Connecticut	66.7	New York	63.2
Delaware	76.9	North Carolina	80.2
District of Columbia	60.0	North Dakota	61.9
Florida	53.0	Ohio	60.5
Georgia	58.1	Oklahoma	79.0
Hawaii	56.4	Oregon	64.7
Idaho	66.7	Pennsylvania	64.8
Illinois	79.6	Rhode Island	66.7
Indiana	63.8	South Carolina	65.9
Iowa	60.6	South Dakota	66.7
Kansas	60.0	Tennessee	64.5
Kentucky	64.0	Texas	53.9
Louisiana	43.6	Utah	71.4
Maine	56.3	Vermont	66.7
Maryland	53.8	Virginia	65.0
Massachusetts	60.2	Washington	70.3
Michigan	59.0	West Virginia	—
Minnesota	60.8	Wisconsin	59.3
Mississippi	41.1	Wyoming	50.0

— Quantity zero.  
SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2014.

### 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 2014 NSLTCP used the same definition of residential care community and the same approach to create the sampling frame (Wiener, Lux, Johnson, & Greene, 2010) that 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, onsite supervision
  - Help with personal care such as bathing and dressing or health-related services, such as medication management

- Have four or more licensed, certified, or registered beds
- Have at least one resident currently living in the community
- Serve a predominantly adult population

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

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 was taken of residential care communities in the states that did not have sufficient numbers of residential care communities to enable state-level, sample-based estimation. From 40,583 communities in the sampling frame, 11,618 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 11,618 sampled residential care communities, 128 (1.4% weighted) communities were invalid or out of business. Additionally, 1,075 (10.6% weighted) communities in the sample were determined to be ineligible for other reasons during data collection. However, 5,380 communities (50.0% weighted) could not be contacted by the end of data collection, and therefore, the final eligibility status of these communities was unknown. Using the eligibility rate,<sup>42</sup> 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. Of the 9,232 in-scope and presumed in-scope residential care communities, 5,035 of them completed the survey questionnaire, for a weighted response rate (for differential probabilities of selection) of 49.6%, resulting in an estimated national total of 30,200 residential care communities and 835,200 residents.

Data were collected through three modes: self-administered, hard copy mail questionnaires; self-administered web questionnaires; and CATI interviews. The questionnaire was completed for 5,035 communities, for a weighted response rate (for differential probabilities of selection) of 49.6%.<sup>43</sup> Response rates by state are presented in [Table 4.2](#). Sample weights were adjusted to total the estimated number of eligible residential care communities (30,245).

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<sup>42</sup> 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.”

<sup>43</sup> Response rates are calculated using standards set by AAPOR. AAPOR Response Rate #4 calculations include assumptions of eligibility among potential respondents that are not interviewed. AAPOR Response Rate #4 formula was used to calculate response rates for residential care communities [completed questionnaires / (completed eligible questionnaires) + (eligibility rate  $\times$  cases of unknown eligibility)].

**Table 4.2. Response rates for residential care communities for the National Study of Long-Term Care Providers, by state**

Area	Rate	Area	Rate
United States	49.6	Missouri	73.1
Alabama	49.3	Montana	56.1
Alaska	46.8	Nebraska	69.3
Arizona	48.3	Nevada	56.8
Arkansas	73.8	New Hampshire	62.1
California	41.2	New Jersey	55.7
Colorado	56.9	New Mexico	54.0
Connecticut	54.0	New York	61.7
Delaware	52.8	North Carolina	48.0
District of Columbia	57.1	North Dakota	72.8
Florida	44.9	Ohio	62.8
Georgia	46.2	Oklahoma	58.3
Hawaii	50.0	Oregon	51.7
Idaho	50.2	Pennsylvania	61.9
Illinois	52.2	Rhode Island	68.4
Indiana	59.4	South Carolina	57.5
Iowa	78.6	South Dakota	70.9
Kansas	70.1	Tennessee	57.7
Kentucky	58.7	Texas	45.9
Louisiana	59.4	Utah	54.1
Maine	60.1	Vermont	67.7
Maryland	44.6	Virginia	61.8
Massachusetts	48.1	Washington	48.1
Michigan	44.4	West Virginia	49.0
Minnesota	58.8	Wisconsin	50.1
Mississippi	48.3	Wyoming	74.1

SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2014.

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

Estimates of the number of residential care community providers varied between the 2010 NSRCF and the 2012 NSLTCP. NCHS assessed these differences and concluded that they were largely related to the eligibility differences between the 2010 NSRCF and the 2012 NSLTCP. While both surveys used the same eligibility criteria, overall screener-based eligibility dropped from 81.0% in the 2010 NSRCF to 67.1%<sup>44</sup> in the 2012 NSLTCP (Table 4.3). This decrease in the screener-based eligibility rate was most pronounced for providers with small bed sizes (4 to 10 beds): a decrease from 63.6% in 2010 to 45.8% estimated in 2012. Given that the 2012 NSLTCP ( $n = 11,690$ ) had a much larger sample than NSRCF ( $n = 3,605$ ), and that small bed size providers make up the largest proportion of all residential care communities, the lower eligibility rate in 2012 compared with 2010 among small-sized residential care communities had a large effect on the differences in the eligibility rate for the two surveys.

<sup>44</sup> The screener-based eligibility rate was computed based on residential care communities that completed the screening questions [completed eligible / (completed eligible + completed ineligible)].

The discrepancy in eligibility between the 2010 NSRCF and the 2012 NSLTCP was likely due to differences in data collection modes used in 2010 (interviewer-administered CATI screener followed by in-person interview for eligible communities) and 2012 (primarily respondent self-administered screener and questionnaire completed by mail or web), and the resulting differences in how the respondents who self-administered the questionnaire interpreted the eligibility questions. In the 2012 NSLTCP, the most common eligibility criteria that providers, particularly small bed size residential care communities, did not meet, were provision of onsite, 24-hour supervision. Some respondents using the self-administered modes (i.e., hard copy questionnaire or web questionnaire) likely did not fully comprehend this question and may have screened themselves out of the study erroneously.<sup>45</sup> Cognitive testing was conducted to assess these eligibility questions, and preliminary findings supported this hypothesis. To address these differences, NCHS revised the eligibility question asking whether the residential care community provided 24-hour supervision.<sup>46</sup> Results from the 2014 wave indicated that the overall eligibility rate increased to 80.7%, similar to the 2010 NSRCF rate. However, the 2014 eligibility rates for all bed size categories except small providers (4–10 beds) were slightly lower compared with the 2010 NSRCF (Table 4.3) and may be attributed to mode differences between 2010 and 2014.

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

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

<sup>45</sup> For more information, see “Long-Term Care Services in the United States: 2013 Overview” (available from: [http://www.cdc.gov/nchs/data/nsltcp/long\\_term\\_care\\_services\\_2013.pdf](http://www.cdc.gov/nchs/data/nsltcp/long_term_care_services_2013.pdf)) and 2012 residential care community Readme document (available from: [http://www.cdc.gov/nchs/data/nsltcp/NSLTCP\\_RCC\\_Readme\\_RDC\\_Release.pdf](http://www.cdc.gov/nchs/data/nsltcp/NSLTCP_RCC_Readme_RDC_Release.pdf)).

<sup>46</sup> The eligibility question asking whether the residential care community provided 24-hour supervision is question 4 in the 2012 questionnaire ([http://www.cdc.gov/nchs/data/nsltcp/2012\\_NSLTCP\\_Residential\\_Care\\_Communities\\_Questionnaire.pdf](http://www.cdc.gov/nchs/data/nsltcp/2012_NSLTCP_Residential_Care_Communities_Questionnaire.pdf)) and question 6 in the 2014 questionnaire ([http://www.cdc.gov/nchs/data/nsltcp/2014\\_NSLTCP\\_Residential\\_Care\\_Communities\\_Questionnaire.pdf](http://www.cdc.gov/nchs/data/nsltcp/2014_NSLTCP_Residential_Care_Communities_Questionnaire.pdf)).

The estimated national number of residential care communities ranged from 31,100 in 2010 to 22,200 in 2012, and 30,200 in 2014 (Table 4.4). The number of beds was estimated at 971,900 in 2010, 851,400 in 2012, and 1,000,000 in 2014.

<b>Table 4.4. Residential care communities and beds, by bed size and survey year</b>						
Characteristic	2014 National Study of Long-Term Care Providers		2012 National Study of Long-Term Care Providers		2010 National Survey of Residential Care Facilities	
	Weighted number	Weighted percent	Weighted number	Weighted percent	Weighted number	Weighted percent
Number of residential care communities	30,200	100.0	22,200	100.0	31,100	100.0
Small (4–10 beds)	14,500	47.9	9,300	41.7	15,400	50.0
Medium (11–25 beds)	4,500	14.9	3,700	16.8	4,900	16.0
Large (26–100 beds)	9,100	30.1	7,300	32.7	8,700	28.0
Extra large (more than 100 beds)	2,100	7.0	1,900	8.7	2,100	7.0
Number of beds	1,000,000	100.0	851,400	100.0	971,900	100.0
Small (4–10 beds)	89,600	9.0	64,700	7.6	96,700	9.9
Medium (11–25 beds)	76,900	7.7	86,900	10.2	86,800	8.9
Large (26–100 beds)	522,600	52.3	434,800	51.1	493,800	50.8
Extra large (more than 100 beds)	310,900	31.1	265,000	31.1	294,600	30.3

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

## 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 for the Commonwealth of Puerto Rico and its municipalities. Demographic components of population change (births, deaths, and migration) were produced at the national, state, and county levels of geography. Additionally, housing unit estimates were produced for the country, states, and counties. Population estimates for each state and territory were not subject to sampling variation because the sources used in the demographic analysis were complete counts. For a more detailed description of the estimates methodology, see <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, 2014, were used (United States Census Bureau, 2014). For calculating rates for use by state for home health agencies and hospices, estimates of the population aged 65 and over for July 1, 2013, were used, to match the time frame of the administrative data for these sectors (United States Census Bureau, 2014).

## Comparing NSLTCP estimates with estimates from other data sources

### Administrative data

*Home health agencies*—Selected estimates from the 2014 merged home health file<sup>47</sup> were compared with estimates from different reports and data sources including: the Medicare Payment Advisory

<sup>47</sup> Created by linking CASPER home health file, IPBS home health file, and OBQI Case Mix Roll Up file by provider ID number.

Commission’s (MedPAC) 2013 “Report to the Congress: Medicare Payment Policy” (MedPAC, 2013); the 2013 Medicare & Medicaid Statistical Supplement<sup>48</sup> using data from the 2012 standard analytical files; and the Home Health Compare data of October 2014. Estimates also were compared with analyses on Medicare- or Medicaid-certified home health agencies that participated in NCHS’ 2007 National Home and Hospice Care Survey (NHHCS). Select provider and user characteristics were comparable with other data sources except certification status, age distribution of patients, and patients diagnosed with select conditions. About 1% of home health agencies in the 2014 merged home health file were Medicaid-only certified compared with 14% from NHHCS. About 18% of patients in the 2014 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 2014 home health merged file’s inclusion of fewer Medicaid-only certified home health agencies, and the fact that the 2014 merged file contains discharged home health patients rather than current home health patients (on whom the 2007 NHHCS collected data). Almost 10% of patients were reported to have diabetes in the 2013 Medicare & Medicaid Statistical Supplement, compared with 45.2% in the 2014 merged home health file. The former flagged a patient as having diabetes only, if diabetes was the first-listed or primary diagnosis listed for the patient, while the latter flagged a patient as having diabetes if diabetes was among all the diagnoses listed for the patient.

*Hospices*—Selected estimates from the 2014 merged hospice file<sup>49</sup> were compared with estimates on hospice care services provided in a MedPAC report using Medicare cost reports, 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 varied due to differences in the patient population each data source covered. NHHCS collected information on patients (not just Medicare beneficiaries) discharged from hospices in 2007 that were Medicare- or Medicaid-certified, pending certification, or state licensed; the 2014 merged hospice file included Medicare beneficiaries who received hospice services from Medicare-certified hospices in 2013.

*Nursing homes*—Estimates from the merged 2014 CASPER nursing home and MARET files were compared with estimates from the Nursing Home Data Compendium 2013 edition, custom tables created using Brown University’s LTCFocus website (Brown University),<sup>50</sup> and the skilled nursing facility services chapter of the MedPAC report (MedPAC, 2013). Provider-related estimates using the 2014 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 10% of non-Hispanic black nursing home residents presented in the MedPAC report (2013) using the 2010 Medicare Current Beneficiary Survey, about 14% of nursing home residents in 2014 were non-Hispanic black. Disparities in estimates could be due to differences in the population and the time frame used to obtain the estimates; the 2014 merged file included the latest assessment information on current residents (regardless of payer source) as of the third quarter of 2014, while MedPAC estimates were based on Medicare beneficiaries utilizing skilled nursing facility services in 2010.

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<sup>48</sup> Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareMedicaidStatSupp/index.html>.

<sup>49</sup> Created by linking CASPER hospice file and IPBS hospice file by provider ID number.

<sup>50</sup> Available from: <http://lctfocus.org>.

## Survey data

Estimates from the 2014 adult day services center and residential care community 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, 2012, and 2014 estimates for the number of residential care communities, beds, and residents were discussed earlier in this chapter. The 2014 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 services users were analyzed at the individual agency or facility level. Findings from administrative data on nursing homes, home health agencies, and hospices were treated as sample-based, and population standard errors were calculated to account for some random variability associated with the files. For the survey data for residential care communities and adult day services centers, point estimates and standard errors were calculated using appropriate design and weight variables to account for complex sampling, when applicable. For survey data,<sup>51</sup> statistical analysis weights were computed as the product of two components: the sampling weight (only for residential care communities in states where they were sampled) and adjustment for unknown eligibility due to nonresponse. To adjust the adult day services center and residential care community weights for unknown eligibility, the SUDAAN procedure WTADJUST (RTI International, 2012) was used; the procedure uses a constrained logistic model to predict known eligibility and to compute the unknown eligibility adjustment factors for the weights. Standard errors for survey data were computed using Taylor series linearization.

## Variance estimates

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

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

### Survey data: adult day services centers and residential care communities

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

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<sup>51</sup> 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.

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

### **Statistical significance tests**

All statements in Chapters 2 and 3 describing differences in estimates indicate that statistical testing was performed, and the differences between two point estimates were determined to be statistically significant at the 0.05 level. Differences among sectors were evaluated using *t* tests. All statistical significance tests were two-sided using  $p < 0.05$  as the significance level. Lack of comment regarding the difference between any two statistics does not necessarily mean that the difference was tested and found not to be statistically significant. Data analyses were performed using SAS version 9.3, the SAS-callable SUDAAN version 11.0.0 statistical package (RTI International, 2012), and STATA/SE 12.1 (StataCorp, 2013). 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, to inform respondents that 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 of the expected range. For instance, responses to items that needed to add up 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.,  $\pm 10\%$  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, and sex). Although administrative data were also reviewed for missing values and inconsistencies, the files did not go through the same data cleaning and editing as the survey data.

For both survey data 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, if the number of FTE social work employees was greater than 99, or if the number of FTE activities director or staff employees was greater than 99. For the definitions and categories of number of people served for each sector, see [Appendix A](#).

Cases with missing data were excluded from analyses on a variable-by-variable basis. For administrative data used to estimate characteristics of nursing home residents and home health patients, individual user-level information was rolled up to provider-level data. If a nursing home or home health agency had missing data on a given variable for 20% or more of its residents or patients, it was considered to not have enough data to provide an estimate representative of that nursing home or home health agency, and was coded as having missing data on the variable. Variables used in this report had a percentage (weighted if survey data, unweighted if administrative data) of cases with missing data ranging between 0.1% and 8.1%. The range

of cases with missing data for each sector is as follows:

- Adult day services center: 0.1% (Medicaid participation status) to 5.1% (number of participants treated in a hospital emergency department in the last 90 days)
- Home health agency: 7.1% to 7.9% of home health agencies on 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. In addition, 8.1% of home health agencies had no information on the number of patients who had utilized a hospital emergency department, including 7.1% of agencies with no patient information available in the OBQI data and 1.0% of agencies with missing data on the variable for 20% or more of its patients.
- Hospice: 6.2% of hospices 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: 1.7% (e.g., number of residents who are of Hispanic or Latino origin) of nursing homes for all resident demographic information due to nursing homes with no resident information available in MARET data. In addition, 6.4% of nursing homes had no information on the number of residents who had any falls, including 1.7% of nursing homes with no resident information available in the MARET data and close to 4.7% of nursing homes with missing data on the variable for 20% or more of its residents.
- Residential care community: 1.7% (e.g., ownership status) to 7.4% (e.g., number of social work employee FTEs)

## 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, reference periods used for adverse events). To the extent possible (i.e., when available and appropriate), findings were presented on a given topic for all five sectors. However, due to two types of data-related differences, for some topics in the report, information was provided for some but not all five sectors.

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

The second difference was attributable to differences among the administrative data sources used for nursing homes, home health agencies, and hospices. For example, the CASPER data did not include information on whether home health agencies offered mental health or counseling services, but 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., transportation services, electronic health records, and health information exchange). NCHS produced Data Briefs that presented additional results on adult day services centers and residential care communities, using survey data not included in this overview report. These latest reports are available from: [http://www.cdc.gov/nchs/nsltcp/nsltcp\\_products.htm](http://www.cdc.gov/nchs/nsltcp/nsltcp_products.htm).

## Differences in time frames among data sources

Different data sources had different time frames or reference periods. For instance, user-level data used for home health agencies (i.e., OBQI and IPBS home health data) and hospices (i.e., IPBS hospice data) were from patients who received home health or hospice care services at any time in calendar year 2013. In contrast, survey data on residential care community residents and adult day services center participants and CMS data on nursing home residents were from current services users in 2014. In this report, “current” participants or residents in 2014 refers to those participants enrolled in the adult day services center, or residents living in the nursing home or residential care community, on the day of data collection in 2014, rather than the total number of participants ever enrolled in the center or residents ever living in the nursing home or residential care community at any time throughout the 2014 calendar year. In other words, the estimated number of adult day services center participants represents current participants in 2014. The estimated number of home health patients represents patients who ended care in 2013 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2013. The estimated number of nursing home residents represents current residents in 2014. The estimated number of residential care community residents represents current residents in 2014. Given these differences in denominator, comparisons across all five sectors were not feasible for some variables.

## Age of administrative data

The administrative data for home health agencies, hospices, and nursing homes were collected to support the survey and certification function of CMS in these different sectors; both the content and the frequency with which the certification surveys were conducted differ across these three provider sectors. Consistent with the required frequency for the recertification survey, CASPER data on virtually all nursing homes were under 18 months old, 88.0% of CASPER home health agency data were no more than 3 years old, and 94.3% of CASPER hospice data were no more than 8 years old. When these relatively older home health agency and hospice data were linked to user-level data of calendar year 2013, 7.1% of home health agencies and 6.2% of hospices in the CASPER files did not match with provider ID numbers in OBQI and IPBS hospice data, respectively. It is possible that home health agencies and hospices with missing patient-level information might no longer be operational or might have begun operating in 2014,<sup>52</sup> so that their patient information was not captured in the user-level data from 2013.

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<sup>52</sup> Of 888 home health agencies that did not match with provider numbers in OBQI data, about 62% had completed the agency’s initial certification survey in 2014.

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## References

- Alzheimer's Association. 2013 Alzheimer's disease facts and figures. *Alzheimer's & dementia*. Volume 9, Issue 2. 2013. Available from: [http://www.alz.org/downloads/facts\\_figures\\_2013.pdf](http://www.alz.org/downloads/facts_figures_2013.pdf).
- Alzheimer's Association. 2015 Alzheimer's disease facts and figures. 2015. Available from: <http://www.alz.org/facts/>.
- Bipartisan Policy Center. America's long-term care crisis: Challenges in financing and delivery. 2014. Available from: <http://bipartisanpolicy.org/wp-content/uploads/2014/03/BPC-Long-Term-Care-Initiative.pdf>.
- Bostick JE, Rantz MJ, Flesner MK, Riggs CJ. Systematic review of studies of staffing and quality in nursing homes. *J Am Med Dir Assoc* 7(6):366–76. 2006.
- Brown University. Shaping Long Term Care in America Project: LTCFocus.org. Available from: <http://lctfocus.org/>.
- Caffrey C, Sengupta M, Park-Lee E, et al. Residents living in residential care facilities: United States, 2010. NCHS data brief, no. 91. Hyattsville, MD: National Center for Health Statistics. 2012. Available from: <http://www.cdc.gov/nchs/data/databriefs/db91.pdf>.
- Castle NG, Engberg J. The influence of staffing characteristics on quality of care in nursing homes. *Health Serv Res* 42(5):1822–47. 2007.
- Colello KJ, Mulvey J, Talaga SR. Long-term services and supports: overview and financing. Congressional Research Service Report R42345. 2013. Available from: [http://digital.library.unt.edu/ark:/67531/metadc462393/m1/1/high\\_res\\_d/R42345\\_2013Apr04.pdf](http://digital.library.unt.edu/ark:/67531/metadc462393/m1/1/high_res_d/R42345_2013Apr04.pdf).
- Collier E, Harrington C. Staffing characteristics, turnover rates, and quality of resident care in nursing facilities. *Res Gerontol Nurs* 1(3):157–70. 2008.
- Congressional Budget Office. Financing long-term care for the elderly. 2004.
- Congressional Budget Office. Rising demand for long-term services and supports for elderly people. 2013. Available from: <http://www.cbo.gov/sites/default/files/cbofiles/attachments/44363-LTC.pdf>.
- Decker FH. Nursing Homes, 1977–99: What has changed, what has not? National Center for Health Statistics. 2005. Available from: [http://www.cdc.gov/nchs/data/nhhd/nursinghomes1977\\_99.pdf](http://www.cdc.gov/nchs/data/nhhd/nursinghomes1977_99.pdf).
- Doty P. The evolving balance of formal and informal, institutional and non-institutional long-term care for older Americans: A thirty-year perspective. *Public Policy & Aging Report* (20)1:3–9. 2010.
- Favreault M, Dey J. Long-term services and supports for older Americans: Risks and financing. ASPE Research Brief. 2015.
- Feder J, Komisar HL. The importance of federal financing to the nation's long-term care safety net. Georgetown University. 2012.
- Federal Interagency Forum on Aging-Related Statistics. Older Americans 2012: Key indicators of well-being. 2012.
- Freedman VA, Spillman BC. Disability and care needs among older Americans. *Milbank Q* 92(3):509–541. 2014.

Genworth. Genworth 2012 cost of care survey: Home care providers, adult day health care facilities, assisted living facilities and nursing homes. 2012.

Hartman M, Martin AB, Benson J, Catlin A, National Health Expenditure Accounts Team. National health spending in 2011: Overall growth remains low, but some payers and services show signs of acceleration. *Health Aff (Millwood)* 32(1):87–99. 2013.

HHS. LongTermCare.gov. Washington, DC. Available from: <http://longtermcare.gov/the-basics/what-is-long-term-care/>.

HHS. Office of the Assistant Secretary for Planning and Evaluation. The future supply of long-term care workers in relation to the aging baby boom generation: Report to Congress. 2003. Available from: <https://aspe.hhs.gov/sites/default/files/pdf/72961/lcwork.pdf>.

HHS. Office of the Assistant Secretary for Planning and Evaluation. The supply and demand of professional social workers providing long-term care services: Report to Congress. 2006. Available from: <http://aspe.hhs.gov/daltcp/reports/2006/SWsupply.htm>.

HHS. Office of Inspector General. Medicare hospices: Certification and Centers for Medicare & Medicaid Services oversight. 2007. Available from: <http://oig.hhs.gov/oei/reports/oei-06-05-00260.pdf>.

Houser A, Fox-Grage W, Ujvari K. Across the states: Profiles of long-term services and supports. Executive summary, state data, and rankings. 9th ed. 2012.

Institute of Medicine. Retooling for an aging America: Building the health care workforce. Washington, DC: National Academies Press. 2008. Available from: <http://www.iom.edu/Reports/2008/Retooling-for-an-Aging-America-Building-the-Health-Care-Workforce.aspx>.

Johnson RW, Toohey D, Wiener JM. Meeting the long-term care needs of the baby boomers: How changing families will affect paid helpers and institutions. The Urban Institute. 2007.

Kaye HS. Disability rates for working-age adults and for the elderly have stabilized, but trends for each mean different results for costs. *Health Aff (Millwood)* 32(1):127–134. 2013.

Kaye HS, Harrington C, LaPlante MP. Long-term care: Who gets it, who provides it, who pays, and how much? *Health Aff (Millwood)* 29(1):11–21. 2010.

Kemper P, Komisar HL, Alexih L. Long-term care over an uncertain future: What can current retirees expect? *Inquiry* 42(4):335–50. 2005–2006.

Medicare Payment Advisory Commission. Report to the Congress: Medicare payment policy. Chapter 8: Skilled nursing facility services, Chapter 9: Home health care services, Chapter 12: Hospice services. 2013. Available from: [http://medpac.gov/documents/reports/mar13\\_entirereport.pdf](http://medpac.gov/documents/reports/mar13_entirereport.pdf).

MetLife Mature Market Institute. The MetLife National Study of Adult Day Services: Providing support to individuals and their family caregivers. 2010. Available from: <https://www.metlife.com/assets/cao/mmi/publications/studies/2010/mmi-adult-day-services.pdf>.

MetLife Mature Market Institute. Market Survey of Long-Term Care Costs: The 2012 MetLife Market Survey of Nursing Home, Assisted Living, Adult Day Services, and Home Care Costs. 2012.

Mollica RL. State Medicaid reimbursement policies and practices in assisted living. National Center for Assisted Living. 2009.

Moss AJ, Harris-Kojetin LD, Sengupta M, et al. Design and operation of the 2010 National Survey of Residential Care Facilities. National Center for Health Statistics. *Vital Health Stat* 1(54). 2011. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_01/sr01\\_054.pdf](http://www.cdc.gov/nchs/data/series/sr_01/sr01_054.pdf).

National Association for Home Care & Hospice, Hospital and Healthcare Compensation Service. Homecare salary & benefits report 2009–2010. Table 9: Home health care visit staff productivity (actual visits performed). 2009. In: *Basic statistics about home care: updated 2010*. Available from: [http://www.nahc.org/assets/1/7/10HC\\_Stats.pdf](http://www.nahc.org/assets/1/7/10HC_Stats.pdf).

Office of Management and Budget. Update of statistical area definitions and guidance on their uses. OMB Bulletin No10–02. 2009. Available from: <https://www.whitehouse.gov/sites/default/files/omb/assets/bulletins/b10-02.pdf>.

O'Malley Watts M, Musumeci MB, Reaves E. How is the Affordable Care Act leading changes in Medicaid long-term services and supports (LTSS) today? State adoption of six LTSS options. The Henry J. Kaiser Family Foundation. 2013. Available from: <http://kaiserfamilyfoundation.files.wordpress.com/2013/04/8079-02.pdf>.

O'Shaughnessy C. The basics: National spending for long-term services and supports (LTSS), 2012. 2014. Available from: [http://www.nhpf.org/library/the-basics/Basics\\_LTSS\\_03-27-14.pdf](http://www.nhpf.org/library/the-basics/Basics_LTSS_03-27-14.pdf).

Paraprofessional Healthcare Institute. America's direct-care workforce. November 2013 update. 2013. Available from: <http://phinational.org/sites/phinational.org/files/phi-facts-3.pdf>.

Reinhard SC, Kassner E, Houser A, Mollica R. Raising expectations: A state scorecard on long-term services and supports for older adults, people with physical disabilities, and family caregivers. 2011. Available from: [http://www.longtermscorecard.org/~/\\_media/Microsite/Files/Reinhard\\_raising\\_expectations\\_LTSS\\_scorecard\\_REPORT\\_WEB\\_v5.pdf](http://www.longtermscorecard.org/~/_media/Microsite/Files/Reinhard_raising_expectations_LTSS_scorecard_REPORT_WEB_v5.pdf).

RTI International. SUDAAN user's manual (Release 11.0.0) [computer software]. 2012.

Scully D, Cho EG, Hall JM, Walter K, Walls J, Fox-Grage W, Ujvari K. At the crossroads: Providing long-term services and supports at a time of high demand and fiscal constraint. 2013. Available from: [http://www.aarp.org/content/dam/aarp/research/public\\_policy\\_institute/health/2013/crossroads-full-AARP-ppi-health.pdf](http://www.aarp.org/content/dam/aarp/research/public_policy_institute/health/2013/crossroads-full-AARP-ppi-health.pdf).

Spetz J, Trupin L, Bates T, Coffman JM. Future demand for long-term care workers will be influenced by demographic and utilization changes. *Health Aff (Millwood)* 34(6):936–45. 2015.

Spillman BC, Lubitz J. New estimates of lifetime nursing home use: Have patterns of use changed? *Med Care* 40(10):965–75. 2002.

StataCorp LP. Stata statistical software (Release 12.1) [computer software]. 2013.

Stearns SC, Park J, Zimmerman S, Gruber-Baldini AL, Konrad TR, Sloane PD. Determinants and effects of nurse staffing intensity and skill mix in residential care/assisted living settings. *Gerontologist* 47(5):662–71. 2007.

Stone RI. Chapter 22: Emerging issues in long-term care. In: Binstock RH, George LK, Cutler SJ, Hendricks J, Schulz JH (editors). *Handbook of aging and the social sciences*. 6th ed. Waltham, MA: Academic Press. 397–418. 2006.

The Lewin Group. Medicaid and long-term care: New challenges, new opportunities, and implications for a comprehensive national long-term care strategy. Prepared for Genworth Financial. 2010. Available from:

[http://www.lewin.com/content/dam/Lewin/Resources/Site\\_Sections/Publications/GenworthMedicaidandLTCTFinalReport62310.pdf](http://www.lewin.com/content/dam/Lewin/Resources/Site_Sections/Publications/GenworthMedicaidandLTCTFinalReport62310.pdf).

The SCAN Foundation. Who provides long-term care in the U.S.? (Updated). 2012. Available from: [http://www.thescanfoundation.org/sites/default/files/us\\_who\\_provides\\_ltc\\_us\\_oct\\_12\\_fsrevised-10-10-13.pdf](http://www.thescanfoundation.org/sites/default/files/us_who_provides_ltc_us_oct_12_fsrevised-10-10-13.pdf).

The SCAN Foundation. Who pays for long-term care in the U.S.? (Updated). 2013. Available from: [http://www.thescanfoundation.org/sites/thescanfoundation.org/files/who\\_pays\\_for\\_ltc\\_us\\_jan\\_2013\\_fs.pdf](http://www.thescanfoundation.org/sites/thescanfoundation.org/files/who_pays_for_ltc_us_jan_2013_fs.pdf).

United States Census Bureau. Population projections. 2012 National population projections: Summary tables. Table 2. Projections of the population by selected age groups and sex for the United States: 2015 to 2060, Table 3. Percent distribution of the projected population by selected age groups and sex for the United States: 2015 to 2060. Washington, DC. Available from: <http://www.census.gov/population/projections/data/national/2012/summarytables.html>.

United States Census Bureau. Population estimates. National Characteristics: Vintage 2014. Annual estimates of the resident population by sex, age, race, and Hispanic origin for the United States and states: April 1, 2010 to July 1, 2014. Available from: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.

U.S. Senate Commission on Long-Term Care. Report to the Congress. 2013. Available from: <http://www.gpo.gov/fdsys/pkg/GPO-LTCCOMMISSION/pdf/GPO-LTCCOMMISSION.pdf>.

Vincent GK, Velkoff VA. The next four decades: The older population in the United States: 2010 to 2050. Current Population Reports P25–1138. 2010.

White House Conference on Aging Staff. Long-term services and supports policy brief. In: 2015 White House Conference on Aging. Washington, DC: U.S. Department of Health and Human Services. 2015. Available from: <http://www.whitehouseconferenceonaging.gov/blog/policy/post/long-term-services-and-supports>.

Wiener JM. After CLASS: The Long-Term Care Commission's search for a solution. Health Aff (Millwood) 32(5):8314. 2013.

Wiener JM, Lux L, Johnson R, Greene AM. National Survey of Residential Care Facilities: Sample frame construction and benchmarking report. 2010. Available from: <https://aspe.hhs.gov/sites/default/files/pdf/76086/sfconst.pdf>.

# Appendix A

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## Crosswalk of Definitions by Sector

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires available from: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Supply of long-term care services providers, by sector</b>							
<b>Number of providers</b>	Number of paid, regulated long-term care services providers	Number of adult day services centers based on 2014 NSLTCP survey of adult day services centers	Number of assisted living and similar residential care communities based on 2014 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 2014	Number of hospices certified to provide services under Medicare, Medicaid, or both in the third quarter of 2014	Number of nursing homes certified to provide services under Medicare, Medicaid, or both in the third quarter of 2014	Study-specific eligibility criteria were used to define residential care communities. See Technical Notes for information on eligibility criteria.
<b>Region</b>	Grouping of conterminous states into geographic areas corresponding to groups used by the United States Census Bureau. A map showing the states included in each of the four U.S. Census regions is available from: <a href="http://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf">http://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf</a> .	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	...
<b>Metropolitan statistical area (MSA) and micropolitan statistical area</b>	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	<b>All provider types:</b> Used 2013 OMB standards for delineating metropolitan and micropolitan statistical areas.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires available from: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Supply of long-term care services providers, by sector</b>							
<b>Capacity</b>	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.	Q2. At this residential care community, what is the number of licensed, registered, or certified residential care beds? Include both occupied and unoccupied beds.	...	...	Derived from: [CRTFD_BED_CNT]  Number of beds in Medicare- or Medicaid-certified areas within a facility.	<b>NH:</b> 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.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Organizational characteristics of long-term care services providers, by sector</b>							
<b>Ownership</b>	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]  Q5. 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 2. Else if OWNERSHP=1, code OWN=1; Else OWN = 3.	1= For profit 2= Nonprofit 3= Government and other  Derived from: [OWNERSHP]  Q8. What is the type of ownership of this residential care community? 1= Private, nonprofit 2= Private, for profit 3= Publicly traded company/ LLC 4= Government (federal, state, county, local)  If OWNERSHP= 3, code OWN as 2. Else if OWNERSHP=1, code OWN=1; Else OWN = 3.	1= For profit 2= Nonprofit 3= Government and other  Derived from: [GNRL_CNTL_TYPE_CD]  01= Voluntary NP, religious affiliation 02= Voluntary NP, private 03= Voluntary NP, other 04= Proprietary 05= Government, state/ county 06= Government, Combination Government and Voluntary 07= Government, Local  If GNRL_CNTL_TYPE_CD='01', '02', '03', code HHA as OWN=2; Else if GNRL_CNTL_TYPE_CD='04', code HHA as OWN=1; Else OWN=3;	1= For profit 2= Nonprofit 3= Government and other  Derived from: [GNRL_CNTL_TYPE_CD]  01= Nonprofit, Church 02= Nonprofit, Private 03= Nonprofit, Other 04= Proprietary, Individual 05= Proprietary, Partnership 06= Proprietary, Corporation 07= Proprietary, Other 08= Government, State 09= Government, County 10= Government, City 11= Government, City-County 12= Combination Government and NP 13= Other  If GNRL_CNTL_TYPE_CD='01', '02', '03', code HOS as OWN=2; Else if GNRL_CNTL_TYPE_CD='04', '05', '06', '07', code HOS as OWN=1; Else OWN=3;	1= For profit 2= Nonprofit 3= Government and other  Derived from: [GNRL_CNTL_TYPE_CD]  01= For profit, individual 02= For profit, partnership 03= For profit, corporation 04= Nonprofit, church related 05= Nonprofit, corporation 06= Nonprofit, other 07= Government, state 08= Government, county 09= Government, city 10= Government, city/county 11= Government, hospital district 12= Government, federal 13= Limited Liability Company  If GNRL_CNTL_TYPE_CD='01', '02', '03', '13', OWN=1; Else if GNRL_CNTL_TYPE_CD='04', '05', '06', OWN=2; Else OWN=3;	...
<b>Number of people served</b>	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 2013 (hospices), or the number of patients who ended an episode of care at any time in calendar year 2013 (home health agencies).	1= 1-25 2= 26-100 3= 101 or more  Derived from: [AVGPART]  Q2. Based on a typical week, what is the approximate average daily attendance at this center at this location? Include respite care participants.	1= 1-25 2= 26-100 3= 101 or more  Derived from: [TOTRES]  Q5. What is the total number of residents currently living at this residential care community? 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 2013 (i.e., discharges), regardless of payment source.	1= 1-100 2= 101-300 3= 301 or more  Derived from: [BENE_CNT in Institutional Provider and Beneficiary Summary (IPBS) hospice data]  Number of hospice care patients for whom Medicare-certified hospice care agencies submitted a Medicare claim at any time in calendar year 2013.	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.	...

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Organizational characteristics of long-term care services providers, by sector</b>							
<b>Medicare certification</b>	Refers to Medicare certification status of home health agencies, hospices, and nursing homes	...	...	1= Certified 2= Not certified  Derived from: [PGM_PRTCPTN_CD]  Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID	1= Certified 2= Not certified  All hospices included in CASPER are assumed to be Medicare-certified.	1= Certified 2=Not certified  Derived from: [PGM_PRTCPTN_CD]  Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID	...
<b>Medicaid certification</b>	Refers to Medicaid certification or participation status	1= Certified 2= Not certified  Derived from: [MEDICAID]  Q1_b. Is this adult day services center authorized or otherwise set up to participate in Medicaid?	1= Certified 2= Not certified  Derived from: [MEDICAID]  Q10. Is this residential care community authorized or otherwise set up to participate in Medicaid?	1= Certified 2= Not certified  Derived from: [PGM_PRTCPTN_CD]  Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID	---	1= Certified 2= Not certified  Derived from: [PGM_PRTCPTN_CD]  Indicates if the provider participates in Medicare, Medicaid, or both programs. 1= MEDICARE ONLY 2= MEDICAID ONLY 3= MEDICARE AND MEDICAID	...
<b>Chain affiliation</b>	Refers to chain affiliation status of adult day services centers, residential care communities, and nursing homes	Q6. Is this center owned by a person, group, or organization that owns or manages two or more adult day services centers? This may include a corporate chain.	Q9. Is this residential care community owned by a person, group, or organization that owns or manages two or more residential care communities? This may include a corporate chain.	---	---	Derived from: [MLT_OWND_FAC_ORG_SW]  Owned or leased by Multi-Facility Organization  Check "yes" if the facility is owned or leased by a multi-facility organization, otherwise check "no." A Multi-Facility Organization is an organization that owns two or more long term care facilities. The owner may be an individual or a corporation. Leasing of facilities by corporate chains is included in this definition.	...

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Staffing: Nursing, social work, and activities employees, by sector</b>							
<b>Registered nurse</b>	Number of full-time equivalent (FTE) registered nurse (RN) employees (based on a 35-hour work week)	Derived RNFTE1 from: [RNFT1, RNPT1]  Q14a_a. RNs: Number of full-time center employees, Number of part-time center employees.	Derived RNFTE1 from: [RNFT1, RNPT1]  Q17a_a. RNs: Number of full-time residential care community employees, Number of part-time residential care community employees.	Derived RNFTE1 from: [RN_CNT]  Number of full-time equivalent registered professional nurses employed by a provider	Derived RNFTE1 from: [RN_CNT]  Number of full-time equivalent registered professional nurses employed by a provider	Derived RNFTE1 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.	<p><b>ADSC, RCC:</b> Number of full-time and the number of 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.</p> <p><b>HHA, HOS:</b> Number of FTE employees by staff type is provided in administrative data.</p> <p><b>NH:</b> 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).</p> <p><b>All provider types:</b> Outliers are defined as cases with FTEs that are two standard deviations above or below the mean for a given size category, and recoded as the size-specific mean of FTE for the given staff type. See Technical Notes for more information on editing of the staffing data.</p>

Definition	Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)		
<b>Staffing: Nursing, social work, and activities employees, by sector</b>							
<b>Licensed practical nurse (LPN) or licensed vocational nurse (LVN)</b>	Number of FTE licensed practical nurse or licensed vocational nurse employees (based on a 35-hour work week)	Derived LPNFTE1 from: [LPNFT1, LPNPT1]  Q14b_a. LPNs/LVNs: Number of full-time center employees, Number of part-time center employees.	Derived LPNFTE1 from: [LPNFT1, LPNPT1]  Q17b_a. LPNs/LVNs: Number of full-time residential care community employees, Number of part-time residential care community employees.	Derived LPNFTE1 from: [LPN_LVN_CNT]  Number of full-time equivalent licensed practical or vocational nurses employed by a facility	Derived LPNFTE1 from: [LPN_LVN_CNT]  Number of full-time equivalent licensed practical or vocational nurses employed by a facility	Derived LPNFTE1 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 full-time basis; Number of full-time equivalent licensed practical or vocational nurses employed by a facility on a part-time basis.	<p><b>ADSC, RCC:</b> Number of full-time and the number of 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.</p> <p><b>HHA, HOS:</b> Number of FTE employees by staff type is provided in administrative data.</p> <p><b>NH:</b> 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).</p> <p><b>All provider types:</b> Outliers are defined as cases with FTEs that are two standard deviations above or below the mean for a given size category, and recoded as the size-specific mean of FTE for the given staff type. See Technical Notes for more information on editing of the staffing data.</p>

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Staffing: Nursing, social work, and activities employees, by sector</b>							
<b>Aide</b>	<p>Number of FTE aide employees (based on a 35-hour work week)</p> <p>Aides refer to paid staff providing direct care and assistance to residents, participants, or patients with a broad range of activities. Different terms are used to describe aides in different data sources. For adult day services centers and residential care communities, aides include certified nursing assistants, home health aides, home care aides, personal care aides, personal care assistants, and medication technicians or medication aides who are employees of a community or center. For home health agencies and hospices, aides refer to home health aides employed by the agency. For nursing homes, aides refer to certified nurse aides, and medication aides or technicians who are facility employees.</p>	<p>Derived AIDEFTE1 from: [AIDEFT1, AIDEPT1]</p> <p>Q14c_a. 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, Number of part-time center employees.</p>	<p>Derived AIDEFTE1 from: [AIDEFT1, AIDEPT1]</p> <p>Q17c_a. 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, Number of part-time residential care community employees.</p>	<p>Derived AIDEFTE1 from: [HH_AIDE_CNT]</p> <p>Number of full-time equivalent home health aides employed by a home health agency</p>	<p>Derived AIDEFTE1 from: [HH_AIDE_EMPLEE_CNT]</p> <p>Number of full-time equivalent home health aides employed by a hospice</p>	<p>Derived AIDFTE1 from: [NRS_AIDE_FLTM_CNT, NRS_AIDE_PRTM_CNT, MDCTN_AIDE_FLTM_CNT, MDCTN_AIDE_PRTM_CNT]</p> <p>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.</p>	<p><b>ADSC, RCC:</b> Number of full-time and the number of 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.</p> <p><b>HHA, HOS:</b> Number of FTE employees by staff type is provided in administrative data.</p> <p><b>NH:</b> 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).</p> <p><b>All provider types:</b> Outliers are defined as cases with FTEs that are two standard deviations above or below the mean for a given size category, and recoded as the size-specific mean of FTE for the given staff type. See Technical Notes for more information on editing of the staffing data.</p>

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Staffing: Nursing, social work, and activities employees, by sector</b>							
<b>Social worker</b>	Number of FTE social worker employees (based on a 35-hour work week)	Derived SOCWFTE1 from: [SOCWFT1, SOCWPT1]  Q14d_a. Social workers—licensed social workers or persons with a bachelor's or master's degree in social work: Number of full-time center employees, Number of part-time center employees.	Derived SOCWFTE1 from: [SOCWFT1, SOCWPT1]  Q17d_a. 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, Number of part-time residential care community employees.	Derived SOCWFTE1 from: [SCL_WORKR_CNT]  Number of full-time equivalent social workers employed by the agency	Derived SOCWFTE1 from: [MDCL_SCL_WORKR_CNT]  Number of full-time equivalent medical social workers employed by a hospital or hospice	Derived SOCWFTE1 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.	<p><b>ADSC, RCC:</b> Number of full-time and the number of 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.</p> <p><b>HHA, HOS:</b> Number of FTE employees by staff type is provided in administrative data.</p> <p><b>NH:</b> 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).</p> <p><b>All provider types:</b> Outliers are defined as cases with FTEs that are two standard deviations above or below the mean for a given size category, and recoded as the size-specific mean of FTE for the given staff type. See Technical Notes for more information on editing of the staffing data.</p>

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Staffing: Nursing, social work, and activities employees, by sector</b>							
<b>Activities directors or activities staff</b>	Number of FTE activities directors or activities employees (based on a 35-hour work week)	Derived ACTFTE1 from: [ACTFT1, ACTPT1]  Q14e_a. Activities directors or activities staff: Number of full-time residential care community employees, Number of part-time residential care community employees.	Derived ACTFTE1 from: [ACTFT1, ACTPT1]  Q17e_a. Activities directors or activities staff: Number of full-time residential care community employees, Number of part-time residential care community employees.	---	---	Derived ACTFTE1 from: [ACTVY_PROFNL_FLTM_CNT, ACTVY_PROFNL_PRTM_CNT, ACTVY_STF_OTHR_FLTM_CNT, ACTVY_STF_OTHR_PRTM_CNT)  Number of full-time equivalent activity professionals employed full-time by a facility; Number of full-time equivalent activity professionals employed part-time by a facility; Number of full-time equivalent other activities staff providing therapeutic services employed full time by a facility; Number of full-time equivalent other activities staff providing therapeutic services employed part time by a facility.	<b>ADSC, RCC:</b> Number of full-time and the number of 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. <b>HHA, HOS:</b> Number of FTE employees by staff type is provided in administrative data. <b>NH:</b> 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).  <b>All provider types:</b> Outliers are defined as cases with FTEs that are two standard deviations above or below the mean for a given size category, and recoded as the size-specific mean of FTE for the given staff type. See Technical Notes for more information on editing of the staffing data.

Definition	Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)		
<b>Staffing: Nursing, social work, and activities employees, by sector</b>							
<b>Hours per resident or participant per day (HPPD)</b>	Refers to the number of hours providing care for one resident or participant per day for a given staff type. For adult day services centers, HPPD for a given staff type was computed by multiplying the number of FTEs for the staff type by 35 hours, and dividing the total number of hours for the staff type by average daily attendance of participants and by 5 days. For nursing homes and residential care communities, the number of FTEs for a given staff was converted into hours by multiplying by 35 hours for the staff type, and dividing the total number of hours for the staff type by the number of current residents in the facility, and by 7 days, to arrive at the HPPD.	Derived from: [RNFTE1, LPNFTE1, AIDEFTE1, SOCWFTE1, ACTFTE1, AVGPART]  RNHPPD1 = (RNFTE1 * 35) / AVGPART / 5 days; LPNHPPD1 = (LPNFTE1 * 35) / AVGPART / 5 days; AIDEHPPD1 = (AIDEFTE1 * 35) / AVGPART / 5 days SOCWHPPD1 = (SOCWFTE1 * 35) / AVGPART / 5 days; ACTHPPD1 = (ACTFTE1 * 35) / AVGPART / 5 days	Derived from: [RNFTE1, LPNFTE1, AIDEFTE1, SOCWFTE1, ACTFTE1, TOTRES]  RNHPPD1 = (RNFTE1 * 35) / TOTRES / 7 days; LPNHPPD1 = (LPNFTE1 * 35) / TOTRES / 7 days; AIDEHPPD1 = (AIDEFTE1 * 35) / TOTRES / 7 days; SOCWHPPD1 = (SOCWFTE1 * 35) / TOTRES / 7 days; ACTHPPD1 = (ACTFTE1 * 35) / TOTRES / 7 days;	---	---	"Derived from: [RNFTE, LPNFTE, AIDEFTE, SOCWFTE, CNSUS_RSDNT_CNT]  RNHPPD1 = (RNFTE1 * 35) / CNSUS_RSDNT_CNT / 7 days; LPNHPPD1 = (LPNFTE1 * 35) / CNSUS_RSDNT_CNT / 7 days; AIDEHPPD1 = (AIDEFTE1 * 35) / CNSUS_RSDNT_CNT / 7 days; SOCWHPPD1 = (SOCWFTE1 * 35) / CNSUS_RSDNT_CNT / 7 days ACTHPPD1 = (ACTFTE1 * 35) / CNSUS_RSDNT_CNT / 7 days;"	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.

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	Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)		
<b>Services provided by long-term care services providers, by sector</b>							
<b>Social work services</b>	<p>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.</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVSOCW1, SERVSOCW2, SERVSOCW3, SERVSOCW4, SERVSOCW5]</p> <p>Q12_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</p> <p>1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVSOCW1, SERVSOCW2, SERVSOCW3, SERVSOCW4, SERVSOCW5]</p> <p>Q15_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</p> <p>1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [MDCL_SCL_SRVC_CD]</p> <p>Indicates how medical social services are provided. 0= NOT PROVIDED 1= PROVIDED BY STAFF 2= PROVIDED UNDER ARRANGEMENT 3= COMBINATION</p> <p>If MCDL_SCL_SRVC_CD=0, SERVSOCW=2; else if MDCL_SCL_SRVC_CD &gt;0, SERVSOCW=1;</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [MDCL_SCL_SRVC_CD]</p> <p>Indicates how medical social services are provided. 0= NOT PROVIDED 1= PROVIDED BY STAFF 2= PROVIDED UNDER ARRANGEMENT 3= COMBINATION</p> <p>If MCDL_SCL_SRVC_CD=0, SERVSOCW=2; else if MDCL_SCL_SRVC_CD &gt;0, SERVSOCW=1;</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [SCL_WORK_SRVC_ONST_RSDNT_SW, SCL_WORK_SRVC_ONST_NRSNDNT_SW, SCL_WORK_SRVC_OFFSITE_RSDNT_SW]</p> <p>1) Qualified social workers services 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;</p> <p>If "No" to 1), 2), and 3), SERVSOCW=2; Else SERVSOCW=1;</p>	<p><b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about different services that ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors paid by others, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.</p>

Definition	Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)		
<b>Services provided by long-term care services providers, by sector</b>							
<b>Mental health or counseling services</b>	<p>Mental health services in survey data refer to services that target a 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" (<a href="http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf">http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf</a>).</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVMH1, SERVMH2, SERVMH3, SERVMH4, SERVMH5]</p> <p>Q12_d. Mental health services—target participants' mental, emotional, psychological, or psychiatric well-being and include diagnosing, describing, evaluating, and treating mental conditions</p> <p>1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVMH1, SERVMH2, SERVMH3, SERVMH4, SERVMH5]</p> <p>Q15_d. Mental health services—target residents' mental, emotional, psychological, or psychiatric well-being and include diagnosing, describing, evaluating, and treating mental conditions</p> <p>1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	---	<p>1= Provided 2= Not provided</p> <p>Derived from: [CNSLNG_SRVC_CD]</p> <p>Counseling services 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination</p> <p>If CNSLNG_SRVC_CD=0, SERVMH=2; else if CNSLNG_SRVC_CD &gt;0, SERVMH=1;</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [MENTL_HLTH_ONST_RSDNT_SW, MENTL_HLTH_ONST_NRSRSDNT_SW, MENTL_HLTH_OFSITE_RSDNT_SW]</p> <p>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;</p> <p>If "No" to 1), 2), and 3), SERVMH=2; Else SERVMH=1;</p>	<p><b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about different services that ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors, by arranging for outside vendors paid by others, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.</p>

Definition	Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)		
<b>Services provided by long-term care services providers, by sector</b>							
<b>Therapeutic services</b>	<p>Refers to providing any of the three therapeutic services: physical therapy, occupational therapy, or speech therapy or pathology.</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVTX1, SERVTX2, SERVTX3, SERVTX4, SERVTX5]</p> <p>Q12_e. Any therapeutic services—physical, occupational, or speech</p> <p>1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVTX1, SERVTX2, SERVTX3, SERVTX4, SERVTX5]</p> <p>Q15_e. Any therapeutic services—physical, occupational, or speech</p> <p>1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [PT_SRVC_CD, OT_SRVC_CD, SPCH_THRPY_SRVC_CD]</p> <p>Physical therapy, occupational therapy, or speech therapy</p> <p>0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination</p> <p>If PT_SRVC_CD=0 AND OT_SRVC_CD=0 AND SPCH_THRPY_SRVC_CD=0, SERVTX=2; Else SERVTX=1;</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [PT_SRVC_CD, OT_SRVC_CD, SPCH_PTHLGY_SRVC_CD]</p> <p>Physical therapy, occupational therapy, or speech pathology</p> <p>0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination</p> <p>If PT_SRVC_CD=0 AND OT_SRVC_CD=0 AND SPCH_PTHLGY_SRVC_CD=0, SERVTX=2; Else SERVTX=1;</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [PT_ONST_RSDNT_SW, PT_ONST_NRSRSDNT_SW, PT_OFSITE_RSDNT_SW, OT_SRVC_ONST_RSDNT_SW, OT_SRVC_ONST_NRSRSDNT_SW, OT_SRVC_OFSITE_RSDNT_SW, SPCH_PTHLGY_ONST_RSDNT_SW, SPCH_PTHLGY_ONST_NRSRSDNT_SW, SPCH_PTHLGY_OFSITE_RSDNT_SW]</p> <p>Physical therapist services, occupational therapist services, or speech or language pathologists</p> <p>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;</p> <p>If "No" to all 9 variables, SERVTX=2; Else SERVTX=1;</p>	<p><b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about different services that ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors, by arranging for outside vendors paid by others, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.</p>

Definition	Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Services provided by long-term care services providers, by sector</b>						
<b>Pharmacy, pharmacist, or pharmaceutical services</b>	<p>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 Operations Manual.</p> <p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVRX1, SERVRX2, SERVRX3, SERVRX4, SERVRX5]</p> <p>Q12_f. Pharmacy services—including filling of and delivery of prescriptions</p> <p>1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVRX1, SERVRX2, SERVRX3, SERVRX4, SERVRX5]</p> <p>Q15_f. Pharmacy services—including filling of and delivery of prescriptions</p> <p>1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [PHRMCY_SRVC_CD]</p> <p>Pharmaceutical services</p> <p>0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination</p> <p>If PHRMCY_SRVC_CD=0, SERVRX_RC=2; else if PHRMCY_SRVC_CD &gt;0, SERVRX=1;</p>	---	<p>1= Provided 2= Not provided</p> <p>Derived from: [PHRMCY_SRVC_ONST_RSDNT_SW, PHRMCY_SRVC_ONST_NRSNT_SW, PHRMCY_SRVC_OFSITE_RSDNT_SW]</p> <p>Pharmacist services</p> <p>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;</p> <p>If "No" to 1), 2), and 3), SERVRX=2; Else SERVRX=1;</p>	<p><b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about different services that ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors, by arranging for outside vendors paid by others, by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used:</p> <p>1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.</p>

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	Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)		
<b>Services provided by long-term care services providers, by sector</b>							
<b>Skilled nursing or nursing services</b>	<p>In survey data, refers to services that must be performed by an RN or LPN and are medical in nature. For home health agencies, hospices, and nursing homes, information on the provision of nursing services is presented. For home health agencies, the definition for nursing services is not provided in CMS' State Operations Manual. For hospices, nursing services are "routinely available on a 24-hour basis, 7 days a week," and hospices must "provide nursing care and services by or under the supervision of a registered nurse" (available from: <a href="http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf">http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_m_hospice.pdf</a>). Nursing services in nursing homes refer to "coordination, implementation, monitoring and management of resident care plans. Includes provision of personal care services, monitoring resident responsiveness to environment, range-of-motion exercises, application of sterile dressings, skin care, naso-gastric tubes, intravenous fluids, catheterization, administration of medications, etc." (CMS form 671).</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVNURS1, SERVNURS2, SERVNURS3, SERVNURS4, SERVNURS5]</p> <p>Q12_h. Skilled nursing services—must be performed by a RN or LPN and are medical in nature</p> <p>1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVNURS1, SERVNURS2, SERVNURS3, SERVNURS4, SERVNURS5]</p> <p>Q15_h. Skilled nursing services—must be performed by a RN or LPN and are medical in nature</p> <p>1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [NRSNG_SRVC_CD]</p> <p>Nursing care 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination</p> <p>If NRSNG_SRVC_CD=0, SERVNURS=2; Else if NRSNG_SRVC_CD &gt;0, SERVNURS=1;</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [NRSNG_SRVC_CD]</p> <p>Nursing services 0= Not provided 1= Provided by agency staff 2= Provided under arrangement 3= Combination</p> <p>If NRSNG_SRVC_CD=0, SERVNURS=2; Else if NRSNG_SRVC_CD &gt;0, SERVNURS=1;</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [NRSNG_SRVC_ONST_RSDNT_SW, NRSNG_SRVC_ONST_NRSNDNT_SW, NRSNG_SRVC_OFSITE_RSDNT_SW]</p> <p>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;</p> <p>If "No" to 1), 2), and 3), SERVNURS=2; Else SERVNURS=1.</p>	<p><b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about different services that ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors, by arranging for outside vendors paid by others, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.</p>

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	Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)		
<b>Services provided by long-term care services providers, by sector</b>							
<b>Hospice services</b>	<p>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.</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVHOS1, SERVHOS2, SERVHOS3, SERVHOS4, SERVHOS5]</p> <p>Q12_b Hospice services</p> <p>1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVHOS1, SERVHOS2, SERVHOS3, SERVHOS4, SERVHOS5]</p> <p>Q15_b Hospice services</p> <p>1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided</p> <p>Derived from: [MDCR_HOSPC_SW]</p> <p>Indicate if the Home Health Agency also participates in the Medicare program as a hospice.</p> <p>If MDCR_HOSPC_SW='Y', SERVHOS=1; Else if MDCR_HOSPC_SW='N', SERVHOS=2;</p>	...	<p>1= Provided 2= Not provided</p> <p>Derived from: [HOSPC_BED_CNT, CNSUS_HOSPC_CARE_CNT]</p> <p>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</p> <p>If HOSPC_BED_CNT &gt;0 or CNSUS_HOSPC_CARE_CNT &gt;0, SERVHOS=1; Else if HOSPC_BED_CNT=0 AND CNSUS_HOSPC_CARE_CNT=0, SERVHOS=2;</p>	<p><b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about different services that ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors, by arranging for outside vendors paid by others, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.</p>

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Services provided by long-term care services providers, by sector</b>							
<b>Dental services</b>	Refers to routine and emergency dental services provided by a licensed dentist.	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVDENT1, SERVDENT2, SERVDENT3, SERVDENT4, SERVDENT5]</p> <p>Q12_a. Routine and emergency dental services by a licensed dentist</p> <p>1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	<p>1= Provided 2= Not provided (includes referral only)</p> <p>Derived from: [SERVDENT1, SERVDENT2, SERVDENT3, SERVDENT4, SERVDENT5]</p> <p>Q15_a. Routine and emergency dental services by a licensed dentist</p> <p>1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided</p>	---	---	<p>1= Provided 2= Not provided</p> <p>Derived from: [DNTL_SRVC_ONST_RSDNT_SW, DNTL_SRVC_ONST_NRSDNT_SW, DNTL_SRVC_OFSITE_RSDNT_SW]</p> <p>Dental 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;</p> <p>If "No" to 1), 2), and 3), SERVDENT=2; Else SERVDENT=1</p>	<p><b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors, by arranging for outside vendors paid by others, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.</p>

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Services provided by long-term care services providers, by sector</b>							
<b>Podiatry services</b>	Refers to podiatry services	1= Provided 2= Not provided (includes referral only)  Derived from: [SERVPOD1, SERVPOD2, SERVPOD3, SERVPOD4, SERVPOD5]  Q12_g. Podiatry services  1= Provided by paid center employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided	1= Provided 2= Not provided (includes referral only)  Derived from: [SERVPOD1, SERVPOD2, SERVPOD3, SERVPOD4, SERVPOD5]  Q15_g. Podiatry services  1= Provided by paid residential care community employees 2= Provided by arranging for and paying outside vendors 3= Provided by arranging for outside vendors paid by others 4= Referral 5= None of these apply/ Not provided	- - -	- - -	1= Provided 2= Not provided  Derived from: [PDRY_SRVC_ONST_RSDNT_SW, PDRY_SRVC_ONST_NRSRSDNT_SW, PDRY_SRVC_OFSITE_RSDNT_SW]  Dental 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), SERVPOD=2; Else SERVPOD=1;	<b>ADSC, RCC:</b> The 2014 questionnaire used "mark all that apply" questions to ask about different services that ADSCs or RCCs provide. Respondents indicated as many as four different ways that the ADSC or RCC provided a given service. For each service, five binary variables were created: four separate variables corresponding to four different ways that ADSCs or RCCs provide the service (i.e., by paid employees, by arranging for and paying outside vendors, by arranging for outside vendors paid by others, or by referral); one variable indicating whether the ADSC or RCC provides the service in any of these ways or does not provide the service. For this report, a derived variable with two mutually exclusive categories was used: 1) Provided by paid employees, arranging for and paying outside vendors, or arranging for outside vendors paid by others, in addition to referral; 2) Not provide or provide only by referral.

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Services provided by long-term care services providers, by sector</b>							
<b>Depression screening</b>	Refers to the status of providing depression screening services using a standardized tool or accepting screening results from other health care providers	Derived from: [DEPSCRN1, DEPSCRN2]  Q10. As part of the admission process, does this adult day services center ...  a. screen participants for depression with a standardized tool or scale? b. accept results from depression screenings performed by other health care providers?	Derived from: [DEPSCRN1, DEPSCRN2]  Q12. As part of the admission process, does this residential care community ...  a. screen residents for depression with a standardized tool or scale? b. accept results from depression screenings performed by other health care providers?	Derived from: [MSR_322_VAL, MSR_323_VAL, MSR_324_VAL from OBQI Case Mix Roll Up data]  Emotional / Behavioral, Emotional, Depression indicator [MSR_322_VAL]; 'Neuro / Emotional / Behavioral, Emotional, PHQ-2: Interest / Pleasure, 0-3 scale [MSR_323_VAL]; 'Neuro / Emotional / Behavioral, Emotional, PHQ-2: Down / Depressed, 0-3 scale' [MSR_324_VAL];  if patient is coded as nonresponsive, DEPSCRN= missing; else if MSR_322_VAL >=0 then DEPSCRN=1; else if MSR_320_VAL >=0 and MSR_322_VAL= then DEPSCRN=0; else DEPSCRN=missing;	...	ADSC, RCC: Coded center/community if they conducted the screening using a standardized tool or accepted results from depression screenings performed by other health care providers;  HHA: After deriving DEPSCRN using OBQI data and rolling up the variable to provider ID number, the rolled up data were merged to CASPER home health data. Using the merged file, if agencies screened 80% or more of their patients for depression using a standardized assessment tool (i.e., PHQ-2) or with a different standardized assessment, they were coded as conducting depression screenings.	...
<b>Dementia care units</b>	Refers to the provision of dementia care units	...	1= Serves only residents with dementia 2= Provides dementia care units within larger community  Derived from: [ONLYDEM, DEMWING]  Q13. Does this residential care community only serve adults with dementia or Alzheimer's disease?  Q13a. [If no to Q13] Does this residential care community have a distinct unit, wing, or floor that is designated as a dementia or Alzheimer's Special Care Unit?	...	...	1= Serves only residents with dementia 2= Provides dementia care units within larger facility  Derived from: [CRTFD_BED_CNT, ALZHMR_BED_CNT]  Number of certified beds; Number of beds in a unit identified and dedicated by the facility for residents with Alzheimer's disease  if CRTFD_BED_CNT =ALZHMR_BED_CNT then DSU=1; else if ALZHMR_BED_CNT >0 then DSU=2; else DSU=0;	...

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Use of long-term care services, by sector</b>							
<b>Number of services users</b>	Number of users of services provided by paid, regulated long-term care services providers	<p>Q3. What is the total number of participants currently enrolled at this center at this location? Include respite care participants.</p> <p>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.</p>	<p>Q5. What is the total number of residents currently living at this residential care community? Include respite care residents.</p> <p>This data item (TOTRES) was used to create SIZE variable (number of people served) and to estimate the number of residents in residential care communities in the United States; TOTRES was used as the denominator when computing percentages for all aggregate, resident-level measures.</p>	<p>Derived from: [patient ID from OBQI Case Mix Roll Up data]</p> <p>Number of home health patients whose episode of care ended at any time in CY (calendar year) 2013 (i.e., discharges), regardless of payment source; 888 agencies (7.1%) with missing OBQI Case Mix Roll Up data;</p> <p>This data item (TOTPAT) was used to create SIZE variable (number of people served) and to obtain the number of home health patients in the United States; TOTPAT was used as the denominator when computing percentages for selected aggregate, patient-level measures (i.e., age, sex, and patients needing any assistance in activities of daily living).</p>	<p>Derived from: [BENE_CNT from IPBS hospice data]</p> <p>Number of hospice patients for whom Medicare-certified hospice submitted a Medicare claim at any time in CY 2013; 251 agencies (6.2%) with missing IPBS hospice data;</p> <p>This data item (BENE_CNT) was used to create SIZE variable (number of people served) and to obtain the number of hospice patients in the United States; BENE_CNT was used as the denominator when computing percentages for all aggregate patient-level measures.</p>	<p>Number of current residents in certified beds in nursing homes in CASPER nursing data;</p> <p>This data item (CNSUS_RSDNT_CNT) was used to create SIZE variable and to obtain the number of current nursing home residents in the United States; CNSUS_RSDNT_CNT was used when computing percentages for selected aggregate, resident-level measures (i.e., residents needing any assistance in activities of daily living).</p>	...

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Use of long-term care services, by sector</b>							
<b>Number of services users— Con.</b>	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].	...	...	Derived [from: [BENE_CNT from IPBS home health data]  Number of home health patients for whom Medicare-certified home health care agencies submitted a Medicare claim at any time in CY 2013; 984 agencies (7.9%) with missing IPBS home health data;  This data item (BENE_CNT) was used as the denominator when computing percentages for selected aggregate, patient-level measures (i.e., race and ethnicity, diagnosed with dementia, diagnosed with depression, and diagnosed with diabetes).	...	Derived from: [resident ID from Minimum Data Set Active Resident Episode Table (MARET) data]  Number of active residents (Exclude residents whose last assessment during Q3 2014 was discharge assessment); 263 nursing homes (1.7%) 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, race and ethnicity, diagnosed with dementia, diagnosed with depression, and diagnosed with diabetes).	...

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Age</b>	Number of long-term care services users under age 65	Derived from: [AGLT17RC, AG18TO44RC, AG45TO54RC, AG55TO64RC]  Q17. 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: [AGLT17RC, AG18TO44RC, AG45TO54RC, AG55TO64RC]  Q20. 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 Num from OBQI Case Mix Roll Up data]  Calculated age at the time of episode of care	Derived from: [AGE_LESS_65 from IPBS hospice data]  Number of beneficiaries under age 65 utilizing the provider type of service	Derived from: [A0900_BIRTH_DT from MARET data]  Resident's birth date	<b>ADSC, RCC:</b> Cases with missing data were imputed. <b>HHA, NH:</b> MARET data are individual resident-level data, and OBQI Case Mix Roll Up data are also individual patient-level data; When rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching (HHA-7.1%; NH-1.7%), no facilities or agencies had missing data. <b>HOS:</b> IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (6.2%), no agencies had missing data.

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Age—Con.</b>	Number of long-term care services users between ages 65 and 74	Q17. Of the participants currently enrolled at this adult day services center, how many are: e. 65–74 years?	Q20. Of the residents currently living in this residential care community, how many are: e. 65–74 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_65_69, AGE_70_74 from IPBS hospice data]  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 data]  Resident's birth date	<b>ADSC, RCC:</b> Cases with missing data were imputed. <b>HHA, NH:</b> MARET data are individual resident-level data, and OBQI Case Mix Roll Up data are also individual patient-level data. When rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching (HHA–7.1%; NH–1.7%), no facilities or agencies had missing data. <b>HOS:</b> IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (6.2%), no agencies had missing data.

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Age—Con.</b>	Number of long-term care services users between ages 75 and 84	Q17. Of the participants currently enrolled at this adult day services center, how many are: f. 75-84 years?	Q20. 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 data]  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 data]  Resident's birth date	<b>ADSC, RCC:</b> Cases with missing data were imputed. <b>HHA, NH:</b> MARET data are individual resident-level data, and OBQI Case Mix Roll Up data are also individual patient-level data. When rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching (HHA-7.1%; NH-1.7%), no facilities or agencies had missing data. <b>HOS:</b> IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (6.2%), no agencies had missing data.

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Age—Con.</b>	Number of long-term care services users aged 85 and over	Q17. Of the participants currently enrolled at this adult day services center, how many are: g. 85 years and older?	Q20. Of the residents currently living in this residential care community, how many are: g. 85 years and older?	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_OVER_84 from IPBS hospice data]  Number of beneficiaries over age 84 utilizing the provider type of service.	Derived from: [A0900_BIRTH_DT from MARET data]  Resident's birth date	<b>ADSC, RCC:</b> Cases with missing data were imputed. <b>HHA, NH:</b> MARET data are individual resident-level data, and OBQI Case Mix Roll Up data are also individual patient-level data. When rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching (HHA-7.1%; NH-1.7%), no facilities or agencies had missing data. <b>HOS:</b> IPBS-Hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (6.2%), no agencies had missing data.

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Race and ethnicity</b>	Number of long-term care services users of Hispanic or Latino origin	Q15. Of the participants currently enrolled at this adult day services center, how many are: a. Hispanic or Latino, of any race?	Q18. Of the residents currently living in this residential care community, how many are: a. Hispanic or Latino, of any race?	Derived from: [RACE_HISPAN from IPBS home health data]  Number of Hispanic beneficiaries utilizing the provider type of service	Derived from: [RACE_HISPAN from IPBS hospice data]  Number of Hispanic beneficiaries utilizing the provider type of service	Derived from: [A1000D_HSPNC_CD from MARET data]  Indicates if the resident's ethnicity is Hispanic	<p><b>HH:</b> 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.</p> <p><b>ADSC, RCC:</b> Cases with missing data were imputed; <b>NH:</b> MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 2.0% of facilities, including facilities with missing data due to nonmatching (NH-1.7%), had missing data. <b>HHA, HOS:</b> 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-7.9%, HOS-6.2%), no agencies had missing data.</p>

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Race and ethnicity—Con.</b>	Number of long-term care services users who are non-Hispanic white	Q15. Of the participants currently enrolled at this center, how many are: f. White, not Hispanic or Latino?	Q18. 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 data]  Number of white beneficiaries utilizing the provider type of service	Derived from: [RACE_WHITE from IPBS hospice data]  Number of white beneficiaries utilizing the provider type of service	Derived from: [A1000F_WHT_CD from MARET data]  Indicates if the resident's ethnicity is white	<p><b>HH:</b> 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.</p> <p><b>ADSC, RCC:</b> Cases with missing data were imputed; <b>NH:</b> MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 2.0% of facilities, including facilities with missing data due to nonmatching (NH-1.7%), had missing data. <b>HHA, HOS:</b> 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-7.9%, HOS-6.2%), no agencies had missing data.</p>

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		Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Race and ethnicity—Con.</b>	Number of long-term care services users who are non-Hispanic black	Q15. Of the participants currently enrolled at this center, how many are: d. Black, not Hispanic or Latino?	Q18. 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 data]  Number of non-Hispanic black beneficiaries utilizing the provider type of service	Derived from: [RACE_BLACK from IPBS hospice data]  Number of non-Hispanic black beneficiaries utilizing the provider type of service	Derived from: [A1000C_AFRCN_AMRCN_CD]  Indicates if the resident's ethnicity is African American	<p><b>HH:</b> 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.</p> <p><b>ADSC, RCC:</b> Cases with missing data were imputed; <b>NH:</b> MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 2.0% of facilities, including facilities with missing data due to nonmatching (NH-1.7%), had missing data. <b>HHA, HOS:</b> 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-7.9%, HOS-6.2%), no agencies had missing data.</p>

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	Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)	
<b>Demographic characteristics of long-term care services users, by sector</b>						
<b>Race and ethnicity—Con.</b>	<p>Number of long-term care services users who are of a race other than white or black</p> <p>Derived from: [AIANRC, ASIANRC, NHOPIRC, MULTIOHERRC, UNKNOWNRCC]</p> <p>Q15. Of the participants currently enrolled at this center, how many are:</p> <p>b. American Indian or Alaska Native, not Hispanic or Latino? c. Asian, not Hispanic or Latino? e. Native Hawaiian or Other Pacific Islander, not Hispanic or Latino? g. Two or more races, not Hispanic or Latino? h. Some other category reported in this residential care community's system? i. Not reported (race and ethnicity unknown)?</p>	<p>Derived from: [AIANRC, ASIANRC, NHOPIRC, MULTIOHERRC, UNKNOWNRCC]</p> <p>Q18. Of the residents currently living in this residential care community, how many are:</p> <p>b. American Indian or Alaska Native, not Hispanic or Latino? c. Asian, not Hispanic or Latino? e. Native Hawaiian or Other Pacific Islander, not Hispanic or Latino? g. Two or more races, not Hispanic or Latino? h. Some other category reported in this residential care community's system? i. Not reported (race and ethnicity unknown)?</p>	<p>Derived from: [RACE_NATIND, RACE_API, RACE_OTHER from IPBS home health]</p> <p>Number of American Indian or Alaska Native 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.</p>	<p>Derived from: [RACE_NATIND, RACE_API, RACE_OTHER from IPBS hospice data]</p> <p>Number of American Indian or Alaska Native beneficiaries utilizing the provider type of service; Number of all other beneficiaries not elsewhere classified utilizing the provider type of service.</p>	<p>Derived from: [A1000A_AMRCN_INDN_AK_NTV_CD, A1000B_ASN_CD, A1000E_NTV_HI_PCFC_ISLNDR_CD from MARET data]</p> <p>Indicates if the resident's ethnicity is American Indian or Alaska Native; Indicates if the resident's ethnicity is Asian; Indicates if the resident's ethnicity is Native Hawaiian or Pacific Islander.</p>	<p><b>HH: IPBS</b> home health data used; race-ethnicity data in OBQI Case Mix Roll Up do not match race-ethnicity categories used in other data sources.</p> <p><b>ADSC, RCC:</b> Cases with missing data were imputed; <b>NH:</b> MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 2.0% of facilities, including facilities with missing data due to nonmatching (NH-1.7%), had missing data. <b>HHA, HOS:</b> 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-7.9%, HOS-6.2%), no agencies had missing data.</p>

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	Adult day services center (ADSC)	Residential care community (RCC)	Home health agency (HHA)	Hospice (HOS)	Nursing home (NH)		
<b>Demographic characteristics of long-term care services users, by sector</b>							
<b>Sex</b>	Number of long-term care services users who are male	Q16. Of the participants currently enrolled at this center, how many are: a. Male?	Q19. 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: Male".	Derived from: [MALE from IPBS hospice data]  Number of male beneficiaries utilizing the provider type of service	Derived from: [A0800_GNDR_CD from MARET data]  Identifies the resident's sex. '-'=Not assessed/no information/unable to determine 1= Male 2= Female	<b>ADSC, RCC:</b> Cases with missing data were imputed; <b>HHA, NH:</b> MARET data are individual resident-level data, and OBQI Case Mix Roll Up data are also individual patient-level data. When rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching (HHA-7.1%; NH-1.7%), no facilities or agencies had missing data. <b>HOS:</b> IPBS hospice file contains hospice patient information at the provider-level; other than cases with missing data due to nonmatching (6.2%), no agencies had missing data.
	Number of long-term care services users who are female	Q16. Of the participants currently enrolled at this center, how many are: b. Female?	Q19. Of the residents currently living in this residential care community, how many are: b. Female?	Derived from: [MSR_202_VAL, TOTPAT from OBQI Case Mix Roll Up data]  "Patient History, Demographics, Gender: Female".	Derived from: [FEMALE from IPBS hospice data]  Number of female beneficiaries utilizing the provider type of service	Derive from: [A0800_GNDR_CD]  Identifies the resident's gender. '-'=Not assessed/no information/unable to determine 1= Male 2= Female	
<b>Medicaid as payer source</b>	Number of long-term care users with Medicaid paying for some or all long-term care services received	Q7. During the last 30 days, for how many of the participants currently enrolled at this adult day services center, did Medicaid pay for some or all of their services received at this center? If none, enter "0."	Q10a. During the last 30 days, for how many of the residents currently living in this residential care community, did Medicaid pay for some or all of their services received at this center? If none, enter "0."	---	Derived from: [MSR_207_VAL from OBQI Case Mix Roll Up data]  Number of patients coded as having Medicaid as payer source if they had any Medicaid as traditional fee-for-service or HMO or managed care as current payment sources for home care at start of care or resumption of care.	Derived from: [CNSUS_MDCC_CNT]  Number of residents whose primary payer is Medicaid	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. About 8.1% of agencies (including 7.1% of missing due to nonmatching) had missing data.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Health and functional characteristics of long-term care services users, by sector</b>							
<b>Diagnosed with dementia</b>	Number of long-term care services users diagnosed with dementia	Q18. Of the participants currently enrolled at this center, about how many have been diagnosed with: a. Alzheimer's disease or other dementias?	Q21. 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: [ALZRDS_BENE_CNT from IPBS home health data]  Number of beneficiaries meeting the chronic condition algorithm for Alzheimer's broad classification, including dementia and utilizing the provider type of service (Alzheimer's disease and related disorders or senile dementia)	Derived from: [ALZRDS_BENE_CNT from IPBS hospice data]  Number of beneficiaries meeting the chronic condition algorithm for Alzheimer's broad classification, including dementia and utilizing the provider type of service (Alzheimer's disease and related disorders or senile dementia)	Derived from: [I4200_ALZHMR_CD, I4800_DMNT_CD from MARET data]  Indicates whether the resident had an active diagnosis of Alzheimer's disease in the last 7 days or indicates whether the resident had an active diagnosis of non-Alzheimer's dementia such as vascular or multi-infarct dementia; mixed dementia; or frontotemporal dementia such as Pick's disease and dementia related to stroke, Parkinson's disease, or Creutzfeldt-Jakob diseases in the last 7 days.	<b>NH:</b> MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities with 20.0% or more of their resident information missing for a given data item were coded as missing. About 6.4% of facilities (including 1.7% of missing data due to nonmatching) had missing data. <b>HHA, HOS:</b> 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-7.9%, HOS-6.2%), no agencies had missing data.
<b>Diagnosed with depression</b>	Number of long-term care services users diagnosed with depression	Q18. Of the participants currently enrolled at this center, about how many have been diagnosed with: d. Depression?	Q21. 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 data]  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 data]  Number of beneficiaries meeting the chronic condition algorithm for depression and utilizing the provider type of service	Derived from: [I5800_DPRSN_CD from MARET data]  Indicates if the resident had an active diagnosis of depression (other than bipolar) in the last 7 days.	
<b>Diagnosed with diabetes</b>	Number of long-term care services users diagnosed with diabetes	Q18. Of the participants currently enrolled at this center, about how many have been diagnosed with: f. Diabetes?	Q21. Of the residents currently living in this residential care community, about how many have been diagnosed with: f. Diabetes?	Derived from: [DIAB_BENE_CNT from IPBS home health data]  Number of beneficiaries meeting the chronic condition algorithm for diabetes and utilizing the provider type of service	Derived from: [DIAB_BENE_CNT from IPBS hospice data]  Number of beneficiaries meeting the chronic condition algorithm for diabetes and utilizing the provider type of service	Derived from: [I2900_DM_CD from MARET data]  Indicates whether the resident had an active diagnosis of diabetes mellitus (diabetic retinopathy or neuropathy) in the last 7 days.	

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Health and functional characteristics of long-term care services users, by sector</b>							
<b>Assistance with eating</b>	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.	Q19. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? b. With eating, like cutting up food	Q22. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? b. With eating, like cutting up food	Derived from: [MSR_342_VAL from OBQI Case Mix Roll Up data]  Number of patients coded as needing any assistance with eating if they: are able to feed self independently but require meal setup or intermittent assistance or supervision from another person; require a liquid, pureed, or ground meat diet; are unable to feed self and must be assisted or supervised throughout the meal or snack; are able to take in nutrients orally and receive supplemental nutrients through a nasogastric tube or gastrostomy; are unable to take in nutrients orally and are fed nutrients through a nasogastric tube or gastrostomy; or are unable to take in nutrients orally or by tube feeding.	---	Derived from: [CNSUS_EATG_ASTD_CNT, CNSUS_EATG_DPNDNT_CNT]  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.	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching, (HHA-7.1%), no facilities or agencies had missing data.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Health and functional characteristics of long-term care services users, by sector</b>							
<b>Assistance with dressing</b>	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.	Q19. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? c. With dressing	Q22. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? c. With dressing	Derived from: [MSR_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 to dress the upper and lower body.	---	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.	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching, (HHA-7.1%), no facilities or agencies had missing data.
<b>Assistance with toileting</b>	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.	Q19. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? e. In using the bathroom (toileting)	Q22. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? e. 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, or adjust clothes or incontinence pads before and after using toilet, commode, bedpan, and urinal. If managing ostomy, it includes cleaning area around stoma, but not managing equipment.	---	Derived from: [CNSUS_TOILT_ASTD_CNT; CNSUS_TOILT_DPNDNT_CNT]  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.	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching, (HHA-7.1%), no facilities or agencies had missing data.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Health and functional characteristics of long-term care services users, by sector</b>							
<b>Assistance with bathing</b>	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.	Q19. Of the participants currently enrolled at this center, about how many need any assistance at their usual residence or this center in each of the following activities? d. With bathing or showering	Q22. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities? d. With bathing or showering	Derived from: [MSR_337_VAL from OBQI Case Mix Roll Up data]  Number of patients coded as needing any assistance with bathing if the patient is: with the use of devices, able to bathe self in shower or tub independently, including getting in and out of the tub or shower; able to bathe in shower or tub with the intermittent assistance of another person; able to participate in bathing self in shower or tub, but requires presence of another person throughout the bath for assistance or supervision; unable to use the shower or tub, but able to bathe self independently with or without the use of devices at the sink, in chair, or on commode; unable to use the shower or tub, but able to participate in bathing self in bed, at the sink, in bedside chair, or on commode, with the assistance or supervision of another person throughout the bath; or unable to participate effectively in bathing and is bathed totally by another person.	---	Derived from: [CNSUS_BATHG_ASTD_CNT, CNSUS_BATHG_DPNDNT_CNT]  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.	<b>HHA: OBQI</b> Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching, (HHA-7.1%), no facilities or agencies had missing data.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Health and functional characteristics of long-term care services users, by sector</b>							
<b>Assistance with walking or locomotion</b>	Number of long-term care services users needing any assistance with walking or locomotion. Assistance refers to needing any help or supervision from another person or use of special equipment.	Q19. Of the participants currently enrolled at this center, about how many now need any assistance at their usual residence or this center in each of the following activities?  f. With locomotion or walking	Q22. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities?  f. With locomotion or walking	Derived from: [MSR_340_VAL from OBQI Case Mix Roll Up data]  Number of patients coded as needing any assistance with ambulation or locomotion if they are: able to independently walk on even and uneven surfaces and negotiate stairs with or without railings without use of an assistive device, with the use of a one-handed assistive device, or with the use of a two-handed device; able to walk only with the assistance of another person at all times; chairfast, unable to ambulate but are able to wheel self independently; chairfast, unable to ambulate and unable to wheel self; or bedfast, unable to ambulate or be up in a chair.	---	Derived from: [CNSUS_INDPNDNT_MBLTY_CNT]  Number of residents who require no help or oversight; or help or oversight was provided only 1 or 2 times during the past 7 days. Do not include residents who use a cane, walker, or crutch.	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching, (HHA-7.1%), no facilities or agencies had missing data.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Health and functional characteristics of long-term care services users, by sector</b>							
<b>Assistance with transferring</b>	Number of long-term care services users needing any assistance in transferring. Assistance refers to needing any help or supervision from another person or use of special equipment.	Q19. Of the participants currently enrolled at this center, about how many now need any assistance at their usual residence or this center in each of the following activities?  a. With transferring in and out of a chair	Q22. Of the residents currently living in this residential care community, about how many need any assistance in each of the following activities?  a. With transferring in and out of a bed or chair	Derived from: [MSR_340_VAL from OBQI Case Mix Roll Up data]  Number of patients coded as needing any assistance with transferring if they are: able to transfer with minimal human assistance or with use of an assistive device; able to bear weight and pivot during the transfer process but unable to transfer self; unable to transfer self and are unable to bear weight or pivot when transferred by another person; bedfast, unable to transfer but are able to turn and position self in bed; bedfast, unable to transfer and are unable to turn and position self.	---	Derived from: [CNSUS_TRNSFR_ASTD_CNT, CNSUS_TRNSFR_DPNDNT_CNT]  Number of residents who require help moving between surfaces, including, to or from bed, chair, wheelchair, or standing positions. Excludes transfers to or from the bath or toilet. If the facility routinely provides "setup" assistance to all residents, such as handing the equipment (e.g., sliding board) to the resident, and this is the only assistance required, the resident was coded as not needing assistance with transferring.	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. Other than cases with missing data due to nonmatching, (HHA-7.1%), no facilities or agencies had missing data.

Definition		Survey data (question numbers refer to order in National Study of Long-Term Care Providers [NSLTCP] questionnaires: <a href="http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm">http://www.cdc.gov/nchs/nsltcp/nsltcp_questionnaires.htm</a> )		Administrative data (when data source is not specified, the source is the Center for Medicare & Medicaid's [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)	
<b>Adverse events among long-term care services users, by sector</b>							
<b>Overnight hospital stay</b>	Number of long-term care users who were discharged from an overnight hospital stay	Q20. Of the participants currently enrolled at this center, about how many were discharged from an overnight hospital stay in the last 90 days? Exclude trips to the hospital emergency department that did not result in an overnight hospital stay. If none, enter "0."	Q23. Of the residents currently living in this residential care community, about how many were discharged from an overnight hospital stay in the last 90 days? Exclude trips to the hospital emergency department that did not result in an overnight hospital stay. If none, enter "0."	Derived from: [MSR_447_VAL from OBQI Case Mix Roll Up data]  To which inpatient facility has the patient been admitted?  1=Hospital	---	---	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. About 7.4% of agencies (including 7.1% of missing due to nonmatching) had missing data.
<b>Emergency department visits</b>	Number of long-term care users who had emergency department visits	Q21. Of the participants currently enrolled at this center, about how many were treated in a hospital emergency department in the last 90 days? If none, enter "0."	Q24. Of the residents currently living in this residential care community, about how many were treated in a hospital emergency department in the last 90 days? If none, enter "0."	Derived from: [MSR_426_VAL from OBQI Case Mix Roll Up data]  Since the last time Outcome and Assessment Set data were collected, has the patient utilized a hospital emergency department (includes holding or observation)?	---	---	<b>HHA:</b> OBQI Case Mix Roll Up data are individual patient-level data; when rolling up individual user-level data to provider ID, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. About 8.1% of agencies (including 7.1% of missing due to nonmatching) had missing data.
<b>Falls</b>	Number of long-term care users who had falls	Q22. Of the participants currently enrolled at this center, about how many had any falls in the last 90 days? Include on-site and off-site falls. If none, enter "0."	Q25. Of the residents currently living in this residential care community, about how many had any falls in the last 90 days? Include on-site and off-site falls. If none, enter "0."	---	---	Derived from: [J1800_FALL_LAST_ASMT_CD from MARET data]  Has the resident had any falls since admission or the prior assessment, whichever is more recent?	<b>NH:</b> MARET data are individual resident-level data; when rolling up individual user-level data to provider ID number, facilities or agencies with 20.0% or more of their resident or patient information missing for a given data item were coded as missing. About 6.4% of facilities (including 1.7% of missing data due to nonmatching) had missing data.

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

# Appendix B

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## Detailed Tables

**Table 1. Long-term care services providers, by geographical and organizational characteristics and sector: United States, 2013–2014**

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 <sup>1</sup>	4,800	6	12,400	...	4,000	...	15,600	...	30,200	341
Number of beds or licensed maximum capacity <sup>1</sup>	289,400	2,871	...	...	...	...	1,663,300	...	1,000,000	14,001
Average number of beds or licensed maximum capacity <sup>2,3</sup>	62	0.60	---	---	---	---	106	0.49	33	0.35
Average number of people served <sup>3,4</sup>										
Daily	39	0.43	...	...	...	...	88	0.44	28	0.32
Annually	...	...	427	10.04	355	10.61	...	...	...	...
Region (percent distribution)										
Northeast	19.8	0.04	8.1	0.25	11.3	0.50	16.9	0.30	8.2	0.02
Midwest	17.0	0.06	28.0	0.40	22.8	0.66	32.9	0.38	21.8	0.06
South	33.0	0.06	46.6	0.45	41.2	0.78	34.7	0.38	28.1	0.05
West	30.3	0.05	17.3	0.34	24.8	0.68	15.5	0.29	42.0	0.05
Metropolitan statistical area status (percent distribution)										
Metropolitan	84.3	0.38	84.6	0.32	76.6	0.67	71.2	0.36	83.1	0.53
Micropolitan	10.0	0.34	8.1	0.24	14.0	0.55	13.9	0.28	10.0	0.45
Neither	5.7	0.26	7.3	0.23	9.4	0.46	14.9	0.28	6.9	0.33
Ownership (percent distribution)										
For profit	44.2	0.60	80.0	0.36	60.2	0.77	69.8	0.37	81.8	0.67
Nonprofit	50.5	0.60	15.0	0.32	25.9	0.69	24.1	0.34	16.9	0.65
Government and other	5.4	0.28	5.0	0.20	13.9	0.55	6.1	0.20	1.4	0.20
Number of people served <sup>5</sup>										
Category 1	46.6	0.56	41.7	0.46	32.5	0.76	5.5	0.18	67.0	0.38
Category 2	47.4	0.59	27.0	0.41	35.1	0.78	62.4	0.39	28.3	0.44
Category 3	6.0	0.30	31.3	0.43	32.5	0.76	32.0	0.37	4.7	0.23
Certification (percent)										
Medicare-certified	...	...	98.7	0.10	---	---	96.9	0.14	...	...
Medicaid-certified	73.4	0.49	78.0	0.37	---	---	95.1	0.17	47.4	0.79
Chain-affiliated (percent)	42.1	0.61	---	---	---	---	55.7	0.40	56.0	0.99

... Category not applicable.

--- Data not available.

<sup>1</sup>Estimates are rounded as whole numbers to the nearest hundred.

<sup>2</sup>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.

<sup>3</sup>Averages are based on unrounded numbers.

<sup>4</sup>The estimated number of adult day services center participants represents current participants in 2014. The estimated number of home health patients represents patients who ended care in 2013 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2013. The estimated number of nursing home residents represents current residents in 2014. The estimated number of residential care community residents represents current residents in 2014.

<sup>5</sup>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 2014, and the categories are 1–25, 26–100, and 101 and over. For home health agencies and hospices, number of people served is based on number of patients in 2013, and categories are 1–100, 101–300, and 301 and over. Home health patients are patients who received and ended care anytime in 2013. Hospice patients are patients who received care anytime in 2013.

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, 2013–2014.

**Table 2. Staffing characteristics of long-term care services providers, by staff type and sector: United States, 2014**

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 and social work employee FTEs	23,100	316	143,900	1,500	73,200	1,441	971,100	4,236	332,400	6,223
Percent distribution of total nursing and social work employee FTEs										
Registered nurse	17.8	0.24	53.1	0.34	48.1	0.29	12.0	0.06	6.5	0.26
Licensed practical nurse or licensed vocational nurse	10.9	0.18	18.8	0.24	8.5	0.19	22.3	0.07	10.7	0.31
Aide	59.2	0.44	25.6	0.33	31.5	0.28	63.9	0.07	82.0	0.42
Social worker	12.1	0.22	2.5	0.04	11.9	0.12	1.8	0.01	0.8	0.04
Percent of providers with one or more employee FTEs										
Registered nurse	59.9	0.59	99.7	0.05	99.9	0.05	99.1	0.08	40.1	0.80
Licensed practical nurse or licensed vocational nurse	45.4	0.59	69.8	0.41	58.2	0.78	98.3	0.10	36.3	0.70
Aide	70.0	0.57	90.4	0.26	97.0	0.27	99.4	0.06	80.8	0.87
Social worker	43.1	0.59	45.2	0.45	99.0	0.15	77.1	0.34	10.6	0.51
Activities director or staff	87.9	0.41	---	---	---	---	96.6	0.14	58.8	0.89
Mean employee hours per resident or participant per day										
Registered nurse	0.26	0.01	---	---	---	---	0.55	0.01	0.20	0.01
Licensed practical nurse or licensed vocational nurse	0.20	0.01	---	---	---	---	0.86	0.01	0.17	0.01
Aide	0.93	0.02	---	---	---	---	2.47	0.01	2.16	0.05
Social worker	0.14	0.00	---	---	---	---	0.08	0.00	0.03	0.01
Activities director or staff	0.72	0.02	---	---	---	---	0.19	0.00	0.33	0.03

--- Data not available.

0.00 Quantity more than zero but less than 0.05.

NOTES: FTE 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, 2014.

**Table 3. Provision of services by long-term care services providers, by type of service and sector: United States, 2014**

Characteristic	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 services (percent distribution)										
Yes	51.7	0.59	82.4	0.34	99.9	0.04	89.2	0.25	48.0	1.02
No	48.3	0.59	17.6	0.34	0.1	0.04	10.8	0.25	52.0	1.02
Mental health or counseling services (percent distribution)										
Yes	33.5	0.59	---	---	97.2	0.26	87.1	0.27	52.1	1.01
No	66.5	0.59	---	---	2.8	0.26	12.9	0.27	47.9	1.01
Therapeutic services (percent distribution)										
Yes	48.8	0.62	96.6	0.16	98.1	0.21	99.4	0.06	69.0	0.97
No	51.2	0.62	3.5	0.16	1.9	0.21	0.6	0.06	31.0	0.97
Skilled nursing services (percent distribution)										
Yes	66.1	0.57	100.0	—	100.0	—	100.0	0.01	59.0	1.00
No	33.9	0.57	—	—	—	—	—	0.01	41.0	1.00
Pharmacy or pharmacist services (percent distribution)										
Yes	27.3	0.54	4.8	0.19	---	---	97.4	0.13	82.4	0.82
No	72.7	0.54	95.2	0.19	---	---	2.7	0.13	17.7	0.82
Hospice services (percent distribution)										
Yes	12.4	0.40	5.4	0.20	...	...	79.5	0.32	61.6	1.01
No	87.6	0.40	94.6	0.20	...	...	20.5	0.32	38.4	1.01
Dental services (percent distribution)										
Yes	15.9	0.43	---	---	---	---	88.3	0.26	53.8	1.02
No	84.1	0.43	---	---	---	---	11.7	0.26	46.2	1.02
Podiatry services (percent distribution)										
Yes	32.2	0.54	---	---	---	---	92.7	0.21	73.8	0.91
No	67.8	0.54	---	---	---	---	7.3	0.21	26.2	0.91
Screen for depression (percent)	82.2	0.49	93.0	0.24	---	---			83.3	0.77
Dementia-specific units (percent)										
Only serve residents with dementia	...	...	...	...	...	...	0.4	0.05	10.1	0.62
Have a distinct unit, wing, or floor designated for dementia special care	...	...	...	...	...	...	14.8	0.28	12.1	0.44

--- Data not available.

— Quantity zero.

... Category not applicable.

NOTES: 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, 2014.

**Table 4. Long-term care services users, by selected characteristics and sector: United States, 2013-2014**

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 <sup>1</sup>	282,200	3,325	4,934,600	116,603	1,340,700	40,416	1,369,700	6,930	835,200	12,986
Age (percent)										
Under 65	36.4	0.59	17.5	0.17	5.6	0.06	15.1	0.15	7.2	0.31
65 and over	63.7	0.59	82.6	0.17	94.4	0.06	84.9	0.15	92.9	0.31
65-74	20.0	0.25	25.5	0.09	17.1	0.11	16.1	0.07	10.4	0.29
75-84	27.5	0.39	31.1	0.07	30.0	0.08	27.2	0.06	29.9	0.47
85 and over	16.2	0.23	26.0	0.15	47.3	0.22	41.6	0.17	52.6	0.60
Sex (percent distribution)										
Men	41.1	0.23	37.9	0.06	40.9	0.11	33.2	0.13	29.8	0.34
Women	58.9	0.23	62.1	0.06	59.1	0.11	66.8	0.13	70.2	0.34
Race and ethnicity (percent distribution)										
Hispanic	20.3	0.46	7.7	0.19	5.0	0.38	5.2	0.12	2.5	0.16
Non-Hispanic white	43.9	0.60	75.4	0.36	84.4	0.49	76.1	0.26	84.3	0.68
Non-Hispanic black	17.3	0.40	13.5	0.23	8.2	0.23	14.0	0.20	3.8	0.18
Other <sup>2</sup>	18.6	0.66	3.3	0.11	2.4	0.13	4.7	0.10	9.3	0.66
Conditions (percent)										
Diagnosed with Alzheimer's or dementia	29.9	0.46	31.4	0.16	44.7	0.31	50.4	0.15	39.6	0.72
Diagnosed with depression	25.5	0.49	37.9	0.14	22.9	0.17	48.7	0.13	23.2	0.52
Diagnosed with diabetes	29.7	0.40	45.2	0.16	27.6	0.19	32.4	0.08	16.9	0.33
Need assistance in physical functioning (percent)										
Eating	24.3	0.46	56.7	0.43	---	---	58.0	0.24	19.8	0.51
Bathing	41.0	0.69	96.4	0.09	---	---	96.4	0.08	62.4	0.73
Dressing	37.1	0.61	88.4	0.25	---	---	91.8	0.10	47.4	0.69
Toileting	35.6	0.57	73.2	0.40	---	---	87.9	0.12	39.3	0.67
Walking or locomotion	33.7	0.61	94.0	0.14	---	---	90.7	0.11	29.1	0.64
Transferring in and out of a chair or bed	29.8	0.59	87.8	0.22	---	---	85.2	0.19	29.7	0.62
Medicaid as payer source (percent)	53.7	0.82	9.2	0.33	---	---	62.9	0.18	15.1	0.47
Adverse events (percent)										
Overnight hospital stay	5.7	0.13	16.7	0.12	---	---	---	---	8.3	0.22
Emergency department visit	6.6	0.14	14.9	0.10	---	---	---	---	12.4	0.27
Fall	7.8	0.22	---	---	---	---	16.5	0.07	21.1	0.47

--- Data not available.

<sup>1</sup>The estimated number of adult day services center participants represents current participants in 2014. The estimated number of home health patients represents patients who ended care in 2013 (i.e., discharges). The estimated number of hospice patients represents patients who received care at any time in 2013. The estimated number of nursing home residents represents current residents in 2014. The estimated number of residential care community residents represents current residents in 2014.

<sup>2</sup>For adult day services centers and residential care communities, includes non-Hispanic American Indian or Alaska Native, non-Hispanic Asian, non-Hispanic Native Hawaiian or other Pacific Islander, non-Hispanic of two or more races, and unknown race and ethnicity.

NOTES: Numbers may not add to totals because of rounding. Percentages are based on the unrounded numbers.

SOURCE: CDC/NCHS, National Study of Long-Term Care Providers, 2013-2014.

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**ORIGINAL RESEARCH:  
EMPIRICAL RESEARCH - QUANTITATIVE**

# Occupational mobility among individuals in entry-level healthcare jobs in the USA

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**Abstract**

**Aims:** The aim of this study was to explore career transitions among individuals in select entry-level healthcare occupations.

**Background:** Entry-level healthcare occupations are among the fastest growing occupations in the USA. Public perception is that the healthcare industry provides an opportunity for upward career mobility given the low education requirements to enter many healthcare occupations. The assumption that entry-level healthcare occupations, such as nursing assistant, lead to higher-skilled occupations, such as Registered Nurse, is under-explored.

**Design:** We analysed data from the Panel Study of Income Dynamics, which is a nationally representative and publicly available longitudinal survey of US households.

**Methods:** Using longitudinal survey data, we examined the job transitions and associated characteristics among individuals in five entry-level occupations at the aide/assistant level over 10 years timeline (2003–2013) to determine whether they stayed in health care and/or moved up in occupational level over time.

**Results/Findings:** This study found limited evidence of career progression in health care in that only a few of the individuals in entry-level healthcare occupations moved into occupations such as nursing that required higher education. While many individuals remained in their occupations throughout the study period, we found that 28% of our sample moved out of these entry-level occupations and into another occupation. The most common “other” occupation categories were “office/administrative” and “personal care/services occupations.” Whether these moves helped individuals advance their careers remains unclear.

**Conclusion:** Employers and educational institutions should consider efforts to help clarify pathways to advance the careers of individuals in entry-level healthcare occupations.

**KEYWORDS**

allied health, career pathway, health workforce, job mobility, nursing, panel data

## 1 | INTRODUCTION

By 2030, the world is projected to experience a net shortage of 15.5 million healthcare workers across 165 countries if current aging, health coverage and employment trends continue (Liu, Goryakin, Maeda, Bruckner, & Scheffler, 2017). Although supply and demand are projected to be on balance in high income countries, the balance may be at risk since high income countries—including the USA—heavily rely on immigrants from low- and middle-income countries, which are projected to experience large shortages, to fill these healthcare jobs (Espinoza, 2017; Liu et al., 2017; McPake, Squires, Mahat, & Edson, 2015; Patterson, Snyder, & Frogner, 2017; Scheffler et al., 2018). A global concern shared by countries and workers alike is the importance of creating high-quality healthcare jobs to attract a pipeline of workers to meet demand. This requires workforce planners to consider, for example, providing adequate training, offering livable wages, ensuring a safe work environment and developing clear career pathways (Horton et al., 2016; McPake et al., 2015).

In this study, we explore whether low-skilled healthcare jobs meet one key characteristic of a high-quality job—evidence of a career pathway in the US Health care has been an engine of job growth in the USA over the last couple of decades (Frogner, 2017; Henderson, 2012; Wood, 2011). Public perception is that the healthcare industry may provide good career opportunities given that the educational requirements are low and the outlook of job growth remains positive (Modestino, 2016; U.S. DOL 2017b; Williams, Ross, & Svajlenka, 2014). Yet, the assumptions that growth in job opportunities equates to clear career pathways and career advancement are not well-tested in the healthcare industry. We used longitudinal data in the USA to trace transitions of individuals in healthcare occupations with low educational requirements, that is, postsecondary education or high school degree (in other words, below a Bachelor's degree). These jobs are among those that are expanding across high-, middle- and low-income countries (McPake et al., 2015). These jobs have titles at the aide or assistant level and are anecdotally considered entry points to a nursing career. Understanding the career pathways and the individuals likely to pursue a career in health care is important for job developers and workforce planners who need to recruit and retain healthcare workers to meet the growing healthcare job demand in the USA (Frogner, Spetz, Oberlin, & Parente, 2015).

### 1.1 | Background

In the USA, career exploration tools such as O\*NET Online and the Occupation Outlook Handbook provide details on job qualifications including, for example, education, credentials and skills. These resources are helpful information for individuals searching for a career, however, little has been done to track the career trajectories taken in health care to determine whether there are clear patterns (Frogner & Skillman, 2016). For example, does one who enters the healthcare field as a nursing assistant with the goal of someday becoming a registered nurse progress along this career trajectory? Understanding these patterns of career transitions are important

#### Why is this research or review needed?

- Across the globe, public perception is that the healthcare industry may provide good career opportunities given that many jobs have low entry-level education requirements (i.e. requiring less than a Bachelor's degree).
- The assumptions that growth in healthcare job opportunities equates to clear career pathways and advancement, indicators of a high-quality job, are not well-explored in the healthcare industry.
- Understanding the career pathways is important for job developers and workforce planners who need to recruit and retain healthcare workers to meet the growing healthcare job demand.

#### What are the key findings?

- About 40% of individuals stayed in their healthcare occupation between 2005 - 2013 using data from a longitudinal survey in the USA, with an additional 10% swirling in and out of occupations but ultimately returning to their starting occupation.
- Among those who left their baseline occupations, about two-thirds stayed in the healthcare industry, while one-third left health care altogether.
- Only a few of the individuals in entry-level allied health occupations moved into occupations that required higher education such as nursing occupations.

#### How should the findings be used to influence policy/practice/research/education?

- Employers could facilitate retention and advancement by creating career advancement options and opportunities (e.g., tuition remission programs) and designing deliberate succession planning efforts.
- Educational institutions as well as health professional organizations could clarify career opportunities and pathways advancement.
- Employers and educational institutions could work together to develop more mentoring and apprenticeship opportunities.

especially as professions such as nursing experience “degree creep,” or increase the entry-level education requirements and new occupations emerge. For example, job entry qualifications for becoming a registered nurse (RN) have moved from an Associate's degree to a preference for Bachelor's degree prepared RNs. In addition, in advanced nursing the entry qualifications have moved from Master's level education to a preference for doctorate-level prepared advanced practice nurses. Going from a certificate or Associate's degree to Bachelor's degree, or Master's to higher level professional

education, requires significant time and financial investment. In studies of the medical and nursing professions, the private rate of return to education favours more education towards specialization rather than primary care (McPake et al., 2015), but the evidence is minimal for low-wage, lower-skilled occupations (Baughman & Smith, 2012).

In addition to gaining clarity in education and training requirements to enter a healthcare job and determining whether the educational investment lends itself to a clear job trajectory, individuals weigh several compensatory and non-compensatory factors as they decide on career options. These factors have been identified in the literature in the context of recruitment and retention of nurses as well as other entry-level occupations in long-term care facilities where turnover tends to be high. Healthcare workers were more likely to stay with an employer if they felt job satisfaction, which is driven by support for career development through tuition remission and educational release, support by co-workers and leadership and balance in workload (Dill, Morgan, Marshall, & Pruchno, 2013; Dill, Morgan, & Weiner, 2014; Thomas, Mor, Tyler, & Hyer, 2013). Two studies found a relationship between income or an individual's role as the primary earner and their likelihood of staying in a job (Dill et al., 2013; Morgan, Dill, & Kalleberg, 2013). On the other hand, disability is a key predictor for turnover among newly licensed health professionals (Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012; Frogner & Spetz, 2015). While these factors are important predictors of who stays or leaves a job, these studies are limited in determining whether upward career mobility has been achieved once these needs are satisfied.

Progression in wage earnings is one measure of upward career mobility. It is well-established in the literature that there has been a growing wage gap across the world due to skill-biased technological change such that higher-skilled occupations related to technology have experienced faster wage growth than lower skilled occupations (Acemoglu & Autor, 2011; Van Reenen, 2011). An additional well-established global trend is that females earn less than males, controlling for a variety of factors such as hours, workforce interruptions, working in the same occupation (Blau & Kahn, 2017; Olivetti & Petrongolo, 2008). In health care, low-skilled occupations are mostly service oriented and female dominant, factors that have not been in favour of wage growth. One early study found that low-wage earners in health care did not see improvement in their earnings status over a 3-year period, suggesting no upward mobility in the healthcare industry (Andersson, Holzer, & Lane, 2005). Interestingly, as males increasingly enter healthcare jobs, wages have grown and at a rate faster than what their male counterparts experienced in other industries, though their wage earnings level was significantly lower which may be a factor deterring males from entering a predominantly female industry (Dill, Price-Glynn, & Rakovski, 2016). The wage competition for workers is a concern in health care given the evidence suggesting that entry-level healthcare workers leave for higher paying jobs (Ribas, Dill, & Cohen, 2012). Particularly concerning, however, is the finding that workers in entry-level healthcare occupations leave the healthcare industry, but not necessarily for better paid opportunities, or find themselves unemployed (Baughman

& Smith, 2012; Frogner & Spetz, 2015; Ribas et al., 2012). What remains unknown is what happens to these workers long-term when they leave their healthcare job and whether individuals may be taking untraditional career paths including lateral movements in different industries or changes in job classification in health care that are missed in the current literature.

Sociocultural barriers also limit career mobility, particularly for various racial and ethnic groups. These barriers include structural inequalities stemming from racism and discrimination that contribute to disparities in socio-economic status, access to education and access to child care, to name a few (Smedley, Butler, & Bristow, 2004). In addition, in the health professions, the impact of systemic and institutional racism has been found to negatively contribute to employee satisfaction and retention (Nunez-Smith, Curry, Berg, Krumholz, & Bradley, 2008; Nunez-Smith et al., 2009). Thus, even if the individual level factors mentioned above are met, individuals may still have limited support and opportunities for advancement due to structures and norms that limit opportunities for people of colour.

In this study, we seek to fill a gap in the literature by identifying the patterns in career transitions experienced by individuals living in the USA and working in healthcare occupations with low educational requirements (also referred to as entry-level occupations) including nursing/psychiatric/home health aides, occupational therapy aides/assistants, physical therapy aides/assistants, dental aides/assistants and medical assistants. We also explore the individual characteristics associated with each path using publicly available longitudinal survey data. This study uses the patterns of change in occupation titles and industries as measures of upward career mobility. While wage earnings progression is not directly addressed in this study, the individual characteristics associated with these patterns reveal information on the role of wage earnings in career trajectories that are supported by the literature and lead to hypotheses for more detailed analysis on wage earnings in the future.

## 2 | THE STUDY

### 2.1 | Aims

The aim of the study was to examine the career transitions among individuals in select entry-level health occupations, requiring less than a Bachelor's degree. In particular, we identified the patterns in career pathways taken by individuals in select entry-level healthcare occupations by examining whether individuals stayed in health care and/or moved out of health care over time and as well as identified the individual characteristics associated with different career pathways.

### 2.2 | Design

This was a longitudinal study, where we used a base year to select a sample of individuals in entry-level healthcare occupations in the USA, allowing for one wave of pre-base year to understand the entry path into an occupation. We then followed our sample for four

follow-up waves to observe individuals' career trajectories and labour market activities.

### 2.3 | Sample

Our sample consisted of 294 individuals who were in entry-level healthcare occupations in the base year (2005). Our focus on entry-level occupations was to allow for career trajectories into higher skilled occupations to unfold over the subsequent years. To define the boundaries of healthcare occupations, we relied on the two major Standard Occupational Code (SOC; U.S. BLS, Standard Occupational Classifications, 2018) groups: (1) 29-000 Healthcare Practitioners and Technical Occupations and (2) 31-0000 Healthcare Support Occupations. These codes crosswalk to four-digit 2000 US Census Codes used by PSID. From 2003 onward, the occupation classification system remained consistent. We identified five entry-level occupations that had at least one respondent in the base year: nursing/psychiatric/home health aides (occupation code 3600), occupational therapy aides/assistants (occupation code 3610), physical therapy aides/assistants (occupation code 3620), dental aides/assistants (occupation code 3640) and medical assistants and other healthcare support occupations (occupation code 3650). One health-related entry-level occupation that falls outside the two SOC categories is personal care aides; however, this occupation has limits in that it represents a wide range of occupations from home care aides, which is an important entry-level occupation for long-term care, to animal caretakers, barbers and tour guides. As such, we did not include personal care aides as a baseline healthcare occupation.

Once our sample was selected, we then divided them into four groups that involved the following career pathway trajectories:

1. **Stayers:** individuals who consistently reported the same occupation in the base year and follow-up waves;
2. **Swirlers:** individuals who temporarily changed their occupation in a follow-up wave, but eventually re-entered the same occupation as reported in the base year;
3. **Movers:** individuals who changed their occupation in the follow-up waves such that their last reported occupation was not the same as the base year occupation, but still was a healthcare occupation; and
4. **Leavers:** individuals who changed their occupations in the follow-up waves such that their last reported occupation was not a healthcare occupation at all.

### 2.4 | Data collection

We used data from the Panel Study of Income Dynamics (PSID), which is a nationally representative, longitudinal household survey that is collected every 2 years and has existed since 1968. The PSID collects data from the same families and their offspring on variables of health, socio-demographic and economic characteristics. Information is collected about all members of the family, but the highest level of detail is available for the head of the households, followed by their spouses.

Data on occupations and socio-economic variables were pulled from six PSID waves: 2003; 2005; 2007; 2009; 2011; and 2013, where we allowed for one wave of pre-base year (2003) to control for individuals' entry path into an occupation. We then observed four follow-up waves between 2007 - 2013 to capture changes in individuals' career trajectories.

### 2.5 | Ethical considerations

This study was considered exempt by the institutional internal review board.

### 2.6 | Data analysis

We conducted the analysis over a pooled person-year sample using STATA version 14 (StataCorp, 2015). We used descriptive statistics to compare the socio-demographic characteristics of individuals stratified by their career trajectories. We used Kruskal–Wallis equality-of-populations rank test, which is a multi-sample generalization of the two-sample Wilcoxon Mann–Whitney rank-sum test, to identify statistically significant differences in socio-demographic characteristics of individuals across career trajectories.

We used logistic regression models to identify factors that predict which career trajectory an individual is on. Our outcome variables of interest were whether or not an individual was in one of the four career trajectories defined above: stayers, swirlers, movers and leavers. The independent variables included age, marital status (married, single and divorce, separated and widowed), number of children in the household, age of the youngest child in the household, race and ethnicity (Black, White, Hispanic/Latino and others), educational attainment (less than high school, high school, Bachelor's and Master's), employment characteristics (whether the occupation in the base year was same as in the pre-base period, years of job experience and individual wage earnings) and labour market status (whether employed, unemployed, or out of labour force). The earnings were adjusted to 2013 real dollar values based on the Consumer Price Index (CPI) (U.S. DOL Consumer Price Index, 2018). We also controlled for missing observations by creating dummy variables and as well as conducted the Pearson goodness-of-fit test to see how well the logistic models fit the set of observations. Because individual earnings were skewed, we log transformed the variable for regression analyses.

### 2.7 | Validity and reliability

A limitation of the study was although we followed individuals in the specific occupations for five PSID waves (equivalently, 9 years) and thus could identify their occupational mobility in and out of health care, but not necessarily identify upward occupational mobility. Only 37% (109 individuals) of our sample participated in all the waves of the survey. Because of this high attrition rate, our data can be best used to observe movement in and out of occupations rather than to identify whether a career move was lateral.

**TABLE 1** Percentage of individuals in selected healthcare and “other” occupations by wave (individual N = 294)

Wave	2005					
	2003	(base)	2007	2009	2011	2013
Missing (N)	79	0	59	100	121	129
Non-missing/ respondents (N)	215	294	235	194	173	165
Total (N)	294	294	294	294	294	294
Nursing/ psychiatric/home health aide	32%	70%	39%	23%	21%	18%
Medical assistants and other healthcare support occupations	10%	19%	7%	10%	6%	7%
Dental aide/ assistant	4%	9%	4%	3%	3%	2%
Occupational therapy aide/ assistant	0%	0% <sup>a</sup>	0%	0% <sup>a</sup>	0% <sup>a</sup>	0% <sup>a</sup>
Physical therapy aide/assistant	2%	2%	1%	1%	1%	1%
Other occupation	25%	0%	28%	28%	28%	28%

<sup>a</sup>The actual value is 0.003%, implying one of 294 individuals reported to be an occupational therapist in 2005, 2009, 2011 and 2013.

### 3 | RESULTS

#### 3.1 | Healthcare occupation trends

Table 1 shows the percentage of individuals holding one of the five selected entry-level healthcare occupations across each of the waves. In our sample of 294 individuals, 70% were working as nursing, psychiatric and home health aides, 19% were medical assistants or other healthcare support workers, 9% were dental aides/assistants and 2% were physical therapy aides/assistants in the base year (2005).

In the pre-base year as well as post-base year waves, approximately a quarter of individuals were not in one of the five entry-

level healthcare occupations. In the pre- and post-base year waves, nursing/psychiatric/home health aide occupation remained dominant ranging from 18-39% of our respondents' occupations, followed by medical assistants and other healthcare support occupations, which was between 6-10%. Generally, the share of workers in each of the entry-level occupations steadily declined over time while the “other” occupation category remained stable. The number of individuals who were missing (or lost to follow up) in subsequent waves, however, increased as time progressed. Individuals who were missing in one wave were not necessarily missing in subsequent waves. A mean of approximately 20% (59 individuals) of our respondents did not participate in four or more waves.

#### 3.2 | Where did people go?

As mentioned earlier, over a quarter of our sample was not in one of the five entry-level occupations in the post-base year waves. Figure 1 shows the occupation types to which this sub-sample moved into. There trends include both temporary and permanent movements between occupations. Among this sub-sample, a portion of individuals moved into one of two healthcare occupations: licensed practical/vocational nurse (1–5%) and Registered Nurse (–9%). The one occupational therapy aide/assistant in 2005 stayed as an occupational therapy aide/assistant through the end of the study period (0.003%). The most common moves outside of healthcare occupations were into office and administrative (19–23%) and personal care and service (16–23%) occupations. Less common were moves into occupations in the areas of sales (1–9%), building and grounds (6–14%), production (1–6%), construction trades (1–5%), food services (2–7%) and education and training (2–5%). Some occupations such as sales, licensed practical nursing and production shrunk during the follow-up periods, while occupations in the office and administrative and personal care and services either expanded or remained relatively stable (Figure 1).

Among the nursing/psychiatric/home health aides in 2005, the most common “other” occupations, as indicated by the post base 4-year averages, was personal care and services (12%), followed by building and grounds (6%) and office and administrative (5%) occupations. Medical assistants and other healthcare support workers post-



**FIGURE 1** Percentage of “other” occupations held by individuals originating in entry-level health occupations across waves (individual N = 294)

base year most often moved into office and administrative occupations (22%), followed by nursing/psychiatric/home health aides (7%) and education and training (6%). Dental aides/assistants most often moved into office and administrative position (13%), followed by dental hygienist (8%) and radiological technician (7%). Of those working as physical therapy aides/assistants in 2005, the most common subsequent occupation was to be a physical therapist (31%), followed by medical assistants and other healthcare support occupations (6%).

### 3.3 | Descriptive statistics of stayers, swirlers, movers and leavers

Table 2 shows the socio-demographic characteristics in each of the four career trajectory categories. There were significant differences in mean age, ranging from 37.4–43.6 years, with stayers as

the oldest and leavers as the youngest (Table 2). Most of the individuals in each group were women, though there were statistically significant differences across the groups ranging between 84% for movers to 96% for stayers. The mean number of children was lowest for the stayers at 1.1 children compared with 1.5 among leavers; there were no statistically significant differences in the mean age of the youngest child across groups. There were significant statistical differences between groups in terms of marital status. A higher proportion of movers (62%) and stayers (59%) were married compared with the other groups and a higher proportion of swirlers (34%) and leavers (28%) were single compared with other groups. Groups were also statistically different in terms of race and ethnicity. The highest proportion of movers were White people (53%), while the largest proportion of stayers were black people (54%). Black individuals were also most represented among

**TABLE 2** Socio-demographics of individuals within career trajectory category (pooled 2003–2013)

	Stayers	Swirlers	Movers	Leavers	p-values <sup>a</sup>
Individual N	126	29	44	95	
<b>Demographics</b>					
Age (mean)	43.6	41.6	37.5	39.3	<.001
Female	96%	89%	84%	93%	<.001
Number of children (mean)	1.1	1.1	1.2	1.5	<.001
Age of the youngest child (mean)	7.3	7.3	6.7	7.2	0.796
<b>Marital status</b>					
Married	59%	49%	62%	54%	<.05
Single	19%	34%	24%	28%	<.001
Divorce/separated/widowed	21%	17%	14%	18%	0.089
<b>Race/ethnicity<sup>b</sup></b>					
Hispanic/latino	3%	3%	4%	7%	<.05
<b>Non-hispanic</b>					
White	35%	42%	53%	37%	<.001
Black	54%	47%	36%	50%	<.001
Other	5%	5%	3%	4%	0.663
<b>Highest education attained</b>					
Less than high school	2%	1%	4%	2%	0.335
High school	60%	48%	45%	54%	<.05
Bachelor's degree	33%	46%	47%	37%	<.001
Master's degree	5%	4%	4%	8%	0.145
<b>Labour force status<sup>c</sup></b>					
Employed	77%	93%	83%	70%	<.001
Unemployed	4%	2%	4%	10%	<.001
Not in labour force	17%	4%	9%	17%	<.001
<b>Employment characteristics</b>					
Same occupation as in 2003	50%	59%	34%	38%	<.001
Years of job experience (mean)	3.0	2.9	2.8	3.0	0.296
Individual wage earnings (mean) <sup>d</sup>	\$23,119	\$24,511	\$24,754	\$18,028	<.001

<sup>a</sup>p-values calculated using the Kruskal–Wallis equality-of-populations rank test.

<sup>b</sup>Estimates on race/ethnicity do not add up to 100%, as some individuals did not respond to questions on race/ethnicity.

<sup>c</sup>All individuals were employed in the base year of 2005.

<sup>d</sup>Earnings adjusted to 2013 US dollars using the CPI.

leavers (50%). Swirlers had comparable proportions of black (47%) and white (42%) workers.

There were no statistical differences among the four groups in terms of lowest (less than high school) and highest (Master's degree) education levels. There were statistically significant differences, however, between groups in terms of high school and Bachelor's degrees ( $p < .05$ ;  $p < .001$ ). The highest proportion of stayers had a high school degree (60%), while the lowest proportion of movers had a high school degree (45%). Likewise, the largest proportion of movers had a Bachelor's degree (47%), compared with only 33% for the stayers, the least among all groups. The groups were not significantly different in terms of the number of years acquired in job experience, however they differed statistically in terms of other employment characteristics such as individual wage earnings and having the same occupation in the base year as in the pre-base year. Movers had the highest mean individual wage earnings (\$24,754), while leavers had the lowest reported earnings (\$18,028). The groups also differed statistically in terms of labour force status ( $p < .001$  for all). The highest proportion of swirlers were employed (93%), while the unemployment rate over the 2003–2013 period (with the exception of the base year) was highest among the leavers (10%). Stayers and leavers were tied at 17% for the highest incidence of being out of the labour force over this time, compared with only 4% for swirlers and 9% for movers ( $p < .001$ ).

### 3.4 | Predictors of career trajectory

Results from the logistic regressions (Table 3) indicated that the odds of being a stayer (vs any other career trajectory) were 2.36 times higher for women compared with men ( $OR = 2.36$ ,  $p < .001$ ), 0.52 times lower for singles compared with married ( $OR = 0.52$ ;  $p < .001$ ), 1.86 times higher for non-Hispanic black individuals compared with white individuals ( $OR = 1.86$ ;  $p < .001$ ), 0.70 times lower for individuals with a Bachelor's degree compared with those with a high school degree ( $OR = 0.70$ ;  $p < .05$ ) and 1.52 times higher for individuals with the same occupation as in pre-base year ( $OR = 1.52$ ,  $p < .001$ ). There was a concern that this variable could automatically inflate the effect on the odds of being a stayer, however, we find statistically significant effects of this variable on all other outcomes as well. Other variables were not statistically significant predictors of being a stayer. For swirlers, fewer factors significantly predicted this career trajectory—being single and being in the same occupation as in pre-base year had 2.35 and 1.72 higher odds of being a swirler (vs. any other career trajectory) ( $OR = 2.35$ ;  $p < .001$ ,  $OR = 1.72$ ;  $p < .05$ ). Being unemployed and not being in the labour force were associated with lower odds of being a swirler. For movers, females compared with men, non-Hispanic black individuals compared with non-Hispanic white individuals and having a same occupation as in the pre-base year had lower odds of being in that career trajectory.

Compared with logistic regression results for other groups, more socio-demographic factors were significant predictors for being a leaver vs other career trajectories. The odds of being a leaver was 1.19

times higher with every child in the household ( $OR = 1.19$ ;  $p < .05$ ) and 2.07 times higher for Hispanic/Latino individuals compared with non-Hispanic white individuals ( $OR = 2.07$ ;  $p < .05$ ). In addition, the odds were 1.66 times higher for individuals with a Master's degree compared with those with only a high school degree ( $OR = 1.66$ ;  $p < .05$ ) and 2.69 times higher for unemployed, compared with individuals that were employed ( $OR = 2.69$ ;  $p < .05$ ). Results also indicated that the odds of being someone who left and went into a non-health occupation (leaver) were 0.97 times lower with every dollar increase in annual income ( $OR = 0.97$ ;  $p < .001$ ) and 0.67 times lower for individuals that were in the same occupation in the pre-base year as in the base year ( $OR = 0.67$ ;  $p < .05$ ).

## 4 | DISCUSSION

In this study, we identified four career pathways for entry-level healthcare workers: stayers, swirlers, movers and leavers. Of our sample, about 40% stayed in their occupation between 2005 and 2013, with an additional 10% swirling in and out of occupations but ultimately staying in their occupation. About two-thirds of our sample stayed in the healthcare industry when we considered those who left their baseline occupation, while one-third left healthcare altogether. While the overall percentage of individuals in the five entry-level occupations that were the focus of this study declined over time, we were not able to conclude that there was an acceleration of movement out of these occupations over time because of the increasing rate of missing data over the study period.

While most of our sample was in the occupation of nursing/psychiatric/home health aide in the base year, only 18% were in that occupation by the end of the study period. There was limited evidence of upward mobility in career tracks in health care, such as moving from nursing assistant or medical assistant to Registered Nurse. Similarly, few aides in physical therapy and dentistry later moved onto becoming physical therapists and dental hygienists. Given our sample size was limited for these occupations, further work is needed to understand whether education hurdles due to degree creep may be contributing to the lack of movement through these more defined career tracks.

We found a steady share of 28% of our sample who moved out of entry-level occupations and into another occupation. The most common "other" occupation categories that individuals moved to were office and administrative occupations and personal care and services occupations. These occupation categories mostly comprised of titles such as "clerks" and "assistants" and do not clearly indicate upward mobility based on title alone. However, it is worth noting that personal care & service occupations may involve providing support for elder people in their activities of daily living (ADLs) and instrumental activities of daily living (iADLs), which are not considered direct medical care but may contribute to the health and well-being of an individual. Future investigations should consider whether such moves resulted in other benefits such as faster wage

**TABLE 3** Logistic regression results predicting the odds of being within a career trajectory category (2003–2013 pooled N = 1,444)

	Stayers		Swirlers		Movers		Leavers	
	Odds ratio	Std. error						
Demographic characteristics								
Age	1.01	(0.01)	1.01	(0.01)	0.98	(0.01)	0.99	(0.01)
Female	2.36**	(0.60)	0.57	(0.17)	0.35**	(0.08)	1.29	(0.28)
Number of children	0.88	(0.06)	0.82	(0.10)	1.02	(0.10)	1.19*	(0.08)
Age of the youngest child	0.98	(0.02)	0.98	(0.02)	1.01	(0.02)	1.03	(0.02)
Marital status (ref group: married)								
Single	0.52**	(0.08)	2.35**	(0.55)	0.91	(0.20)	1.34	(0.21)
Divorced/separated/widowed	0.87	(0.14)	1.04	(0.26)	0.91	(0.22)	1.18	(0.20)
Race/ethnicity (ref group: non-hispanic white)								
Non-Hispanic black	1.86**	(0.25)	0.75	(0.15)	0.54**	(0.10)	0.87	(0.12)
Non-Hispanic other	1.41	(0.41)	0.79	(0.33)	0.54	(0.25)	1.08	(0.33)
Hispanic/Latino	0.62	(0.19)	0.62	(0.31)	0.78	(0.30)	2.07*	(0.56)
Highest education attained (ref group: high school)								
Less than high school	1.13	(0.59)	2.18	(2.08)	0.90	(0.59)	0.71	(0.38)
Bachelor's degree	0.70*	(0.09)	1.46	(0.27)	1.36	(0.22)	1.02	(0.13)
Master's degree	0.77	(0.19)	0.84	(0.36)	0.64	(0.25)	1.66*	(0.40)
Labour force status (ref group: employed)								
Unemployed	0.75	(0.21)	0.23*	(0.15)	0.51	(0.22)	2.69*	(0.70)
Not in the labour force	1.13	(0.22)	0.25*	(0.11)	0.65	(0.19)	1.58	(0.30)
Employment characteristics								
Job experience (years)	0.95	(0.06)	1.06	(0.10)	1.04	(0.09)	0.99	(0.06)
Log (wage earnings)	1.00	(0.03)	1.07	(0.05)	1.00	(0.04)	0.97**	(0.03)
Employment characteristics (ref: not in same occupation in pre-base year)								
Same occupation in 2003	1.52**	(0.18)	1.72*	(0.31)	0.64*	(0.11)	0.67*	(0.08)
Constant	0.21	(0.10)	0.09	(0.07)	1.22	(0.72)	0.46	(0.21)

The chi-squares from the goodness of fit tests indicate each model is a good fit to the data. We do not report the estimates of missing-observation dummies in the above table, although they were included in the regression analyses.

\*Significant at  $p < .05$ .

\*\*Significant at  $p < .001$ .

progression, flexibility in hours, or better work conditions, which were beyond the scope of this study.

Though we did not focus on wage earnings progression, wage earning level was a significant predictor for whether an individual was a leaver or not such that individuals with higher wages had lower odds of being a leaver, but it was not a significant predictor for other career pathways, which is consistent with qualitative findings that extrinsic rewards such as wages explain intent to stay with an employer (Morgan et al., 2013). Having more children increased the odds of being a leaver, which when combined with the low average wage earnings among leavers, may be indicative of an individual seeking a better paid job to deal with higher financial pressures that come with a larger family. The finding may also be indicative of the individual's need to find a job with better work benefits such as flexible hours that allow an individual to manage multiple children. Somewhat contradictory to previous findings that stronger retention occurs among nursing assistants who are heads of households (Dill et al., 2013), number of children was not a significant predictor of

being a stayer and being single cut the odds in half of being a stayer. It is possible that those who are heads of households may not want to risk changing jobs if they received employer-sponsored health insurance, however, other research found that one-third of those in jobs requiring a high school degree or less were either uninsured or relied on Medicaid, with higher rates for those who were part-time workers and/or working in long-term care (Frogner, Skillman, Patterson, & Snyder, 2016). Those who explored other occupations, however, only to return to their original occupation (swirlers) were over twice as likely to be single compared with their married counterparts. It is not clear from our findings whether those who are single also had children, that is, a single unmarried mother and whether their decision to try other jobs was due to reduced financial obligations and hence freedom to explore other opportunities.

Interestingly, the number of years in a job was not a significant predictor for stayers, or any other career trajectory, despite studies showing that job tenure was associated with job retention among nursing assistants (Dill et al., 2013). Prior experience in health care,

however, was a significant predictor of being a stayer or swirler, which is supported in the literature (Dill et al., 2013). Of concern is that individuals who were ever unemployed in subsequent waves had significantly higher odds of leaving a healthcare occupation, which is consistent with other studies showing that many leavers of healthcare jobs become unemployed or exit the labour force (Baughman & Smith, 2012; Frogner & Spetz, 2015). This trend is concerning given that many of these entry-level occupations are in high demand, so understanding why individuals are not able to find employment needs further investigation.

Timing of education and its contribution to career trajectories was a challenge to address in this study given the limited information about the specific nature of the education received and the timing between attainment of degree and job switches. We found, however, that individuals with a Bachelor's degree had lower odds of being a stayer and those with a Master's degree had higher odds of being a leaver. Both findings do not bode well for the notion that health care provides clear career opportunities for more highly skilled individuals, but rather individuals seek employment elsewhere.

Socio-demographic aspects also were significant predictors of career pathways. Being female significantly increased the odds of being a stayer, which aligns with a recent study suggesting that males are less likely to work in health care due to wage penalties they experience by working in a "pink collar," or female dominated, industry (Dill et al., 2016). Non-Hispanic black individuals had higher odds of being a stayer and decreased odds of moving out of their occupation, while Hispanic/Latino individuals had increased odds of being a leaver. While this trend is consistent with the demographics of the healthcare industry more broadly (Frogner et al., 2015) and supports previous research on the role of socio-demographic and structural barriers in career mobility for people of colour (Smedley et al., 2004), further investigation is needed to further understand the roles that structural barriers such as racism and various forms of bias and discrimination play in career mentorship, advancement and retention among people of colour in health professions.

#### 4.1 | Limitations

There are a few limitations to note about our study. First, many individuals were not consistently followed across waves or were lost to follow-up so we were not able to fully capture the career trajectory of those who were missing. Attrition is not surprising, however, in a longitudinal survey and PSID is one of the few yet best available data sources to track employment trends over time. Second, our results have limited generalizability to the national population and may reflect trends particular to the sampling frame of PSID where husbands and wives in the same household may be in our sample. This scenario was not common given that our sample was overwhelmingly women. While PSID has sampling weights that allows researchers to make data nationally representative, we chose to use the raw data given the small sample sizes that may otherwise be overinflated and erroneously interpreted as national patterns. Third, we focused on individuals in a healthcare occupation in one base year to maximize our time frame for

observing a career trajectory. As we considered alternative base years, we found similar distributions in healthcare occupations and ultimately chose a year that allowed the greatest number of years of follow up while maintaining a consistent occupation coding scheme across years. Finally, our sample sizes were small since this survey was not designed specifically to monitor occupational mobility in health care, yet the PSID is one of only a few nationally representative datasets that provide opportunity to study individuals' occupational pathways and socio-demographic characteristics. Larger studies focused on healthcare workers need to be conducted to gain greater insights into specific occupational pathways.

## 5 | CONCLUSION

In the end, our study findings showing that entry-level healthcare workers experienced limited upward movement in their career trajectory is of concern in the context of retention. Individuals those were single, had larger families, were Hispanic/Latino, had more education and lower wages had higher odds of having occupational movement. More work is needed to understand the significance of race, ethnicity and family in job movement in healthcare occupations, and to understand the underlying motivations around job movements. Additional socio-economic factors such as poverty status, uninsured status and food stamp support and its relationship with work disability status, which are common among these entry-level occupations, need to be considered in future studies of long-term career pathways (Baughman & Smith, 2012; Frogner et al., 2016). Of particular concern is that higher education does not clearly result in upward mobility in health care and that lower wages predict movement out of health care altogether. This trend is concerning as it results in a mismatch of outcomes at a time when workforce planners are increasing training opportunities that result in educational credit and job developers campaign for living wages for healthcare workers as a way to retain healthcare workers. Until these factors are addressed, current recruitment and retention may not be sufficient to meet the growing demand for healthcare workers.

#### CONFLICTS OF INTEREST

No conflict of interest has been declared by the authors.

#### AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE(<http://www.icmje.org/recommendations/>)]:

- substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

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## REFERENCES

- Acemoglu, D., & Autor, D. (2011). *Skills, tasks and technologies: Implications for employment and earnings* (Vol. 4, pp. 1043–1171). Amsterdam: Elsevier.
- Andersson, F., Holzer, H. J., & Lane, J. I. (2005). *Moving up or moving on: Who advances in the low-wage labor market*. New York, NY: Russell Sage Foundation.
- Baughman, R. A., & Smith, K. E. (2012). Labor mobility of the direct care workforce: Implications for the provision of long-term care. *Health Economics*, 21(12), 1402–1415. <https://doi.org/10.1002/hec.1798>
- Blau, F. D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends and explanations. *Journal of Economic Literature*, 55(3), 789–865. <https://doi.org/10.1257/jel.20160995>
- Brewer, C. S., Kovner, C. T., Greene, W., Tukov-Shuser, M., & Djukic, M. (2012). Predictors of actual turnover in a national sample of newly licensed registered nurses employed in hospitals. *Journal of Advanced Nursing*, 68(3), 521–538. <https://doi.org/10.1111/j.1365-2648.2011.05753.x>
- Dill, J. S., Morgan, J. C., Marshall, V. W., & Pruchno, R. (2013). Contingency, employment intentions and retention of vulnerable low-wage workers: An examination of nursing assistants in nursing homes. *Gerontologist*, 53(2), 222–234. <https://doi.org/10.1093/geront/gns085>
- Dill, J. S., Morgan, J. C., & Weiner, B. (2014). Frontline health care workers and perceived career mobility: Do high-performance work practices make a difference? *Health Care Management Review*, 39(4), 318–328. <https://doi.org/10.1097/HMR.0b013e31829fcbfd>
- Dill, J. S., Price-Glynn, K., & Rakovski, C. (2016). Does the “Glass Escalator” compensate for the devaluation of care work occupations? The careers of men in low-and middle-skill health care jobs. *Gender & Society*, 30(2), 334–360. <https://doi.org/10.1177/0891243215624656>
- Espinoza, R. (2017). *Immigrants and the direct care workforce*. PHI National. [https://phinational.org/wp-content/uploads/2017/06/immigrants\\_and\\_the\\_direct\\_care\\_workforce\\_-\\_phi\\_-\\_june\\_2017.pdf](https://phinational.org/wp-content/uploads/2017/06/immigrants_and_the_direct_care_workforce_-_phi_-_june_2017.pdf)
- Frogner, B. K. (2017). The health care job engine. *Medical Care Research and Review*, 75(2), 219–231. <https://doi.org/10.1177/1077558716688156>
- Frogner, B. K., & Skillman, S. (2016). Pathways to middle-skill allied health care occupations. *Issues in Science and Technology*, 33(Fall), 52–57.
- Frogner, B. K., Skillman, S. M., Patterson, D. G., & Snyder, C. R. (2016). Comparing the socioeconomic well-being of workers across health-care occupations. Center for Health Workforce Studies, University of Washington. Retrieved from: <https://depts.washington.edu/fammed/chws/publications/comparing-the-socioeconomic-well-being-of-workers-across-healthcare-occupations>.
- Frogner, B., & Spetz, J. (2015). *Exit and entry of workers in long-term care*. San Francisco, CA: UCSF Health Workforce Research Center on Long-Term Care. Retrieved from: <http://healthworkforce.ucsf.edu/publication/entry-and-exit-workers-long-term-care>.
- Frogner, B. K., Spetz, J., Oberlin, S., & Parente, S. T. (2015). The demand for healthcare workers post-ACA. *International Journal of Health Economics and Management*, 15, 139–151. <https://doi.org/10.1007/s10754-015-9168-y>
- Henderson, R. (2012). Industry employment and output projections to 2020. *Monthly Labor Review*, 135(1), 65–83.
- Horton, R., Araujo, E., Bhorat, H., Bruysten, S., Jacinto, C. G., McPake, B., Reddy, K. S., ... Yamin, A. E. (2016). *Final report from the high-level commission on health employment and economic growth*. Geneva: World Health Organization. Retrieved from: <https://apps.who.int/iris/bitstream/handle/10665/250040/9789241511285-eng.pdf;jsessionid=6BAD6DB66B602BCC09037D16947CE77D?sequence=1>
- Liu, J. X., Goryakin, Y., Maeda, A., Bruckner, T., & Scheffler, R. (2017). Global health workforce labor market projections for 2030. *Human Resources for Health*, 15(1), 1–12.
- McPake, B., Squires, A., Mahat, A., & Edson, R. (2015). *The economics of health professional education and careers insights from a literature review*. Washington, DC: The World Bank. <https://doi.org/10.1596/978-1-4648-0616-2>
- Modestino, A. S. (2016). The importance of middle-skill jobs. *Issues in Science and Technology*, 33(1), 41–46. Retrieved from <https://www.northeastern.edu/cssh/policyschool/wp-content/uploads/sites/24/2017/01/NAS-The-Importance-of-Middle-Skill-Jobs-Fall-2016-IST-PDF.pdf>
- Morgan, J. C., Dill, J., & Kalleberg, A. L. (2013). The quality of healthcare jobs: Can intrinsic rewards compensate for low extrinsic rewards? *Work, Employment & Society*, 27(5), 802–822. Retrieved from <http://wes.sagepub.com/content/27/5/802> <https://doi.org/10.1177/0950017012474707>
- Nunez-Smith, M., Curry, L., Berg, A., Krumholz, D., & Bradley, H. (2008). Healthcare workplace conversations on race and the perspectives of physicians of African descent. *Journal of General Internal Medicine*, 23(9), 1471–1476. <https://doi.org/10.1007/s11606-008-0709-7>
- Nunez-Smith, M., Pilgrim, N., Wynia, M., Desai, M., Jones, M., Bright, B., ... Bradley, C. (2009). Race/ethnicity and workplace discrimination: Results of a national survey of physicians. *Journal of General Internal Medicine*, 24(11), 1198–1204. <https://doi.org/10.1007/s11606-009-1103-9>
- Olivetti, C., & Petrongolo, B. (2008). Unequal pay or unequal employment? A cross-country analysis of gender gaps. *Journal of Labor Economics*, 26(4), 621–654. <https://doi.org/10.1086/589458>
- Patterson, D. G., Snyder, C. R., & Frogner, B. K. (2017). Immigrants in Healthcare Occupations. UW Center for Health Workforce Studies. Retrieved from [http://depts.washington.edu/fammed/chws/wp-content/uploads/sites/5/2017/01/Immigrants-in-Healthcare-Occupations\\_FR\\_Jan\\_2017-Patterson.pdf](http://depts.washington.edu/fammed/chws/wp-content/uploads/sites/5/2017/01/Immigrants-in-Healthcare-Occupations_FR_Jan_2017-Patterson.pdf)
- Ribas, V., Dill, J. S., & Cohen, P. N. (2012). Mobility for care workers: Job changes and wages for nurse aides. *Social Science and Medicine*, 75(12), 2183–2190. <https://doi.org/10.1016/j.socscimed.2012.08.015>
- Scheffler, R. M., Campbell, J., Cometto, G., Maeda, A., Liu, J., Bruckner, T. A., ... Evans, T. (2018). Forecasting imbalances in the global health labor market and devising policy responses. *Human Resources for Health*, 16(1), 5. <https://doi.org/10.1186/s12960-017-0264-6>
- Smedley, B., Butler, A. S., & Bristow, L. R., & Institute of Medicine. Committee on Institutional Policy-Level Strategies for Increasing the Diversity of the U.S. Health Care Workforce. (2004). *In the nation's compelling interest: Ensuring diversity in the health-care workforce*. Washington, DC: National Academies Press.
- StataCorp. (2015). *Stata statistical software: Release 14*. College Station, TX: StataCorp LP.
- Thomas, K. S., Mor, V., Tyler, D. A., & Hyer, K. (2013). The relationships among licensed nurse turnover, retention and rehospitalization of nursing home residents. *Gerontologist*, 53(2), 211–221. <https://doi.org/10.1093/geront/gns082>
- U.S. Department of Labor, Bureau of Labor Statistics. (2017a). Consumer Price Index. Retrieved from <http://www.bls.gov/cpi/>.
- U.S. Department of Labor, Bureau of Labor Statistics. (2017b). Fastest Growing Occupations. December 17, 2015. Retrieved from <http://www.bls.gov/ooh/fastest-growing.htm>
- U.S. Department of Labor, Bureau of Labor Statistics. (2018). Standard Occupational Classification. Retrieved from [https://www.bls.gov/soc/major\\_groups.htm](https://www.bls.gov/soc/major_groups.htm)
- Van Reenen, J. (2011). Wage inequality, technology and trade: 21st century evidence. *Labour Economics*, 18(6), 730–741. <https://doi.org/10.1016/j.labeco.2011.05.006>

- Williams, J. R., Ross, M., & Svajlenka, N. P. (2014). *Part of the solution: Pre-baccalaureate healthcare workers in a time of health system change*. Brookings Metropolitan Policy Program: Washington, DC. Retrieved from <https://www.brookings.edu/interactives/part-of-the-solution-pre-baccalaureate-healthcare-workers-in-a-time-of-health-system-change/>
- Wood, C. A. (2011). Employment in health care: A crutch for the ailing economy during the 2007–09 recession. *Monthly Labor Review*, 134(4), 13–18. Retrieved from <http://www.bls.gov/opub/mlr/2011/04/mlr201104.pdf>

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## Research Article

# CNA Training Requirements and Resident Care Outcomes in Nursing Homes

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## Abstract

**Purpose of the Study:** To examine the relationship between certified nursing assistant (CNA) training requirements and resident outcomes in U.S. nursing homes (NHs). The number and type of training hours vary by state since many U.S. states have chosen to require additional hours over the federal minimums, presumably to keep pace with the increasing complexity of care. Yet little is known about the impact of the type and amount of training CNAs are required to have on resident outcomes.

**Design and Methods:** Compiled data on 2010 state regulatory requirements for CNA training (clinical, total initial training, in-service, ratio of clinical to didactic hours) were linked to 2010 resident outcomes data from 15,508 NHs. Outcomes included the following NH Compare Quality Indicators (QIs) (Minimum Data Set 3.0): pain, antipsychotic use, falls with injury, depression, weight loss and pressure ulcers. Facility-level QIs were regressed on training indicators using generalized linear models with the Huber-White correction, to account for clustering of NHs within states. Models were stratified by facility size and adjusted for case-mix, ownership status, percentage of Medicaid-certified beds and urban-rural status.

**Results:** A higher ratio of clinical to didactic hours was related to better resident outcomes. NHs in states requiring clinical training hours above federal minimums (i.e., >16 hr) had significantly lower odds of adverse outcomes, particularly pain falls with injury, and depression. Total and in-service training hours also were related to outcomes.

**Implications:** Additional training providing clinical experiences may aid in identifying residents at risk. This study provides empirical evidence supporting the importance of increased requirements for CNA training to improve quality of care.

**Keywords:** Certified nursing assistant, regulation, clinical training hours, resident outcomes, quality indicator, Minimum Data Set

## Purpose of the Study

Certified nurse assistants (CNAs) are direct care workers who provide 65% of the daily assistance and health-related care for residents in long-term care facilities (American Health Care Association [AHCA], 2004; Squillace et al., 2009). Because of their close relationships with patients, CNAs are relied upon in the NH setting for preliminary identification of patients at risk. For example, recognition of pain cues in cognitively impaired residents (Liu 2014)

is a task delegated to CNAs by licensed nurses. Therefore, adequate training is an essential component for CNAs working in NHs.

To become certified as a CNA, U.S. federal regulations require at least 75 initial training hours with a minimum of 16 clinical hours, plus 12 annual in-service training hours (Code of Federal Regulations, 2012). Required CNA training hours vary by state, since many U.S. states have chosen to require additional hours over the federal

minimums, to keep pace with the increasing complexity of care. The Office of the Inspector General (OIG), back in 2002, identified concerns among long-term care stakeholders about federal CNA training requirements, specifically the apportioning of didactic versus clinical training hours. Of greatest concern to CNA supervisors was that 16 clinical hours was insufficient to adequately prepare new CNAs for employment in long-term care facilities (OIG, 2002). In addition, CNAs themselves desired more clinical time and felt that they were inadequately prepared for real-life resident care (Sengupta, Harris-Kojetin, & Ejaz, 2010). The high turnover of CNAs (70% of some training program graduates) has also been identified as a potential consequence of insufficient clinical training experience for CNAs (OIG, 2002).

All staff in NHs require training to maintain care quality, and training needs of CNAs should not be overlooked. Better resident outcomes, such as fewer falls and lower average medication use, have been found in NHs in states requiring CNA training and in-service hours above federal minimums (Trinkoff et al., 2013). Other studies have found that additional CNA didactic training was related to adequate care for residents with cognitive impairment or low functional activity (Fitzpatrick, & Roberts, 2004; Smith, Kerse, & Parsons, 2005). Despite these findings, little is known about the impact of hours of CNA clinical preparation on resident outcomes. This study builds on our prior work relating CNA training and certification to resident outcomes, by examining state-level clinical versus didactic training regulations with an updated analysis of total initial training and in-service hours.

## Design and Methods

The conceptual framework guiding this research is an adaption of the Systems Engineering Initiative for Patient Safety (SEIPS) model (Carayon et al., 2006). The SEIPS model draws from Donabedian's structure-process-outcome model (Donabedian, 1972) by emphasizing linkages of work system design to resident outcomes through care processes. We hypothesized that NHs in states with more stringent CNA training regulations (i.e., more training hours; higher ratios of clinical to didactic hours) would be associated with NH QI rates that reflect better care. Therefore, NHs in states where CNA training is more extensive will have lower adverse outcome rates. Studying regulatory changes in relation to outcomes can strengthen our understanding of the importance of regulatory requirements for CNA training and the potential impact of these regulations on outcomes.

## Design and Sampling

Initially, we compared state CNA training regulations from 2010 to 2004, the year for which we first analyzed CNA regulatory data. Then we linked 2010 regulatory data from

all 50 U.S. states and the District of Columbia to 2010 resident outcomes data from 15,508 NHs. We excluded 165 facilities that did not provide any facility characteristics or that had missing values for all resident outcomes. The University of Maryland Baltimore Institutional Review Board approved the study protocol.

## Data Sources

### Nursing Home Compare

The Center for Medicare and Medicaid Services (CMS) website provides public access to data files with detailed information about every Medicare and Medicaid-certified NH in the United States. For this study, 2010 NH Compare files were used to obtain facility-level QIs and facility characteristics (CMS, 2014). Data were from the CMS Minimum Data Set (MDS) 3.0 that measured residents' physical and cognitive status, acute medical condition and behavioral and emotional status at the facility level to create a comprehensive view of care for U.S. NHs (RTI, 2014). MDS QIs are generated annually, using quarterly data on resident care outcomes and other parameters reported by NHs. Compared to MDS 2.0, MDS 3.0 has improved resident input, uses more refined measurement tools to capture clinically relevant QIs and requires 48% less time to complete (Saliba & Buchanan, 2012).

### State-level CNA Regulatory Data

Several online sources were used to compile state-level 2010 CNA training regulations. Regulations were first abstracted from the Paraprofessional Healthcare Institute (PHI) 2011 and AHCA websites, with additional information obtained from the NH Regulation Plus, University of Minnesota website (AHCA, 2009; PHI, 2011; University of Minnesota, 2012). If clarification was needed, appropriate state officials were contacted by telephone; three states were contacted to verify clinical hours in effect for 2010, and 22 states were contacted about in-service hours. This approach was similar to that used previously to obtain complete state-level regulatory data (Trinkoff et al., 2013).

## Measures

### Resident Outcomes

Long-stay QIs were calculated as facility-level rates defined as the percentage of residents with a targeted condition or with changes to resident mobility (MDS 3.0) (CMS, 2014). QIs used in this study were as follows: percentage of residents with pain, antipsychotics, falls with injury, weight loss, and pressure ulcers with definitions shown in Table 1.

Reliability and validity of MDS QIs has been reported in previous studies. An inter-rater reliability trial reported a cumulative correlation coefficient for all diagnoses as 0.74 (Hawes et al., 1997); for pain management and pressure ulcers, inter-rater reliability was 0.75 and 0.74, respectively (Mor et al., 2011). Good agreement levels were noted

**Table 1.** Definition of Included CMS Long-stay Nursing Home Quality Indicators, MDS 3.0

Quality indicator	Definition
High risk pressure ulcer	Percentage of high risk residents with pressure ulcer in last 7 days
Weight loss	Percentage of residents who lose 5% or more of weight in last 30 days, and 10% or more of weight in 6 months
Falls with injury	Percentage of residents experiencing one or more falls with major injury since most recent prior assessment
Depressive symptoms	Percentage of residents who have depressive symptoms in last 14 days
Antipsychotic medication	Percentage of residents who received an antipsychotic medication in last 7 days
Pain	Percentage of residents who self-report moderate to severe pain in last 5 days

Source: CMS, MDS 3.0 Quality Measures Users' Manual (RTI, 2014).

between MDS 2.0 QIs and chart reviews (Mor, Intrator, Unruh, & Cai, 2011). Improved reliability levels were found for MDS 3.0 compared with MDS 2.0, with most MDS 3.0 variables having good to excellent inter-rater reliability (Saliba & Buchanan, 2012). A variety of outcomes have been shown to be related to NH characteristics in previous studies and support the validity of the outcomes data (Bostick, Rantz, Flesner, & Riggs, 2006; Collier & Harrington, 2008; Horn, Buerhaus, Bergstrom, & Smout, 2005).

NH Compare suppresses values for long-stay measures in a NH when the denominator is less than 30. For a NH with suppressed values, this could mean that the QI rate was very low and/or that the home was small and therefore did not have enough residents to reach that denominator. QI rates for NHs with suppressed values were imputed following the imputation rule developed by Brown University (D. Tyler, personal communication, June 5, 2012). The numerator was set at 5 and the denominator was calculated using bed size multiplied by occupancy rate. After imputation, the percentage of NHs with missing QIs was less than 5%. Each QI was then dichotomized such that NHs exceeding the 75th percentile for each QI were considered to be lower quality compared with those with rates at or below the 75th percentile.

### State Regulations

State-level CNA training hour requirements were coded for clinical, in-service, and total initial training hours dichotomized as follows: 0 = required hours at federal minimums; 1 = required hours exceeding federal minimums. Thus, clinical hours were coded as 0 = 16 hr, 1 > 16 hr; in-service as 0 = 12 hr, 1 > 12 hr; and total initial training hours as 0 = 75 hr, 1 > 75 hr. The ratio of clinical to didactic hours was created as follows: for each state, the actual clinical hours required were divided by didactic hours (obtained by total initial hours minus required clinical hours) to form a ratio.

### Facility Characteristics

Facility Characteristics included facility size categorized by number of beds (<50, 50–99, 100–199, ≥200 beds), case-mix, ownership status (for-profit vs. not-for-profit), percentage of Medicaid-certified beds and urban-rural status. Case-mix was adjusted using expected staffing—a measure of facility case-mix defined as expected number of hours of care provided on average to each resident each day (CMS,

2014). Expected staffing was drawn from the CMS Nursing Home Compare website (CMS, 2014) and was designed to be used as a proxy for case-mix (Cowles, 2014).

### Analysis

Descriptive statistics were used to estimate frequencies and percentages for the study variables. Each facility-level QI was regressed using generalized linear models with the Huber-White correction to account for clustering of NHs within states. Additional analyses were stratified by NH size due to a significant interaction effect of NH size and training hours on QI rates. Models examined associations of state-level training hour regulations (i.e., clinical hours, in-service hours, total initial training hours, and ratio of clinical to didactic hours) on resident outcomes (QIs) with and without adjustment for case-mix, ownership status, percentage of Medicaid-certified beds, and urban-rural status.

## Results

### Changes in CNA Training Hours

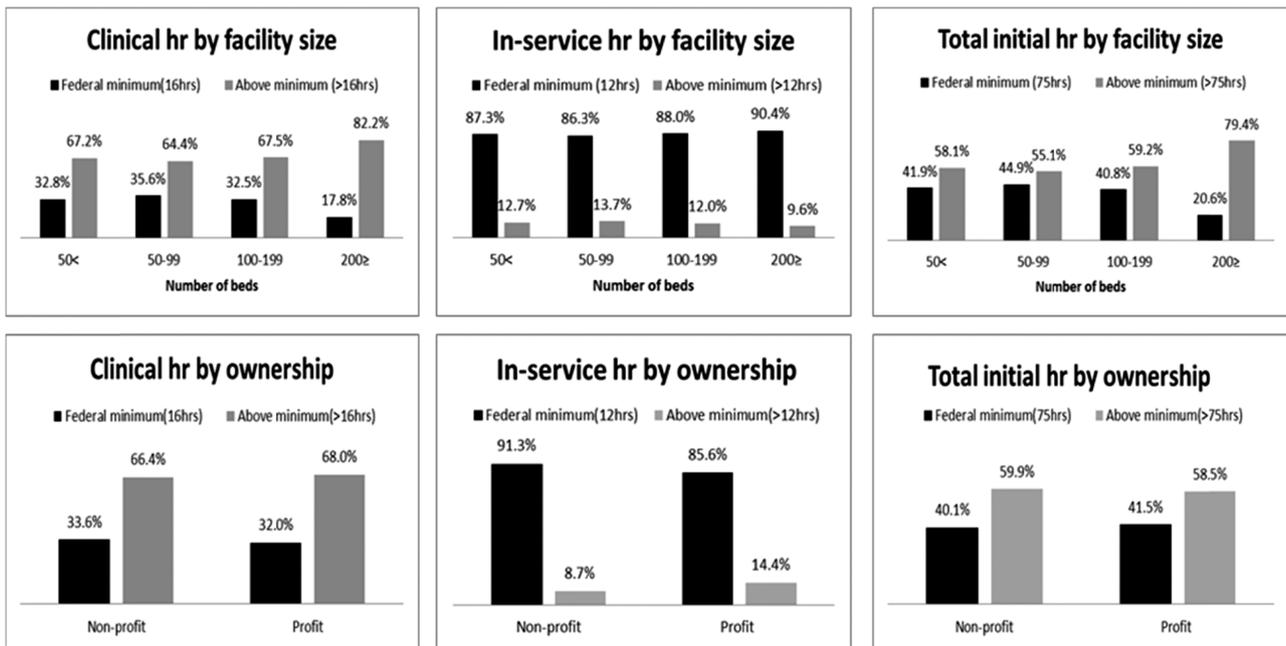
The distribution of required CNA training hours by state and NHs in the United States in 2004 and 2010 is presented in Table 2. The proportion of states requiring extra initial training hours beyond federal minimums increased to 61% in 2010 from 53% in 2004. For clinical training hours, in 2010 one-third of states had regulations requiring the 16-hr federal minimum. The other 31 states and District of Columbia required more clinical training hours—ranging from 20 (Rhode Island) to 100 hr (California and Missouri). Mandatory in-service training hours were unchanged from 2004; only three states (California, Florida, and Nevada) required more than the federal minimum. The proportion of states requiring extra initial training or in-service hours also increased slightly in 2010 to 29% from 24% in 2004 (Supplementary Appendix 1).

Because more states in 2010 required additional training hours compared with 2004, we also investigated how this translated down to actual NHs within states. Slightly more than half of all U.S. NHs (59%) were required to employ CNAs with training hours over federal minimums; clinical and in-service training hour requirements did not vary across facility size (Figure 1). There was no statistical

**Table 2.** Frequency and Proportion of States and Nursing Homes in U.S. 2004 Versus 2010 by Required Training Hours

	2004				2010			
	State (n = 49) <sup>a</sup>		Nursing home (n = 16,125)		State (n = 51)		Nursing home (n = 15,508)	
Total initial training								
Greater than 75 hr	26	(53.1) <sup>b</sup>	8,300	(51.5)	31	(60.7)	9,426	(58.6)
75 hr (minimum requirement)	23	(46.9)	7,825	(48.5)	20	(39.3)	6,664	(41.4)
In-service training (annual)								
Greater than 12 hr	3	(6.1)	2,125	(13.2)	3	(5.9)	2,002	(12.4)
12 hr (minimum requirement)	46	(93.9)	14,000	(86.8)	48	(94.1)	14,088	(87.6)
Requirement for initial and in-service training								
>75 total initial training hours and >12 hr annual in-service	3	(6.1)	2,082	(12.9)	3	(5.8)	1,966	(12.2)
>75 total initial training hours or >12 hr annual in-service	24	(49.0)	6,261	(38.8)	29	(56.8)	7,511	(46.7)
75 total initial training hours and 12 hr annual in-service training (federal minimum)	22	(44.9)	7,782	(48.3)	19	(37.3)	6,613	(41.1)

<sup>a</sup>District of Columbia and Alaska were excluded from the analysis in 2004. <sup>b</sup>Values in parentheses are percentages.



**Figure 1.** Proportion of U.S. nursing homes operating under their state training hour requirements by facility size and ownership, 2010 (n = 15,508).

variation in total initial training hours across facility size. The only training difference by ownership status was a smaller proportion of not-for-profit NHs offering additional in-service training compared with for-profit NHs (8.7% vs. 14.4%, *p* = .013).

**CNA Training Hours and Resident Care Outcomes**

Table 3 presents associations between each QI and required clinical hours, ratio of clinical to didactic hours, in-service hours, and total initial training hours stratified by NH

size and adjusted for case mix, ownership, percentage of Medicaid-certified beds, and urban-rural status. We hypothesized that as required training hours increased, QI rates would decrease. Therefore, relationships with an estimated odds ratio (OR) below 1.0 would support this hypothesis. As the significance of the estimates changed little after adjustment, we therefore only presented the adjusted findings.

**Clinical Training Hours**

In general, we detected a pattern that NHs in states requiring more clinical training had better QIs than NHs in states

**Table 3.** Association Between CNA Training Hours and QI Rates (>75th percentile) in U.S. Nursing Homes, Stratified by Bed Size, After Adjustment<sup>a</sup> (N = 15,508)

	Pain (>75th percentile)		Antipsychotic use (>75th percentile)		Falls with injury (>75th percentile)		Depression (>75th percentile)		Weight loss (>75th percentile)		Pressure ulcer (>75th percentile)	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Clinical training hours (>16 hr vs. 16 hr)												
<50 beds	0.63	(0.32, 1.24)	0.97	(0.66, 1.44)	0.88	(0.62, 1.25)	0.62*	(0.40, 0.97)	0.78	(0.58, 1.03)	1.33	(0.45, 3.93)
50–99 beds	0.61*	(0.50, 0.75)	0.84	(0.57, 1.26)	0.71*	(0.54, 0.95)	0.65	(0.38, 1.14)	0.84	(0.67, 1.04)	1.04	(0.79, 1.38)
100–199 beds	0.73	(0.52, 1.03)	1.10	(0.67, 1.79)	0.93	(0.70, 1.24)	0.78	(0.49, 1.26)	0.86	(0.70, 1.06)	1.15	(0.89, 1.49)
≥200 beds	0.35*	(0.19, 0.63)	1.08	(0.61, 1.91)	0.84	(0.54, 1.31)	0.71	(0.44, 1.14)	0.64	(0.41, 1.01)	1.36	(0.76, 2.41)
Ratio (clinical/didactic)												
<50 beds	0.59*	(0.36, 0.98)	0.81*	(0.66, 0.99)	0.82	(0.59, 1.14)	0.47*	(0.37, 0.61)	0.88	(0.59, 1.30)	1.21	(0.73, 2.02)
50–99 beds	0.82*	(0.68, 0.98)	0.82	(0.64, 1.06)	0.68	(0.43, 1.06)	0.59*	(0.38, 0.92)	0.81*	(0.67, 0.98)	1.07	(0.93, 1.23)
100–199 beds	0.87	(0.70, 1.08)	0.90	(0.60, 1.36)	0.81	(0.56, 1.18)	0.71*	(0.50, 1.00)	0.87	(0.69, 1.09)	1.03	(0.88, 1.20)
≥200 beds	0.87	(0.47, 1.61)	0.94	(0.65, 1.35)	0.78	(0.47, 1.30)	0.50*	(0.30, 0.84)	0.91	(0.55, 1.52)	0.71	(0.47, 1.09)
In-service training hours (>12 hr vs. 12 hr)												
<50 beds	0.11*	(0.05, 0.23)	0.60*	(0.42, 0.84)	0.43*	(0.31, 0.59)	0.34*	(0.20, 0.59)	0.34*	(0.26, 0.45)	1.56	(0.75, 3.24)
50–99 beds	0.68*	(0.51, 0.90)	0.69	(0.46, 1.04)	0.34*	(0.18, 0.63)	0.26*	(0.17, 0.40)	0.58*	(0.48, 0.71)	1.32*	(1.14, 1.53)
100–199 beds	0.84	(0.67, 1.04)	0.79	(0.39, 1.60)	0.54	(0.27, 1.07)	0.40*	(0.29, 0.55)	0.81	(0.50, 1.31)	1.00	(0.80, 1.26)
≥200 beds	0.86	(0.48, 1.56)	1.76	(0.53, 5.82)	0.46*	(0.24, 0.88)	0.26*	(0.18, 0.36)	0.74	(0.38, 1.47)	0.61*	(0.40, 0.96)
Total initial training hours (>75 hr vs. 75 hr)												
<50 beds	0.52	(0.25, 1.09)	0.92	(0.60, 1.42)	0.82	(0.56, 1.20)	0.55*	(0.36, 0.85)	0.81	(0.59, 1.11)	1.43	(0.49, 4.15)
50–99 beds	0.73*	(0.57, 0.94)	0.76	(0.52, 1.12)	0.68*	(0.50, 0.92)	0.65	(0.39, 1.09)	0.96	(0.75, 1.22)	1.15	(0.90, 1.47)
100–199 beds	0.80	(0.59, 1.08)	0.79	(0.48, 1.30)	0.83	(0.64, 1.08)	0.72	(0.48, 1.08)	0.97	(0.77, 1.23)	1.23	(0.97, 1.57)
≥200 beds	0.34*	(0.20, 0.59)	0.80	(0.43, 1.49)	0.77	(0.47, 1.25)	0.79	(0.50, 1.23)	0.69	(0.44, 1.08)	1.81*	(1.11, 2.93)

Note: CI = confidence interval; OR = odds ratio.

<sup>a</sup>Models adjusted for case-mix, ownership status, percentage of Medicaid-certified beds and urban-rural status; reference categories for all of the quality indicators: <75th percentile.

\* $p < .05$ .

where only the federal minimums were required (Table 3). NHs in states requiring additional clinical training hours were less likely to have a high percentage (i.e., >75th percentile) of residents with pain (50–99 beds: OR = 0.61, 95% confidence interval [CI] = 0.50, 0.75;  $\geq 200$  beds: OR = 0.35, 95% CI = 0.19, 0.63), falls with injury (50–99 beds: OR = 0.71, 95% CI = 0.54, 0.95), and depression (<50 beds: OR = 0.62, 95% CI = 0.40, 0.97) after controlling for case-mix, ownership, percentage of Medicaid-certified beds, and urban-rural status, compared to NHs in states with the federal minimum requirements.

### Ratio of Clinical to Didactic Hours

The ratio of clinical hours divided by didactic hours had a significant negative association with the QIs, especially among all NHs for rates of depression. In other words, as clinical hours as a proportion of total training hours increased, there was a significant decrease in odds of NHs having residents with depression, regardless of NH size. Pain, antipsychotic medication use, and weight loss were similarly related, especially in smaller NHs: pain (<50 beds: OR = 0.59, 95% CI = 0.36, 0.98, 50–99 beds: OR = 0.82, 95% CI = 0.68, 0.98), antipsychotic medication use (<50 beds: OR = 0.81, 95% CI = 0.66, 0.99), and weight loss (50–99 beds: OR = 0.81, 95% CI = 0.67, 0.98).

### In-service Training

NHs located in states with additional in-service training hours were less likely to have residents with higher QI rates compared with states requiring the federal minimums. Increased in-service hours were associated with lower odds of falls with injury and depression regardless of facility size. Associations between higher in-service training requirements and lower rates of pain, antipsychotic use, and weight loss were significant for smaller NHs. Pressure ulcers showed a mixed association with in-service training hours, depending on facility size (Table 3).

### Total Initial Training Hours

After adjustment for case mix, ownership status, percentage of Medicaid-certified beds, and urban-rural status, in general, NHs in states requiring more training had better rates of QIs than NHs in states requiring only federal minimums (Table 3). This association was statistically significant for three QIs: pain (50–99 beds: OR = 0.73, 95% CI = 0.57, 0.94;  $\geq 200$  beds: OR = 0.34, 95% CI = 0.20, 0.59), falls with injury (50–99 beds: OR = 0.68, 95% CI = 0.50, 0.92) and depression (<50 beds: OR = 0.55, 95% CI = 0.36, 0.85). Whereas pressure ulcers showed the opposite pattern: NHs in states requiring more total initial training hours than federal minimums had higher odds of pressure ulcers (OR = 1.81, 95% CI = 1.11, 2.93).

### Implications

This study presents new empirical findings stressing the importance of clinical training hours by examining their

relationship to resident care outcomes. We found that NHs in states requiring additional clinical training hours above the federal minimum (i.e., >16 hr) had significantly lower odds of adverse resident outcomes, particularly pain, falls with injury, and depression. Furthermore, a higher ratio of clinical to didactic hours was also related to better resident outcomes. This study also extends and affirms our previous work on CNA requirements for total initial training and in-service training hours (Trinkoff et al., 2013). However for our current study, we used more recent data with adjustment for case-mix, ownership, percentage of Medicaid, and urban-rural status yielding improved though still comparable estimates.

The strong association between in-service training hours and all of the included QIs is also notable in our study though only a few states now require this, suggesting that ongoing training is critical to maintain the quality of care in NHs. Our findings regarding clinical hours also are worthy of additional discussion.

Clinical experiences have been a mainstay of nursing education, both in clinical settings and more recently in simulation, and greater clinical competence in nursing has been associated with greater clinical experience (Takase, 2013). Additional clinical experience has also been associated with observed competence and improved attitudes toward end-of-life care, which includes pain identification by nursing students (Chow, Wong, Chan, & Chung, 2014). Although similar research on CNA clinical education is not available, our findings that NHs with better resident outcomes were more likely to be located in states requiring increased clinical education hours are not surprising. Pain and depression identification in long-term care settings, especially among demented patients, is of continuing concern (Ersek, Polissar, & Neradilek, 2011; Swafford, Miller, Tsai, Herr, & Ersek, 2009). Consideration of increasing the clinical hours in CNA training programs could be an important step in addressing this complex problem.

The finding of increased pressure ulcers associated with increased total initial training hours was opposite to the hypothesized result, whereas for in-service hours, significant findings were conflicted (i.e., they occurred in both directions). Pressure ulcer QIs are based on their identification at any stage, including those that are just developing. Identification of pressure ulcer risk and development are important skills for CNAs to learn (Dellefield & Magnabosco, 2014). More research is needed to examine this finding and to assess whether CNAs with increased training hours might be identifying ulcers at earlier (and more treatable) stages compared with other CNAs.

Several limitations should be acknowledged when interpreting study results. First, this study used a cross-sectional design; therefore, causal relationships among variables cannot be confirmed. Second, imputation of suppressed values in NH Compare could have biased the estimates, though imputation was performed to reduce selection bias from exclusion of NHs with suppressed QIs. NHs with

suppressed QIs had fewer QI cases due to smaller size and/or due to better care quality. However, there is still a possibility of misclassification bias due to the imputation strategy. To minimize this potential bias, we examined the interaction effect of training hours and facility size on QI rates. As a significant interaction was found, we generated all estimates stratified by facility size. In addition, there is the possibility that one or more uncontrolled state-level variables could contribute to the reported findings. We acknowledge that there may be state-level variation that is uncontrolled after inclusion of variables such as case-mix, ownership, proportion of Medicaid and urban-rural status. Nonetheless, the purpose of our study was to examine differences in state-level training regulations as a possible source of between-state variation, allowing us to consider regulation as part of the variation among states.

We have presented evidence supporting that increased CNA clinical, in-service and total initial training hour requirements over federal minimums were related to NH QI rates reflecting better care quality. As the need for additional CNAs develops, due to increased numbers of elderly requiring care, it will also be important to examine what training content is actually desired by CNAs, and how additional training could affect CNA job satisfaction and turnover. A previous study of CNA training and job satisfaction found that CNAs with additional training in dementia care and work life skills (e.g., resolving conflicts and problem solving) were more satisfied with their jobs (Han et al., 2014). Meanwhile, efforts by stakeholders and policy makers to view additional CNA training hours as a potential means to improve care seem warranted.

## Supplementary Material

Please visit the article online at <http://gerontologist.oxfordjournals.org/> to view supplementary material.

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## References

- American Health Care Association [AHCA]. (2004). Trends in nursing facility characteristics. Retrieved from [http://www.ahcancal.org/research\\_data/trends\\_statistics/Documents/Trend\\_PVNF\\_FINALRPT\\_March2014.pdf](http://www.ahcancal.org/research_data/trends_statistics/Documents/Trend_PVNF_FINALRPT_March2014.pdf).
- American Health Care Association [AHCA]. (2009). CNA state regulations. Retrieved from <http://www.ahcancal.org/search-center/Pages/Results.aspx?k=CNA%20TRAINING%20REQUIREMENT>.
- Bostick, J. E., Rantz, M. J., Flesner, M. K., & Riggs, C. J. (2006). Systematic review of studies of staffing and quality in nursing homes. *Journal of the American Medical Directors Association*, 7, 366–376. doi:10.1016/j.jamda.2006.01.024
- Carayon, P., Schoofs Hundt, A., Karsh, B. T., Gurses, A. P., Alvarado, C. J., Smith, M., & Flatley Brennan, P. (2006). Work system design for patient safety: The SEIPS model. *Quality and Safety Health*, 15(Suppl. 1), i50–i58. doi:10.1136/qshc.2005.015842
- CMS. (2014). Five-Star Quality Rating System: QM File 2011 Quarter 2. Retrieved from <http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/FSQRS.html>.
- Chow, S. K., Wong, L.T., Chan, Y. K., & Chung, T. Y. (2014). The impact and importance of clinical learning experience in supporting nursing students in end-of-life care: Cluster analysis. *Nurse Education in Practice*, 14, 532–537. doi:10.1016/j.nepr.2014.05.006
- Code of Federal Regulations. (2012). Title 42—Public health, Part 483: Requirements for states and long term care facilities. Retrieved from [www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title42/42cfr483\\_main\\_02.tpl](http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title42/42cfr483_main_02.tpl).
- Collier, E., & Harrington, C. (2008). Staffing characteristics, turnover rates, and quality of resident care in nursing facilities. *Research in Gerontological Nursing*, 1, 157–170. doi:10.3928/00220124-20091301-03
- Cowles, M. (2014). *Nursing home statistical year book, 2013*. Anacortes, WA: Cowles Research Group.
- Dellefield, M. E., & Magnabosco, J. L. (2014). Feature article: Pressure ulcer prevention in NHs: Nurse descriptions of individual and organization level factors. *Geriatric Nursing*, 35, 97–104. doi:10.1016/j.gerinurse.2013.10.010
- Donabedian, A. (1972). Models for organizing the delivery of health services and criteria for evaluating them. *Milbank Quarterly*, 50, 103–154. doi:10.2307/3349436
- Ersek, M., Polissar, N., & Neradilek, M. B. (2011). Development of a composite pain measure for persons with advanced dementia: Exploratory analyses in self-reporting NH residents. *Journal of Pain Symptom Management*, 41, 566–579. doi:10.1016/j.jpainsymman.2010.06.009
- Fitzpatrick, J. M., & Roberts, J. D. (2004). Challenges for care homes: Education and training of healthcare assistants. *British Journal of Nursing*, 13, 1258–1261. doi:10.12968/bjon.2004.13.21.17124
- Han, K., Trinkoff, A. M., Storr, C. L., Lerner, N., Johantgen, M., & Gartrell, K. (2014). Associations between state regulations, training length, perceived quality and job satisfaction among certified nursing assistants: Cross-sectional secondary data analysis. *International Journal of Nursing Studies*, 51, 1135–1141. doi:10.1016/j.ijnurstu.2013.12.008
- Hawes, C., Morris, J., Phillips, C., Fries, B., Murphy, K., & Mor, V. (1997). Development of the nursing home resident assessment instrument in the USA. *Age Ageing*, 6(Suppl. 2), 19–25. doi:10.1093/ageing/26.suppl\_2.19
- Horn, S. D., Buerhaus, P., Bergstrom, N., & Smout, R. J. (2005). RN staffing time and outcomes of long-stay NH residents: Pressure ulcers and other adverse outcomes are less likely as RNs spend more time on direct patient care. *The American Journal of Nursing*, 105, 58–70. doi:10.1097/00000446-200511000-00028
- Liu, J. Y. (2014). Exploring nursing assistants' roles in the process of pain management for cognitively impaired nursing home residents: A qualitative study. *Journal of Advanced Nursing*, 70, 1065–1077. doi:10.1111/jan.12259
- Mor, V., Intrator, O., Unruh, M. A., & Cai, S. (2011). Temporal and geographic variation in the validity and internal consistency of the

- Nursing Home Resident Assessment Minimum Data Set 2.0. *BMC Health Services Research*, 11, 78. doi:10.1186/1472-6963-11-78
- Office of the Inspector General. (2002). Nurse aide training report. Retrieved from <http://oig.hhs.gov/oci/reports/oci-05-01-00030.pdf>.
- Paraprofessional Healthcare Institute. (2011). Nurse aide training requirements by state. Retrieved from <http://phinational.org/nurse-aide-training-requirements-state>.
- RTI. (2014). MDS 3.0 Quality measures user's manual. Retrieved from <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/downloads/MDS30QM-Manual.pdf>.
- Saliba, D., & Buchanan, J. (2012). Making the investment count: Revision of the Minimum Data Set for nursing homes, MDS 3.0. *Journal of the American Medical Directors Association*, 13, 602–610. doi:10.1016/j.jamda.2012.06.002
- Sengupta, M., Harris-Kojetin, L. D., & Ejaz, F. K. (2010). A national overview of the training received by certified nursing assistants working in U.S. nursing homes. *Gerontology & Geriatrics Education*, 31, 201–219. doi:10.1080/02701960.2010.503122
- Smith, B., Kerse, N., & Parsons, M. (2005). Quality of residential care for older people: Does education for health-care assistants make a difference? *New Zealand Medical Journal*, 118, U1437. Retrieved from <http://www.nzma.org.nz/journal/118-1214/1437/>.
- Squillace, M. R., Remsburg, R. E., Harris-Kojetin, L. D., Bercovitz, A., Rosenoff, E., & Han, B. (2009). The National Nursing Assistant Survey: Improving the evidence base for policy initiatives to strengthen the certified nursing assistant workforce. *The Gerontologist*, 49, 185–197. doi:10.1093/geront/gnp024
- Swafford, K. L., Miller, L. L., Tsai, P. F., Herr, K. A., & Ersek, M. (2009). Improving the process of pain care in NHs: A literature synthesis. *Journal of the American Geriatrics Society*, 57, 1080–1087. doi:10.1111/j.1532-5415.2009.02274.x
- Takase, M. (2013). The relationship between the levels of nurses' competence and the length of their clinical experience: A tentative model for nursing competence development. *Journal of Clinical Nursing*, 22, 1400–1410. doi:10.1111/j.1365-2702.2012.04239.x
- Trinkoff, A. T., Johantgen, M., Lerner, N., Storr, C. L., Han, K., & McElroy, K. (2013). State regulatory oversight of certified nursing assistants and resident outcomes. *Journal of Nursing Regulation*, 3, 53–59. doi:10.1016/s2155-8256(15)30187-3
- University of Minnesota. (2012). NH Regulations Plus. Retrieved from [http://www.hpm.umn.edu/nhregsplus/NHRegs\\_by\\_State/By%20State%20Main.html](http://www.hpm.umn.edu/nhregsplus/NHRegs_by_State/By%20State%20Main.html).