

Long-Term Services and Supports: Direct Care Worker Demand Projections 2015-2030

March 2018

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



About the National Center for Health Workforce Analysis

The National Center for Health Workforce Analysis (NCHWA) informs public and private-sector decision-making on the U.S. health workforce by expanding and improving health workforce data and its dissemination to the public, and by improving and updating projections of supply of and demand for health workers. For more information about the NCHWA, please visit our website at <http://bhw.hrsa.gov/healthworkforce/index.html>.

Suggested citation:

U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. 2017. Long-Term Services and Supports: Direct Care Worker Demand Projections, 2015-2030. Rockville, Maryland.

Copyright information:

All material appearing in this documentation is in the public domain and may be reproduced or copied without permission. Citation of the source, however, is appreciated.

Contents

Overview	3
Key Findings	4
Background	5
Model and Results	6
Demand: Primary (Baseline) Scenario	7
Exhibit 1: Projected FTE Demand for Direct Care Workers by Occupation, 2015-2030	7
Demand: Secondary (Alternative) Scenario	7
Exhibit 2: FTE Direct Care Worker in LTSS Demand: Population Health Scenario, 2030	8
Supply	8
Exhibit 3: FTE LTSS Workforce, 2015 American Community Survey	9
Unpaid Family Caregivers	9
Strengths and Limitations	10
Modeling Demand	10
Modeling Supply	10
Conclusions	122
About the Model	13

Overview

Long-Term Services and Supports (LTSS) are the paid and unpaid medical and personal care provisions that people need when they experience difficulty living independently and completing daily self-care tasks. These difficulties are generally the result of disabling conditions and chronic illnesses. LTSS are delivered in both institutional (e.g. nursing homes) and home and community-based settings (e.g. adult day centers). **This report focuses on “Direct Care Worker” occupations in LTSS, including Nursing Assistants, Home Health Aides, Personal Care Aides, and Psychiatric Assistants/Aides.** These four occupations represent 71% of the LTSS workforce. This report contains demand projections for Direct Care Worker occupations in LTSS. A companion report, also prepared by HRSA, presents demand projections for Registered Nurses and Licensed Practical Nurses in LTSS.

The analysis is conducted using the Health Resources and Services Administration’s “Health Workforce Simulation Model.” The model is an integrated microsimulation model that can estimate current and future supply of and demand for healthcare workers from multiple professions and in multiple care settings.¹ The primary (or “baseline”) scenario in the model assumes that demand equals supply in the base year.² Demand for direct care worker occupations in LTSS is projected up until the year 2030, with 2015 serving as the baseline year. Two important limitations for demand projections in this baseline scenario are that the underlying assumption that health care delivery and practices in the base year (2015) will not change substantially in the future (by 2030), and that there will be stability in the current rates of health care utilization. A second, “alternative” demand scenario is modelled for this report. This alternative scenario takes into account potential changes in population health and models the impact the changes would have on demand for direct care workers in LTSS.

While this report does not provide projections for the future supply of direct care workers in LTSS, it does discuss current supply of those occupations. Forecasting the future workforce

¹ For additional information about HWSM, please see the technical documentation at [Technical Documentation for Health Resources Service Administration’s Health Workforce Simulation Model](#)

² Ono T, Lafortune G, Schoenstein M. “Health workforce planning in OECD countries: a review of 26 projection models from 18 countries.” *OECD Health Working Papers, No. 62*. France: OECD Publishing; 2013: 8-11.

supply in LTSS is challenging because setting-specific workforce supplies will likely be dependent on the competitiveness of wages, benefits, and workplace characteristics in LTSS settings,³ as well as on fundamental workforce supply determinants (e.g., number of new entrants to the direct care workforce). The broad labor market factors that may affect health care workers' choices of work setting are not able to be estimated using the current HWSM, but future improvements to the model may support these types of complex analyses.

Key Findings

In the LTSS industry, direct care workers (Nursing Assistants, Home Health Aides, Personal Care Aides and Psychiatric Assistants/Aides) comprise 71% of the workforce. Continued increases in national-level demand for this industry are anticipated for these four occupations between 2015 and 2030.

- In 2015, there was a demand for approximately 2.3 million direct care workers. Based on the projected demand, by 2030 an estimated 3.4 million direct care workers will be needed to work in LTSS settings.
- Many people with LTSS needs reside in the community, and the workforce demand reflects this fact. Half (50%) of the direct care workforce demand is in home- and community-based settings, 25% of the workforce demand is in residential care facilities, and the remaining 25% is in nursing homes.
- Under an alternative scenario which takes into account possible improvements in population health, short-term demand for direct care workers in LTSS will likely decline. However, because of the increased longevity associated with these improvements in population health, changes, long-term demand for direct care workers in LTSS would increase by 7% (255,000 Full Time Equivalent).

³ National Academies of Sciences, Engineering, and Medicine. 2017. Strengthening the workforce to support community living and participation for older adults and individuals with disabilities: Proceedings of a workshop. Washington, DC: The National Academies Press.

Background

Growth in the aging population due to demographic shifts, increased longevity, and a corresponding increase in disability prevalence will amplify the future need for Long Term Services and Supports (LTSS). In 2015, there were an estimated 47.8 million people in the U.S. age 65 or older, and by 2030 this number will rise to nearly 73 million (about one in five U.S. residents).⁴ Disabling conditions and chronic illnesses are highly correlated with older age, and rapid growth in the number of older adults raises questions of whether the LTSS workforce will be sufficient to meet the future demand.

Nursing Assistants, Home Health Aides, Personal Care Aides, and Psychiatric Aides—collectively known as Direct Care Workers (DCWs)⁵—perform a variety of patient care duties and are critical to the delivery of health services across the LTSS continuum, from institutional care to home and community-based settings. *Nursing Assistants* conduct provide or assist with basic care or health support tasks, such as monitoring health status, administering medication, and assisting with Activities of Daily Living (ADLs)⁶ under the direction of on-site licensed nursing staff in institutional care settings. *Home Health Aides* (HHAs) monitor the health status of an individual with disabilities or illness, and address their health-related needs, such as changing bandages, dressing wounds, or administering medications, and may assist with ADLs. Work is performed in home and community-based settings under the direction of offsite or intermittent onsite licensed nursing staff. *Personal Care Aides* (PCAs) provide personalized assistance to individuals with disabilities or illness who require help with personal care and ADLs. Their work is performed in various home and community-based settings and may include locations such as the client’s home, place of work, or out in the community. *Psychiatric Aides* assist mentally, intellectually, or developmentally impaired patients, typically working under direction of nursing and medical staff in institutional facilities.

⁴ U.S. Census Bureau. An Aging Nation. Accessed at https://www.census.gov/library/visualizations/2017/comm/cb17-ff08_older_americans.html

⁵ Definitions for these four occupations are adapted from the Bureau of Labor Statistics, 2018 Standard Occupational Classification (SOC) taxonomy. The SOC can be accessed at: https://www.bls.gov/soc/2018/major_groups.htm

⁶ “Activities of Daily Living” (ADLs) refer to the basic tasks of everyday life, such as eating, bathing, dressing, and ambulation.

The Bureau of Labor Statistics estimates that HHAs and PCAs are in the top five occupations with the fastest job growth in the U.S. economy.⁷ According to the Health Resources and Services Administration's (HRSA) 2016 factsheet on nursing assistants and home health aides in the U.S.⁸, there will be a 34% increase in demand (at the national level) for these two occupations between 2014 and 2025. Even though that study did not focus on a specific setting or industry, such as LTSS, the results presented here continue to predict that trend of increased demand.⁹

Model and Results

This analysis utilized the HRSA's Health Workforce Simulation Model (HWSM), a forecasting model developed to estimate and project workforce supply and demand across a wide range of healthcare occupations. The HWSM projected the impact of key factors influencing LTSS demand (not supply) on four specific DCW occupations: Nursing Assistants, HHAs, PCAs and Psychiatric Aides. These key factors include population growth, population aging, overall economic conditions, expanded health insurance coverage, changes in health care reimbursement, geographic location, and health workforce availability. LTSS settings included nursing homes, residential care facilities, home health, and adult day care. Estimates of current numbers (supply) of DCWs working in LTSS are also provided, and a discussion of the barriers in estimating current and projecting future supply is included. Workforce numbers are reported as full-time equivalents (FTEs), where an FTE is defined as 40 hours worked per week.

Two demand scenarios are modelled for this report. The first (baseline) scenario reflects the changing demographics from 2015 to 2030 and extrapolates current care utilization and delivery patterns. The second (alternative) scenario further takes into account possible improvements in population health and trends in unpaid care that might impact future demand for paid care.

⁷ <https://www.bls.gov/ooh/fastest-growing.htm> Accessed November 30, 2017.

⁸ U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. 2017. *National and Regional Supply and Demand Projections of the Nursing Workforce: 2014-2030*. Rockville, Maryland.

⁹ While not the sole purpose, this study is responsive to findings and recommendations from a 2016 General Accountability Office (GAO) report pertaining to the LTSS workforce, which can be accessed at <http://www.gao.gov/assets/680/679169.pdf>

Demand: Primary (Baseline) Scenario

Under the baseline scenario, between 2015 and 2030 demand for DCWs in LTSS is projected to increase substantially. As seen in Exhibit 1, demand for all DCW occupations in LTSS will grow by 48% -- from approximately 2,318,900 million FTEs in 2015 to 3,430,900 million FTEs in 2030 (a difference of 1,112,000 million FTEs). The percent increase in demand for each of the four DCW occupations included here ranges between a 46% increase for PCAs (an increase of 471,100 FTEs) to a 55% increase for Psychiatric Aides (an increase of 6,500 FTEs) by 2030.

Exhibit 1: Projected FTE Demand for Direct Care Workers by Occupation, 2015-2030

Occupation	2015	2020	2025	2030	Percent Change
Direct Care Occupations	2,318,900	2,604,100	2,974,100	3,430,900	48%
Nursing Assistants	756,200	843,900	959,900	1,122,000	48%
Home Health Aides	522,600	592,300	683,300	791,200	51%
Personal Care Aides	1,028,300	1,154,700	1,315,600	1,499,400	46%
Psychiatric Aides	11,800	13,200	15,300	18,300	55%

Demand: Secondary (Alternative) Scenario

The results of the first scenario are based on recent national health care utilization and staffing patterns, and assume that within each demographic group, the prevalence of chronic disease and disability remain unchanged over time. However, improvements in population health could contribute to changes in workforce demand by setting. For example, an increased focus on preventive care, medication management and adherence, and evidence-based care protocols may result in population health improvements. In turn, there may be a reduction in the level of demand for DCWs providing LTSS across the nation.

An alternative scenario seeks to model the potential long-term health impacts (and subsequent impact on demand for providers) of achieving the following population health goals: 1) sustained 5 percent reduction in body weight for people who were overweight or obese; 2) improved hypertension, cholesterol, and blood glucose levels; and 3) smoking cessation. Results suggest that improved population health might reduce LTSS demand for DCWs slightly in the short term, but to the extent that preventive care increases longevity, particularly among older population cohorts, overall demand for DCWs in LTSS is likely to rise by about 254,200 FTEs (7%) in the long term, compared to the projected demand in the baseline scenario (*Exhibit 2*).

Exhibit 2: FTE Direct Care Worker in LTSS Demand: Population Health Scenario, 2030

Occupation	2030 Projected Demand	Population Health Scenario	Percent Change
Direct Care Occupations	3,430,900	3,685,100	7%
Nursing Assistants	1,122,000	1,222,300	9%
Home Health Aides	791,200	847,800	7%
Personal Care Aides	1,499,400	1,595,000	6%
Psychiatric Aides	18,300	20,000	9%

Supply

The 2015 American Community Survey (ACS) is the main source for estimating the LTSS workforce supply in 2015 by occupation and care delivery setting (industry). The ACS is a household-level survey collected annually and sponsored by the U.S. Census Bureau. The survey collects information on a representative sample of the population in each state, including information on employment, occupation, and industry worked. For estimating the size of the DCW workforce in LTSS, one drawback with this survey is that Nursing Assistants, HHAs and Psychiatric Aides are combined under a single occupation group. Therefore, the analysis of the ACS for supply numbers was supplemented with Bureau of Labor Statistics' Occupational Employment Statistics (OES) data to estimate the portion of aides that were nurse aides, home health aides, and psychiatric aides.¹⁰ In 2015, there were an estimated 2.3 million total FTE direct care workers in LTSS settings (*Exhibit 3*). Of these, 1.3 million were Nursing Assistants, HHAs, or Psychiatric Aides, and just over 1 million were PCAs.

Forecasting the future supply of health workers in a particular employment setting is more difficult than simply projecting the future supply of health workers. Setting-specific supply is dependent on future competitiveness of wages, benefits, and workplace characteristics in that setting, as well as on overall supply trends. The lack of data on these topics is why future supply was not able to be projected for DCW occupations in LTSS. This is discussed further in the section below on Supply Limitations.

¹⁰ For additional information about HWSM, please see the technical documentation at [Technical Documentation for Health Resources Service Administration's Health Workforce Simulation Model](#)

Exhibit 3: FTE LTSS Workforce, 2015 American Community Survey

Occupation	Long-term Services and Support Settings					All Health Care Settings
	Nursing Facilities	Residential Care	Adult Day Center	Home Health	Total LTSS	
Direct Care Workers	590,800	543,300	13,700	1,171,200	2,319,300	3,221,600
Nursing/Home Health/Psychiatric Aides	523,700	352,800	N/A	400,500	1,277,000	1,935,000
Nursing Assistants	523,500	159,000	13,700	60,000	756,200	Unavailable
Home Health Aides	<100	182,200	N/A	340,400	522,600	Unavailable
Psychiatric Aides	200	11,600	N/A	<100	11,800	Unavailable
Personal Care Aides	67,100	190,500	N/A	770,700	1,028,300	1,272,900

Sources: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates, except for “Adult Day Care” source which was the U.S. Department of Health and Human Services, National Study of Long Term Care Providers, 2013-2014.

Notes: Estimates of full time equivalents (FTEs) were calculated by dividing each person’s reported weekly hours worked by 40 hours. Numbers may not sum to totals due to rounding.

Unpaid Family Caregivers

In addition to paid LTSS provided by a variety of health occupations, a significant portion of LTSS is provided, unpaid, by family members and friends. This is commonly referred to as “family,” “informal,” or “unpaid” caregiving — and nationally, approximately 87% of individuals who need LTSS receive some form of it from these unpaid caregivers.¹¹ Because the type of support family caregivers provide is very similar to the services provided by DCWs, this topic is frequently mentioned in discussions regarding the DCW workforce in LTSS. The consensus for many decades now is that we would never have enough formal providers to give the LTSS care that family caregivers provide. In fact, the economic value that family caregivers contribute to the U.S. economy is estimated to be worth approximately \$470 billion in 2013.¹²

Using similar modeling techniques as employed here¹³ to determine the paid DCW workforce in LTSS, we estimated that 8.4 million unpaid care FTEs were provided in 2015 (with an FTE

¹¹ http://www.thescanfoundation.org/sites/thescanfoundation.org/files/us_who_provides_ltc_us_oct_2012_fs.pdf, accessed on June 27, 2017

¹² <https://www.aarp.org/content/dam/aarp/ppi/2015/valuing-the-invaluable-2015-update-new.pdf>, accessed on November 30, 2017

¹³ For additional information about HWSM, please see the technical documentation at [Technical Documentation for Health Resources Service Administration’s Health Workforce Simulation Model](#)

defined as 40 hours per week). Demand for unpaid care is projected to grow 62% to nearly 13.6 million FTEs by 2030.

Strengths and Limitations

The primary strengths of this analysis include the use of recent data with sufficient sample size to provide reliable estimates of key model parameters, and the use of state-of-the-art microsimulation workforce projection modelling techniques.

Modeling Demand

A microsimulation approach was used to project future demand because of the flexibility it provides to simulate potential changes in care delivery patterns. This report presents national, demand projections. One major modeling limitation is lack of data on how care delivery patterns might change over time with emerging care delivery models, third party payment trends, improvements in technology, and other developments. The HWSM operates under many assumptions regarding current status and future trends in health care utilization and workforce demand. This model, like most other health workforce projection models, assumes that the national labor market for the LTSS workforce is currently in balance (i.e., supply and demand in the base year are equal). Current demand is defined by FTE employment in each occupation, which in turn reflects compensation levels of the number of people willing to work in each occupation given market wages. Thus, the baseline demand projections reported here reflect future changes in the LTSS workforce relative to a balanced 2015 baseline. However, changes in health care service delivery are not incorporated into the baseline model. Ongoing attempts to understand the effects and implications of these changes in care delivery are reflected in the alternative scenario. If the growing population health emphasis on prevention and chronic disease management leads to reduced mortality and therefore a greater need for LTSS workforce, the baseline scenario may underestimate future demand.

Modeling Supply

Modeling the supply of direct care workers in LTSS entails similar challenges to modeling demand. These include predicting how health care delivery may change over time; determining how a greater focus on team-based care may alter staffing levels; and estimating how

improvements in technology may change staff loads. Additional challenges specific to modeling LTSS workforce supply relate to deriving setting-specific estimates, recognizing that many direct care workers may have a choice of workplace opportunities. Setting-specific workforce supplies are likely dependent on a number of factors, including wage competitiveness, employment benefits, workplace environment, and workplace recognition. These factors are especially important in understanding the dynamics and fluidity in workforce occupations where little or no specialized training is required. Estimating the relationships among these various drivers over time is beyond the scope of the current HWSM, although future versions of the model may be able to address these elements and thus allow estimation of health workforce supplies in specific care settings, including LTSS.

In considering the baseline supply estimates of direct care workers in LTSS settings, it must also be noted that the primary data source for these LTSS analyses is the 2015 American Community Survey One-Year estimates. Strengths of these ACS data include the availability of recent, state-level estimates; the availability of occupation codes and industry codes that permit identification of health workers in various LTSS settings; and the availability of detailed labor force participation data. However, some occupation-industry code combinations may be ambiguous. For example, Nursing Assistants working for a home health agency owned by a hospital may be characterized as working in a hospital setting, when, in fact, this LTSS care is provided in a home setting. As a result of coding constraints, certain occupation/industry code combinations may have led to either an underestimate or an overestimate of the current supply of direct care workers working in LTSS. Given the detail available in the ACS occupation and industry codes, it is expected that the overall impact of these potentially ambiguous codes is small.

As previously mentioned, a related limitation of the direct care worker supply estimates involves the aggregation of American Community Survey codes for Nursing Assistants, Home Health Aides, and Psychiatric Aides. To address this, OES data from the U.S. Department of Labor/Bureau of Labor Statistics were used to estimate the portion of aides in each category. In addition, all home health aides were assigned to the home health setting, even if their industry code did not align. These assumptions may have introduced some additional uncertainty into the demand estimates.

Conclusions

This is one in a series of HRSA reports on the health care workforce, in this case intended to provide information on demand for DCWs in LTSS. These occupations are faced with the challenge of an aging U.S. population, with longer life expectancy and rising burden of disease.

Looking to the future, many factors will continue to affect demand and supply of the LTSS workforce, including demographically driven demand for health services.¹⁴ The Medicare program provides health-insurance coverage to the majority of older adults in the U.S., however it does not cover LTSS services. Medicaid, however, does cover some LTSS services. Future changes to reimbursement policies, particularly for Medicaid programs, could play an important role in determining service use, site of care, and LTSS workforce availability. Policies to improve population health are likely to increase (rather than reduce) demand for direct care occupations in LTSS due to increased longevity, despite slight short-term declines in demand related to improvements in average health.

¹⁴ Institute of Medicine (US). Committee on the Future Health Care Workforce for Older Americans. (2008). *Retooling for an aging America: Building the health care workforce*. National Academies Press.

About the Model

The results presented in this report come from HRSA's Health Workforce Simulation Model, which is an integrated health professions projection model that estimates the current and future supply of and demand for health care providers.

The supply component of the Model simulates workforce decisions for each provider based on his or her demographics and profession, along with the characteristics of the local or national economy and the labor market. The basic file that underlies the supply analysis contains individual records of the DCWs in the workforce from the American Community Survey (ACS) and the state licensure data.

Demand projections for health care services in different care settings are produced by applying regression equations for individuals' health care use on the projected population. The current nurse staffing patterns by care setting are then applied to forecast the future demand for nurses. The population database used to estimate demand consists of records of individual characteristics of a representative sample of the entire U.S. population derived from the ACS, National Nursing Home Survey, and the Behavioral Risk Factor Surveillance System. Using the Census Bureau's projected population and the Urban Institute's state-level estimates of the impact of the healthcare reform on insurance coverage,^{1,2} the Model simulates future populations with expected demographic, socioeconomic, health status, health risk and insurance status.

This Model makes projections at the state level, which are then aggregated to the national level. A detailed description of the Model can be found in the accompanying technical documentation available at <http://bhw.hrsa.gov/healthworkforce/index.html>.

¹ Holahan, J. & Blumberg, L. (2010 January). *How would states be affected by health reform? Timely analysis of immediate health policy issues*. Retrieved August 2013 from http://www.urban.org/UploadedPDF/412015_affected_by_health_reform.pdf.

² Holahan, J. (2014 March) *The launch of the Affordable Care Act in selected states: coverage expansion and uninsurance*. Retrieved August 2013 from <http://www.urban.org/uploadedPDF/413036-the-launch-of-the-Affordable-Care-Act-in-selected-states-coverage-expansion-and-uninsurance.pdf>. Washington D.C., The Urban Institute.