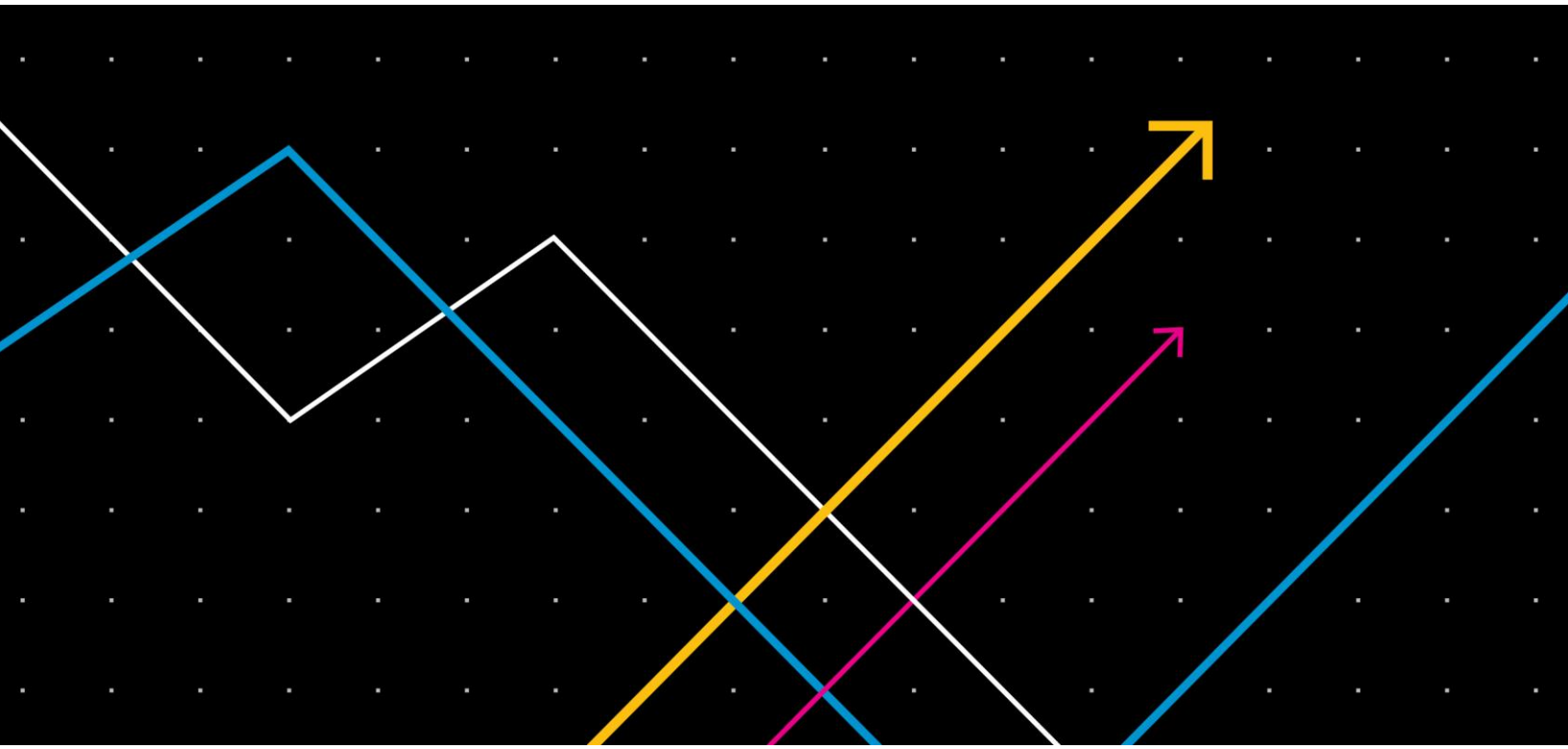

RESEARCH REPORT

# Occupational Projections for Low-Income Older Workers

## Assessing the Skill Gap for Workers Age 50 and Older

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# Contents

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# Introduction

The AARP Foundation seeks to target its resources to help current and future low-income workers find and keep employment that pays a living wage. To do so, the foundation needs to understand the skills that population needs. To aid in that understanding, this report examines current employment for low-income older workers[1] and compares it to projected employment for different occupations. We also examine low- and middle-wage occupations projected to grow most rapidly between 2014 and 2024 and analyze the education, experience, and on-the-job training requirements for those occupations. Given the current skills of low-income older workers and the needed skills projected for various occupations, we estimate potential skill gaps for low-income older workers. Finally, we examine the occupations and industries from which older workers will be exiting the workforce in the next five years.

In this report, we define "low-income workers" as those earning 300 percent or less of the federal poverty level (FPL)[2] after adjusting for household size, and we define "older workers" as those age 50 or above. Those definitions are consistent with those used by the AARP Foundation in their current employment programs serving older workers. Applying the 2015 FPL definitions, a one-person household with income up to $35,310 and a two-person household with an income up to $47,790 are included in our analyses as low-income workers. Older workers have a lower unemployment rate and are better paid on average than younger workers (Bureau of Labor Statistics 2016a, 2016b), and according to our analyses of Census Bureau data from 2015, there are 13.2 million low-income older workers in the United States. We limit our analyses to those individuals that are currently employed. Low-income older workers may not have the financial resources to retire in the near future, so they may have to continue working (ideally in better jobs that pay decent wages).

Obtaining better jobs can be difficult for many older workers, however, because as the nature of jobs has changed, the education, training, and experience required for those jobs has also changed. According to a study by Pew Research Center (2016), jobs are changing to focus more on social, communications, and analytical skills. The number of workers in occupations requiring average to above-average education, training, and experience increased from 49 million in 1980 to 83 million in 2015 (68 percent). In contrast, jobs requiring below-average education, training, and experience increased by less than half this amount, from 50 million to 65 million (31 percent), over the same period. Likewise, employment in jobs requiring stronger social skills (such as interpersonal, communications, or management skills) increased from 49 million to 90 million (84 percent) between 1980 and 2015. A

similar increase occurred in employment requiring analytical skills, such as critical thinking and computer skills, from 49 to 86 million (77 percent).

Americans are living longer and working longer, and workers age 55 and older are the only age group to experience strong growth in labor force participation rates in the past two decades (Kalil et al. 2010). Therefore, employers filling jobs in the future may have to turn to older workers more often to meet their hiring needs. At the same time, low-income older workers' skills may be less relevant as they age, and many of them may be stuck in low-skilled jobs (Mikelson and Butrica, forthcoming). Therefore, both employers and older workers will benefit if more older workers develop the skills they need to work in the jobs that employers will need to fill in the future.

One of the most frequently cited concerns about the current and future state of the United States labor market is skill mismatches, or shortages of workers with the knowledge, skills, and abilities demanded by employers for specific occupations (Carnevale, Smith, and Strohl 2013; Manufacturing Institute 2011). Studies disagree about the consequences, magnitude, and even existence of skills shortages (Neumark, Johnson, and Mejia 2011),[3] but much of that disagreement likely stems from different approaches to defining and measuring shortages and labor supply and demand (Cappelli 2015).

Although many different definitions of occupational shortages exist, for this study we use Barnow, Trutko, and Piatak's (2013) definition of "a sustained market disequilibrium between supply and demand in which the quantity of workers demanded exceeds the supply available and willing to work at a particular wage and working conditions at a particular place and point in time" (3).[4] This definition is desirable because it encompasses many different causes of occupational shortages, including (1) an insufficient number of workers overall with the knowledge, skills, and abilities required for the occupation in demand; (2) the unwillingness of potential workers to accept a specific job at the prevailing wage or, alternatively, an unwillingness of employers to compensate workers sufficiently to induce them to accept employment in the demanded occupations; (3) geographic mismatch between potential workers with the knowledge and skills demanded in the occupation and the location of the occupations; and (4) a temporal misalignment between when the work is needed and when qualified workers are willing to supply that work (Mikelson et al. 2014). In this report, we examine whether there may be an insufficient number of workers with the knowledge, skills, and abilities to meet the projected occupational needs of employers in the coming decade. Identifying an occupational shortage, however, does not necessarily provide an obvious solution, because the shortage may have many causes that may not be remedied by training investments. To identify the most fruitful areas for training for low-income

older workers, we also analyze the knowledge, skills, and abilities critical to the occupations likely to experience the most growth.

## Labor Supply of Older Workers

Because Americans are living longer and life expectancy is expected to continue increasing, the increasing labor force participation rates among workers age 50 and older will likely continue to increase. Despite those increasing life expectancy and labor force participation rates, the median retirement age in the United States was 63 years old in 2016.[5] As we show later in this report, low-income workers are less likely than other workers to say that they plan to stop working in the next five years. Further, the likelihood that workers say they plan to stop working in the coming years decreases with income.

Older Americans are healthier now than they used to be, increasing their productivity and ability to work. Between 1991 and 2014, the share of 55- to 64-year-olds reporting fair or poor health fell about 11 percent and, among 65- to 74-year-olds, the share reporting fair or poor health fell 25 percent (National Center for Health Statistics 2016). For individuals ages 65 to 74, the share with fair or poor health was nearly one-third lower in 2014 than 1991. Although this health measure is subjective, those who report poor health have much higher mortality rates than those who report better health (Dowd and Zajacova 2007; Idler and Benyamini 1997), suggesting that the measure reflects real health problems.

In recent decades, as the economy has moved toward service- and technology-based jobs and away from manufacturing, fewer Americans have worked in blue-collar and physically demanding occupations (Bucknor and Baker 2016). From 1971 to 2006, for example, the proportion of workers in blue-collar occupations decreased from 36 to 24 percent, while the share in management, professional occupations, and services increased from 38 to 51 percent (Johnson, Mermin, and Resseger 2011). The share of jobs involving high physical demands (such as strength, bending, or quick reaction time) declined from 8.8 to 7.3 percent between 1971 and 2006, while the share involving moderate or high physical demands (such as standing, walking, or repetitive motion) declined from 56.5 to 46.0 percent. Between 1992 and 2002, the share of workers ages 55 to 60 in jobs that never or almost never involved much physical effort increased nearly 20 percent (Johnson 2004). The decline in physically demanding jobs and improvements in health status have increased the share of older adults able to work, and data show that they are working at higher rates than they have in the past; however, these improvements

are disproportionately among those older adults who are better educated and higher paid (Bucknor and Baker 2016). Further, as noted by Belbase, Sanzenbacher, and Gillis (2016), even jobs that are not physically demanding may be challenging for older workers if the jobs require fluid cognitive abilities, quick reaction times, and fine motor skills.

## Employer Demand for Older Workers

Employment at older ages depends not only on older adults' willingness and ability to work but also on employers' willingness to hire and retain them. Posthuma and Campion (2009) find that some employers view older workers as poor performers, resistant to change, less able to learn than younger workers, more likely to leave the company, and more costly, although they are often viewed as more dependable. Despite these perceptions, Posthuma and Campion's review of the literature on age and workplace performance finds little support for the claim that job performance declines with age. They find that too few studies exist to prove or disprove that older workers are resistant to change. The evidence that older workers have lower ability to learn than younger workers is mixed because outcomes often depend on training methods. Studies also show that older workers provide higher returns on employer investment because they are less likely than younger workers to leave. Lastly, they find mixed evidence that older workers are more costly and some proof that they are more dependable.

Despite that evidence, and although employers claim to value older workers' experience, maturity, and work ethic, employers are often hesitant to recruit or retain older workers (Mikelson and Butrica forthcoming). One-quarter of employers in a 2006 survey said they were reluctant to hire older workers (Pitt-Catsouphes et al. 2007), and there is evidence that some employers discriminate against older workers (Lahey 2008; Reynolds, Ridley, and Van Horn 2005; Rosen and Jerdee 1995). Age discrimination, however, may not affect all groups equally. A recent study by Neumark, Burn, and Button (2015) finds strong evidence of age discrimination against older women but less clear evidence of age discrimination against older men. Other studies find that employers may be willing to hire older professionals but are less willing to hire other older workers (Munnell, Sass, and Soto 2006). Finally, low-wage older workers are significantly more likely than other older workers to be unemployed or displaced (Cummins, Harootyan, and Kunkel 2015).

The rest of this report is organized as follows. In the next section, we describe the specific research questions, data sources, methods, and data limitations for this report. Then, we describe the results of the data analyses. This includes current employment and occupational projections at the state and

national level for older workers as well as current and projected skills, knowledge, and abilities and whether a skill gap is likely to arise among older workers. This portion also provides an analysis of industries and occupations that low-income older workers expect to be exiting in the next five years. Finally, we provide recommendations.

# Research Questions, Data Sources, and Methods

This section presents the research questions addressed in this report, the various data sources analyzed, and the methods used to answer the research questions.

## Research Questions

This report addresses the following research questions:

1. What is the current distribution of employment by industry and occupation for low-income workers age 50 and older?
2. What is the distribution of educational attainment by occupation and industry in 2015?
3. Which low- to middle-wage occupations are expected to grow most rapidly from 2014 to 2024 at the state and national levels?
4. What are the wages, educational requirements, work experience requirements, and on-the-job training requirements for those occupations expected to grow most rapidly by 2024?
5. What are the current skills of low-income workers age 50 and older, and how might those skills be useful in occupations that are expected to grow in the future?
6. What industries or occupations are low-income older workers exiting the workforce or retiring from in the next five years?

## Data Sources

This analysis incorporates several data sources, each of which sheds some light on occupational projections and skill gaps that could be filled by targeted education and training of the low-income older population. Individual and household surveys that include data on low-income older workers, namely the American Community Survey (ACS) and the Health and Retirement Study (HRS), provide the foundation for this report. Those data are supplemented by occupation-level information from the Bureau of Labor Statistics' Employment Projections program and the Occupational Information Network (O*NET) database. Each of those surveys and databases are summarized below, followed by a discussion of the treatment of occupational categories across the data sources.

## The American Community Survey

The primary data source for information on low-income older workers is the public-use microdata version of the 2015 ACS, a nationally representative household survey conducted annually by the US Census Bureau. The 2015 survey is the most recent wave of the survey available. The primary advantage of the ACS is that it is large: surveys are sent to approximately 3.5 million households each year. The large sample provides an opportunity to identify detailed occupational employment levels for older workers even after restricting the analysis to low-income workers age 50 and older. The ACS includes several demographic characteristics as well as information on health and disability status, reported in table 1.

## Bureau of Labor Statistics and State Employment Projections

We use occupational employment projections provided by the Bureau of Labor Statistics (BLS) at the national level and by state employment agencies at the state level[6] to assess anticipated occupational growth in the United States and project impending skill gaps that could be filled by low-income older workers. Employment projections are produced every two years, and projections are made 5 and 10 years into the future. The most recent projections were produced for 2014. In addition to employment growth estimates, the BLS provides educational, experience, and on-the-job training requirements for employment in these occupations.

Critically, the employment projections are projected equilibrium employment levels, without any generalized labor surplus or shortage (Horrigan 2004). Although the data are frequently misused to estimate projected labor shortages, the data are not designed to measure those concepts. However, any measured gaps or disparities between projected occupational employment and current occupational employment require some adjustment in the labor market for those projections to be fulfilled. Such adjustments would certainly include education and training investments that allow workers to fill jobs in growing occupations. The AARP Foundation can therefore still use these growth projections to plan valuable training investments even if the BLS is not explicitly assuming or projecting labor shortages.

To the extent the BLS is assuming demand increases are driving changes in employment projections, however, one can infer that even more untapped demand than the projections indicate may exist in some of the growing occupations. For example, if the BLS data predict that medical facilities in Arizona will hire 100,000 new nurses, that may indicate a demand exists to hire some greater number

but employers are only able to hire 100,000. Therefore, the BLS occupational projections are likely a lower bound.

### Occupational Information Network Database

O*NET is developed and maintained by the US Department of Labor and houses detailed information on hundreds of occupations in the United States. O*NET includes information on occupational knowledge and skill requirements as well as on the typical tasks, technologies, and work environments associated with an occupation. Those characteristics are assessed by surveying many workers and experts in a particular occupation. This report uses the database's records on knowledge, skills, and abilities requirements to understand the gap between projected skills requirements and the skill set of the older low-income workforce.

### The Health and Retirement Study

The HRS is a longitudinal panel study that surveys a representative sample of approximately 20,000 people in America age 50 and older every two years.[7] The HRS focuses on the changes in labor force participation and health transitions for individuals nearing the end of their work lives. We use the 2014 HRS for this study, which is the most recent year of data available, to understand the likely retirement behavior of the low-income older workforce. Because the HRS collects data on employment in broad occupational categories, we also explore how retirement behavior is distributed across different occupations.

## Research Methods and Data Limitations

All of the data sources used in this analysis classify occupations using the Standard Occupational Classification (SOC) system used by the federal government, which allows occupational characteristics from data sources such as the BLS Employment Projections program or O*NET to be merged onto surveys such as the ACS or the HRS. The SOC codes are hierarchical in the sense that more detailed (i.e., higher-digit) codes representing more detailed occupations are organized under broader, lower-digit codes. Some data sources, such as O*NET, report information using highly detailed six-digit SOC code

level; other datasets report occupations at a lower-digit summary level. The HRS only reports occupations at the two-digit SOC code level.

When we discuss skill gaps in this report, note that none of the datasets we use report individuals' skill levels. Rather, the O*NET data provide information about the minimum skills required for occupations at the time of hire. We use the required occupational skill levels from O*NET to estimate the skills profile of the workforce. An individual's actual skills may vary from those required by their occupation because one might have additional skills they are not using in their current job or because one's skills may exceed the minimum level required by an occupation. If a worker is employed in a particular occupation, however, he or she is assumed to meet that occupation's skill requirements.

A limitation of the ACS is that occupations are not available for all respondents with the same level of detail. Although many low-income older respondents report very detailed descriptions of their occupations that are coded using six-digit SOC codes, others report less detail about their occupations, leading to three-digit SOC codes. Nevertheless, all ACS respondents report occupations for at least the three-digit level of detail. Approximately 100 different three-digit occupations are represented in the low-income older worker sample, so an analysis of skill gaps at that level can be quite precise.

To accommodate the less detailed SOC codes in the ACS, O*NET data on knowledge, skills, and abilities by occupation are aggregated from the six-digit level to the three-digit level using current employment weights for more detailed occupations.[8] These three-digit versions of the O*NET scores are then applied to the three-digit BLS occupational projections and the population age 50 or older in the ACS. Broader occupational categories (two-digit level occupations) are reported for descriptive purposes in tables 3 and 11, but to more narrowly target education and training recommendations, the detailed three-digit occupational categories are used in all tables associated with occupational projections and skill gaps.

# Results

Here we describe the demographic characteristics of low-income older workers overall and by gender, age, and educational attainment within the most common occupations and industries. We examine those low- and middle-wage occupations expected to grow most rapidly between 2014 and 2024 (the latest BLS projections available). In addition to wages, we describe the education, experience, and on-the-job training requirements for these occupations. After linking the BLS projections with the O*NET data, we discuss the current and projected knowledge, skills, and abilities by their importance among growing occupations and estimate the gaps in skills between all workers and low-income older workers. We select the knowledge, skills, and abilities with the highest importance and present occupation-specific skill-importance scores for the top 20 occupations (regardless of income). We conclude with analyses of the HRS data describing when older workers think they will stop working and the current occupations and industries of low-income older workers who plan to retire over the next five years.

The majority (52 percent) of older workers in our sample have a household income of 200 to 300 percent of FPL (table 1). Thirty-six percent have an income of 100 to 199 percent of FPL, and 12 percent have an income below 100 percent of FPL. Still, 12 percent amounts to nearly 1.6 million working-poor individuals age 50 or older who are earning less than $11,770 in a one-person household or $15,930 in a two-person household. Those very low-income older workers may be underemployed[9] or unemployed for part of the year. Examining household income by gender shows that women are slightly more likely than men to have income below 100 percent of FPL (13 percent of women versus 11 percent of men).

Overall, two-thirds (67 percent) of low-income workers age 50 or older report working full time (greater than 35 hours a week); one-third (33 percent) report working part time. Work status differs substantially by gender—74 percent of low-income older men work full time compared with 60 percent of low-income older women. Conversely, low-income older women report working part time at a much higher rate (40 percent) than men (26 percent).

Over one-third (36 percent) of low-income older workers are ages 50 to 54, somewhat fewer (29 percent) are ages 55 to 59, one in five (20 percent) are ages 60 to 64, and the remainder (16 percent) are age 65 and older. Low-income older workers are racially and ethnically diverse and have varying education levels. Fifty-nine percent of low-income older workers are non-Hispanic white, 19 percent are Hispanic, 15 percent are non-Hispanic black, and 5 percent are Asian. Notably among low-income older workers, 17 percent of women are non-Hispanic black compared with only 12 percent of men, and

16 percent of women are Hispanic compared with 22 percent of men. The racial and ethnic differences likely reflect the broader differences in labor force participation among these two groups.

TABLE 1

**Demographic Characteristics of Low-Income Workers Age 50 and Older in 2015 by Gender**

| | All Workers | | Men | | Women | |
|---|---|---|---|---|---|---|
| **Characteristics of workers** | **%** | **#** | **%** | **#** | **%** | **#** |
| **All** | **100** | **13,192,031** | **48** | **6,389,167** | **52** | **6,802,864** |
| **Age** | | | | | | |
| 50–54 | 36 | 4,703,755 | 37 | 2,339,983 | 35 | 2,363,772 |
| 55–59 | 29 | 3,839,901 | 29 | 1,874,976 | 29 | 1,964,925 |
| 60–64 | 20 | 2,617,452 | 20 | 1,249,605 | 20 | 1,367,847 |
| 64–69 | 9 | 1,132,699 | 8 | 512,765 | 9 | 619,934 |
| 70–74 | 4 | 500,246 | 4 | 223,823 | 4 | 276,423 |
| 75–79 | 2 | 251,862 | 2 | 114,518 | 2 | 137,344 |
| 80+ | 1 | 146,116 | 1 | 73,497 | 1 | 72,619 |
| **Race or ethnicity** | | | | | | |
| Non-Hispanic white | 59 | 7,779,396 | 58 | 3,702,056 | 60 | 4,077,340 |
| Non-Hispanic black | 15 | 1,923,294 | 12 | 787,721 | 17 | 1,135,573 |
| Hispanic | 19 | 2,503,747 | 22 | 1,397,357 | 16 | 1,106,390 |
| Asian | 5 | 714,577 | 6 | 379,536 | 5 | 335,041 |
| Other | 2 | 271,017 | 2 | 122,497 | 2 | 148,520 |
| **Employment status** | | | | | | |
| Full time | 67 | 8,808,166 | 74 | 4,749,359 | 60 | 4,058,807 |
| Part time | 33 | 4,383,865 | 26 | 1,639,808 | 40 | 2,744,057 |
| **Education** | | | | | | |
| Less than a high school degree | 19 | 2,453,284 | 22 | 1,405,790 | 15 | 1,047,494 |
| High school diploma/GED | 36 | 4,767,331 | 36 | 2,329,617 | 36 | 2,437,714 |
| Some college/two-year degree | 30 | 3,903,958 | 26 | 1,657,686 | 33 | 2,246,272 |
| Bachelor's/graduate/professional degree | 16 | 2,067,458 | 16 | 996,074 | 16 | 1,071,384 |
| **Household income level** | | | | | | |
| <100% FPL | 12 | 1,588,838 | 11 | 724,575 | 13 | 864,263 |
| 100–199% FPL | 36 | 4,799,253 | 36 | 2,299,532 | 37 | 2,499,721 |
| 200–300% FPL | 52 | 6,803,940 | 53 | 3,365,060 | 51 | 3,438,880 |
| **Marital status** | | | | | | |
| Married | 51 | 6,769,656 | 62 | 3,952,396 | 41 | 2,817,260 |
| Single | 15 | 1,968,711 | 15 | 981,078 | 15 | 987,633 |
| Divorced | 26 | 3,470,883 | 20 | 1,257,247 | 33 | 2,213,636 |
| Widowed | 7 | 982,781 | 3 | 198,446 | 12 | 784,335 |
| **Health status** | | | | | | |
| Cognitive difficulty | 3 | 391,103 | 3 | 187,682 | 3 | 203,421 |
| Ambulatory difficulty | 7 | 864,885 | 5 | 340,889 | 8 | 523,996 |
| Independent living difficulty | 2 | 268,900 | 2 | 114,934 | 2 | 153,966 |
| Self-care difficulty | 1 | 155,287 | 1 | 71,642 | 1 | 83,645 |
| Vision difficulty | 3 | 362,895 | 3 | 176,639 | 3 | 186,220 |
| Hearing difficulty | 4 | 536,197 | 5 | 344,445 | 3 | 191,752 |
| Any health difficulties | 13 | 1,715,464 | 13 | 823,117 | 13 | 892,347 |

**Source:** 2015 American Community Survey.

**Note:** FPL = the federal poverty level; GED = general equivalency diploma. All gender differences greater than or equal to 1 percent are statistically significant at the p<0.01 level.

Over one-third of low-income older workers have a high school degree or general equivalency diploma (GED) as their highest level of education. Thirty percent of low-income older workers have either completed some college or obtained a two-year degree, and only 16 percent have earned a bachelor's degree or higher. Nineteen percent of low-income older workers have less than a high school degree, and that may encumber their ability to earn a living wage or move up a career ladder without first receiving additional education or training, likely in combination with basic skills education. Low-income older men are more likely (22 percent) than women (15 percent) to have less than a high school degree, and, conversely, men are much less likely (26 percent) to have some college education or a two-year degree than women (33 percent). Despite this educational advantage (and as noted earlier), women are slightly more likely to have a lower household income and are substantially less likely to work full time.

Marital status among low-income older workers may also affect their low-income status. Approximately half of all low-income older workers (49 percent) report being divorced (26 percent), single (15 percent), or widowed (7 percent), so they might live alone.[10] This percentage is much higher for women (60 percent) because a greater percentage of low-income older women report being divorced (33 percent) or widowed (12 percent) than do men, among which 20 percent report being divorced and 3 percent report being widowed. Overall, 51 percent of low-income older workers report being married, and that may provide economic protection if they benefit from economies of scale in housing or other shared resources. Unfortunately, the potential for economic protection is not gender neutral: 62 percent of low-income older men report being married compared with 41 percent of women.

The ACS analyses also provide information about the health of these low-income older workers; health issues may negatively affect their ability to continue working in their current occupation, train for another occupation, or move up a career ladder. Although not overwhelmingly high, 13 percent (over 1.7 million) of low-income older workers report having any health difficulty. The most common health difficulties reported are ambulatory difficultly (7 percent), hearing difficulty (4 percent), or cognitive and vision difficulty (3 percent each). Such health difficulties likely affect the employment and well-being of those experiencing them. Low-income older women report higher rates of ambulatory difficulty (8 percent) compared with men (5 percent). On the other hand, 5 percent of older men report hearing difficulty compared with 3 percent of women.

Examining low-income older workers by three age groups (50 to 59, 60 to 69, and 70 and older) shows significant differences for every demographic characteristic except education (table 2). The numbers of men and women age 50 to 59 in our sample differ very little (51 percent are female versus

49 percent male); this gap increases for those ages 60 to 69 (with 53 percent women and 47 percent men) and again for those age 70 and older (with 54 percent women and 46 percent men).

The racial and ethnic composition of the sample changes dramatically as low-income older workers age, most likely because of variation in life expectancy. For example, the only group to increase their share of the low-income working population as they age are non-Hispanic whites, who represent 55 percent of 50- to 59-year-olds, 64 percent of 60- to 69-year-olds, and 75 percent of workers age 70 and older. Non-Hispanic blacks drop 3 percentage points for each decade—from 16 percent of 50- to 59-year-olds to 13 percent of 60-to 69-year-olds to only 10 percent of workers age 70 and older. The decline in the proportion of low-income working Hispanics is stark—dropping 5 percent for each decade. Hispanics are 21 percent of low-income older workers age 50 to 59, declining to 16 percent for 60-to 69-year-olds and 11 percent for those age 70 and older.

Not surprisingly, the proportion of low-income workers that report working full time declines. Full-time workers decline from 75 percent of 50-to 59-year-olds to 59 percent of 60- to 69-year-olds to 26 percent of workers age 70 and older. This decrease in full-time workers and the corresponding increase in part-time workers does not lead to a decrease in household income. Thirteen percent of workers age 50 to 59 report earnings <100 percent of FPL, and this declines to 8 percent for low-income workers age 70 and older. The percentage of workers reporting income of 100 to 199 percent of FPL also decreases slightly, from 37 percent for 50- to 59-year-olds to 34 percent for workers age 70 and older. The percentage of workers earning 200 to 300 percent of FPL increases from 50 percent for 50- to 59-year-olds to 58 percent for workers age 70 and older.

Marital status changes dramatically with age: the proportion of widowed low-income older workers increases from 5 percent for 50- to 59-year-olds to 26 percent for workers age 70 and older. Conversely, the proportion of single, divorced, and married low-income older workers declines 11, 5, and 4 percent, respectively, for the same age groups.

As expected, health difficulties increase with age. In particular, ambulatory difficulties affect 5 percent of 50- to 59-year-olds compared with 8 percent of 60- to 69-year-olds and 13 percent of workers age 70 and older. Hearing difficulties increase from 3 percent to 5 percent to 13 percent for workers of the same age. Low-income workers experiencing any health difficulties grows from 11 percent of those ages 50 to 59 to 15 percent of 60- to 69-year-olds to over one-quarter (26 percent) of those age 70 and older.

TABLE 2

**Demographic Characteristics of Low-Income Workers Age 50 and Older in 2015, by Age**

| Characteristics of Workers | All Workers | | Age 50-59 | | Age 60-69 | | Age 70+ | |
|---|---|---|---|---|---|---|---|---|
| | % | # | % | # | % | # | % | # |
| **All** | 100 | 13,192,031 | 65 | 8,543,656 | 28 | 3,750,151 | 7 | 898,224 |
| **Sex** | | | | | | | | |
| Male | 48 | 6,389,167 | 49 | 4,214,959 | 47 | 1,762,370 | 46 | 411,838 |
| Female | 52 | 6,802,864 | 51 | 4,328,697 | 53 | 1,987,781 | 54 | 486,386 |
| **Race or ethnicity** | | | | | | | | |
| Non-Hispanic white | 59 | 7,779,396 | 55 | 4,717,573 | 64 | 2,391,221 | 75 | 670,602 |
| Non-Hispanic black | 15 | 1,923,294 | 16 | 1,340,303 | 13 | 491,047 | 10 | 91,944 |
| Hispanic | 19 | 2,503,747 | 21 | 1,809,126 | 16 | 594,914 | 11 | 99,707 |
| Asian | 5 | 714,577 | 6 | 491,318 | 5 | 200,402 | 3 | 22,857 |
| Other | 2 | 271,017 | 2 | 185,336 | 2 | 72,567 | 1 | 13,114 |
| **Employment status** | | | | | | | | |
| Full-time | 67 | 8,808,166 | 75 | 6,367,807 | 59 | 2,202,741 | 26 | 237,618 |
| Part-time | 33 | 4,383,865 | 25 | 2,175,849 | 41 | 1,547,410 | 74 | 660,606 |
| **Education** | | | | | | | | |
| Less than a high school degree | 19 | 2,453,284 | 19 | 1,630,669 | 17 | 653,701 | 19 | 168,914 |
| High school diploma/GED | 36 | 4,767,331 | 37 | 3,149,493 | 34 | 1,284,728 | 37 | 333,110 |
| Some college/two-year degree | 30 | 3,903,958 | 30 | 2,532,978 | 30 | 1,131,689 | 27 | 239,291 |
| Bachelor's/graduate/ professional degree | 16 | 2,067,458 | 14 | 1,230,516 | 18 | 680,033 | 17 | 156,909 |
| **Household income level** | | | | | | | | |
| <100% FPL | 12 | 1,588,838 | 13 | 1,133,532 | 10 | 384,484 | 8 | 70,822 |
| 100–199% FPL | 36 | 4,799,253 | 37 | 3,156,245 | 36 | 1,335,499 | 34 | 307,509 |
| 200–300% FPL | 52 | 6,803,940 | 50 | 4,253,879 | 54 | 2,030,168 | 58 | 519,893 |
| **Marital status** | | | | | | | | |
| Married | 51 | 6,769,656 | 52 | 4,445,742 | 50 | 1,893,553 | 48 | 430,361 |
| Single | 15 | 1,968,711 | 17 | 1,450,136 | 12 | 466,463 | 6 | 52,112 |
| Divorced | 26 | 3,470,883 | 26 | 2,258,997 | 27 | 1,025,721 | 21 | 186,165 |
| Widowed | 7 | 982,781 | 5 | 388,781 | 10 | 364,414 | 26 | 229,586 |
| **Health status** | | | | | | | | |
| Cognitive difficulty | 3 | 391,103 | 3 | 245,999 | 3 | 108,604 | 4 | 36,500 |
| Ambulatory difficulty | 7 | 864,885 | 5 | 456,275 | 8 | 289,659 | 13 | 118,951 |
| Independent living difficulty | 2 | 268,900 | 2 | 149,977 | 2 | 74,537 | 5 | 44,386 |
| Self-care difficulty | 1 | 155,287 | 1 | 85,406 | 1 | 46,964 | 3 | 22,917 |
| Vision difficulty | 3 | 362,895 | 3 | 222,602 | 3 | 102,817 | 4 | 37,440 |
| Hearing difficulty | 4 | 536,197 | 3 | 233,829 | 5 | 186,925 | 13 | 115,443 |
| Any health difficulties | 13 | 1,715,464 | 11 | 920,481 | 15 | 558,496 | 26 | 236,487 |

**Source:** 2015 American Community Survey.

**Note:** FPL = federal poverty level; GED = general equivalency diploma.

# Educational Attainment in the Most Common Occupations and Industries

The most common occupations and industries for low-income older workers vary by their educational attainment. When comparing occupations and industries in tables 3, 4, 10, and 11, the names of the

occupations and industries can look quite similar (such as health care practitioners and technical occupations compared with the health and social assistance industry). However, *occupation* refers to the specific tasks and responsibilities for a particular job, while *industry* classifies businesses, government offices, or nonprofits based on their major products and services.

Overall, the most common occupations among this population are office and administrative support (14 percent), followed by sales and related occupations; transportation and material moving; and building and grounds cleaning and maintenance (10 percent each; table 3). Among low-income older workers with less than a high school degree, the data suggest occupational choices may be much more limited. For example, 18 percent of low-income older workers with less than a high school degree work in building and grounds cleaning and maintenance. A similar number of low-income older workers with less than a high school degree, about 13 percent (320,000), work in either transportation and material moving or production occupations. Among low-income older workers with the highest level of education, a four-year college degree or above, approximately 13 percent (250,000 to 275,000) work in one of three occupations: office and administrative support; sales and related occupations; and education, training, and library. The majority (40 percent) of office and administrative support workers, however, have some college education or a two-year degree. That suggests that workers looking to move into office or administrative support positions will be competing with workers who often have high school degree or higher.

In addition to working in a wide variety of occupations, low-income older workers are also employed in a wide variety of industries. Occupational categories characterize the types of jobs that workers perform; industry categories indicate the sector of a worker's employer. Manufacturing is the most common industry among low-income older workers with less than a high school degree, with 14 percent working in it (table 4). Those workers with a high school degree or GED are most concentrated in retail trade (16 percent) and health and social assistance (14 percent), but a significant percentage also work in manufacturing (12 percent). Similarly, low-income older workers with some college education or a two-year degree are most often working in the health and social assistance industry (18 percent) and the retail trade industry (15 percent). Finally, although low-income older workers with a bachelor's degree or higher are also working in the health and social assistance industry (16 percent) and the retail trade industry (12 percent), a significant portion are working in the educational services industry (15 percent).

TABLE 3

**Most Common Occupations for Low-Income Workers Age 50 and Older by Educational Attainment, 2015**

| Occupation | All | | Less than a high school degree | | High school diploma/GED | | Some college/ two-year college degree | | Four-year college degree/graduate or professional school | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | # | % | # | % | # | % | # | % | # |
| Office and administrative support | 14 | 1,829,398 | 5 | 130,725 | 14 | 681,682 | 19 | 740,236 | 13 | 276,755 |
| Sales and related occupations | 10 | 1,381,573 | 6 | 148,370 | 11 | 507,578 | 12 | 466,736 | 13 | 258,889 |
| Transportation and material moving | 10 | 1,301,749 | 13 | 320,769 | 12 | 567,413 | 8 | 318,252 | 5 | 95,315 |
| Building and grounds cleaning and maintenance | 10 | 1,269,186 | 18 | 442,934 | 11 | 520,942 | 6 | 236,473 | 3 | 68,837 |
| Production | 8 | 1,098,705 | 13 | 318,452 | 10 | 473,211 | 6 | 242,272 | 3 | 64,770 |
| Personal care and service | 7 | 890,985 | 7 | 170,039 | 7 | 329,452 | 7 | 281,924 | 5 | 109,570 |
| Food preparation and serving related occupations | 7 | 867,152 | 10 | 247,953 | 8 | 371,242 | 5 | 185,281 | 3 | 62,676 |
| Construction and extraction | 6 | 797,279 | 10 | 254,757 | 7 | 333,333 | 4 | 167,516 | 2 | 41,673 |
| Management | 5 | 699,363 | 3 | 64,031 | 4 | 201,216 | 6 | 240,725 | 9 | 193,391 |
| Education, training, and library | 4 | 507,361 | 1 | 15,047 | 2 | 77,086 | 4 | 147,777 | 13 | 267,451 |
| Healthcare support occupations | 4 | 463,692 | 3 | 80,749 | 4 | 174,154 | 4 | 163,139 | 2 | 45,650 |
| Installation maintenance and repair | 3 | 439,481 | 4 | 97,419 | 4 | 185,295 | 3 | 127,717 | 1 | 29,050 |
| Healthcare practitioners and technical occupations | 2 | 326,579 | 0 | 6,192 | 1 | 61,469 | 4 | 162,644 | 5 | 96,274 |
| Business and financial operations | 2 | 290,444 | 0 | 8,658 | 1 | 52,875 | 3 | 108,643 | 6 | 120,268 |
| Legal | 2 | 253,261 | 0 | 10,074 | 1 | 40,061 | 2 | 87,393 | 6 | 115,733 |
| Protective service | 2 | 236,388 | 1 | 24,547 | 2 | 95,057 | 2 | 89,018 | 1 | 27,766 |
| Community and social service | 2 | 212,216 | 0 | 9,771 | 1 | 32,451 | 1 | 58,273 | 5 | 111,721 |
| Farming, fishing, and forestry | 1 | 157,628 | 4 | 96,059 | 1 | 39,431 | 0 | 15,581 | 0 | 6,557 |
| Architecture and engineering | 1 | 70,363 | 0 | 3,516 | 0 | 12,701 | 1 | 28,675 | 1 | 25,471 |
| Computer and mathematical | 1 | 68,873 | 0 | 1,179 | 0 | 7,402 | 1 | 28,223 | 2 | 32,069 |
| Life, physical, and social science | 0 | 30,355 | 0 | 2,043 | 0 | 3,280 | 0 | 7,460 | 1 | 17,572 |
| Total | 100 | 13,192,031 | 100 | 2,453,284 | 100 | 4,767,331 | 100 | 3,903,958 | 100 | 2,067,458 |

**Source:** 2015 American Community Survey.

TABLE 4

**Most Common Industries for Low-Income Workers Age 50 and Older by Educational Attainment, 2015**

| Industry | All | | Less than a high school degree | | High school diploma/GED | | Some college/ two-year college degree | | For-year college degree/graduate or professional school | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | # | % | # | % | # | % | # | % | # |
| Health and social assistance | 15 | 1,976,398 | 11 | 275,671 | 14 | 666,335 | 18 | 706,437 | 16 | 327,955 |
| Retail trade | 14 | 1,837,731 | 11 | 267,920 | 16 | 745,795 | 15 | 572,227 | 12 | 251,789 |
| Manufacturing | 10 | 1,339,296 | 14 | 335,496 | 12 | 569,355 | 8 | 328,235 | 5 | 106,210 |
| Other services | 8 | 1,033,982 | 9 | 213,166 | 8 | 376,288 | 7 | 289,494 | 8 | 155,034 |
| Educational services | 7 | 964,017 | 4 | 85,838 | 6 | 282,522 | 7 | 280,105 | 15 | 315,552 |
| Construction | 7 | 955,156 | 11 | 271,900 | 8 | 388,820 | 6 | 230,014 | 3 | 64,422 |
| Accommodation and food services | 7 | 939,421 | 11 | 268,860 | 8 | 360,496 | 5 | 213,812 | 5 | 96,253 |
| Admin support and waste management and remediation services | 7 | 866,904 | 10 | 233,300 | 6 | 300,258 | 6 | 235,101 | 5 | 98,245 |
| Transportation and warehousing | 5 | 681,525 | 5 | 129,972 | 6 | 274,169 | 5 | 202,957 | 4 | 74,427 |
| Professional, scientific, and technical services | 3 | 436,265 | 1 | 21,967 | 2 | 86,773 | 4 | 147,350 | 9 | 180,175 |
| Public administration | 3 | 386,924 | 2 | 36,685 | 3 | 128,262 | 4 | 150,624 | 3 | 71,353 |
| Wholesale trade | 2 | 326,684 | 3 | 64,856 | 3 | 125,997 | 2 | 92,851 | 2 | 42,980 |
| Arts, entertainment, and recreation | 2 | 313,260 | 2 | 44,688 | 2 | 103,327 | 2 | 94,190 | 3 | 71,055 |
| Real estate, rental, and leasing | 2 | 311,411 | 2 | 40,742 | 2 | 96,350 | 3 | 111,418 | 3 | 62,901 |
| Agricultural/forestry/fishing/hunting | 2 | 288,559 | 5 | 121,501 | 2 | 92,906 | 1 | 48,494 | 1 | 25,658 |
| Finance and insurance | 2 | 284,950 | 0 | 10,677 | 2 | 86,736 | 3 | 115,334 | 3 | 72,203 |
| Information | 1 | 148,938 | 0 | 11,010 | 1 | 40,697 | 1 | 56,129 | 2 | 41,102 |
| Utilities | 0 | 53,559 | 0 | 5,928 | 0 | 22,587 | 0 | 18,703 | 0 | 6,341 |
| Mine, quarry, oil, and gas extraction | 0 | 42,886 | 1 | 12,770 | 0 | 18,847 | 0 | 8,310 | 0 | 2,959 |
| Management of companies and enterprises | 0 | 4,165 | 0 | 337 | 0 | 811 | 0 | 2,173 | 0 | 844 |
| Total | 100 | 13,192,031 | 100 | 2,453,284 | 100 | 4,767,331 | 100 | 3,903,958 | 100 | 2,067,458 |

**Source:** 2015 American Community Survey.

# Ten-Year Projected Growth in Low- and Middle-wage Occupations

This section examines the low- and middle-wage anticipated occupational growth in the United States between 2014 and 2024, using the latest occupational employment projections provided by the BLS at the national and state levels. The purpose of these analyses is to identify impending skill gaps that could be filled by low-income older workers.

Median wages in table 5 and the low- and middle-wage occupational categories used in appendix table A.2 are calculated for the sample of workers age 50 and older in the ACS. Median occupational wages tend to be higher among older workers than among comparable younger workers, so these wages do not represent national occupational median wages. Low-wage occupations are defined as those with median wages below the 25th percentile; middle-wage occupations are defined as those with median wages between the 25th and 50th percentiles.

Table 5 shows the 36 occupations projected to grow most rapidly between 2014 and 2024.[11] The top four occupations are projected to produce nearly 2.3 million jobs, but only one of these occupations—construction trades workers—has a median wage greater than $12 per hour. Five occupations with the highest median wages (above $17 per hour) are secretaries and administrative assistants; supervisors of sales workers; other office and administrative support; entertainer, sports, and related workers; and funeral service workers. Before targeting training to those higher-paying occupations, note that the number of projected jobs may be quite low. For example, funeral service workers pay $19.05 per hour, but only approximately 1,000 more such jobs are expected nationwide through 2024. There are also nine jobs with projected growth that pay between $15.00 and $16.99 per hour. Of those nine, four are projected to grow substantially with 126,000 to 514,000 new jobs: construction trades workers, information and record clerks, other healthcare support occupations, and other teachers and instructors. The remaining five occupations are projected to have growth of fewer than 28,000 jobs nationwide.

TABLE 5

**Low- and Middle-wage Occupations Projected to Grow Most Rapidly Nationally from 2014 to 2024**

| | Projected Growth, 2014–24 | | | Education Requirements | | | | |
|---|---|---|---|---|---|---|---|---|
| Occupation | Number (thousands) | Percentage | Median wage | None | HS diploma or GED | Postsecondary, no degree | BA or AA degree | OJT requirements |
| Nursing/psychiatric/home health aides | 620 | 25 | $12.02 | | | x | | None |
| Other personal care/service workers | 610 | 16 | $8.97 | | x | | | Short OJT |
| Food and beverage serving workers | 535 | 8 | $11.06 | x | | | | Short OJT |
| Construction trades workers | 514 | 10 | $16.03 | | x | | | Moderate OJT |
| Retail sales workers | 413 | 5 | $11.54 | x | | | | Short OJT |
| Information and record clerks | 399 | 7 | $15.38 | | x | | | Short OJT |
| Other healthcare support occupations | 286 | 19 | $15.38 | | | x | | None |
| Building cleaning and pest control | 248 | 6 | $11.06 | x | | | | Short OJT |
| Motor vehicle operators | 227 | 6 | $14.96 | | | x | | Short OJT |
| Material moving workers | 200 | 5 | $14.42 | x | | | | Short OJT |
| Cooks and food preparation workers | 152 | 5 | $9.85 | x | | | | Short OJT |
| Other teachers and instructors | 126 | 9 | $15.38 | | | | x | Moderate OJT |
| Secretaries and admin assistants | 119 | 3 | $17.31 | | x | | | Short OJT |
| Other education, training, and library | 100 | 7 | $12.47 | | | x | | None |
| Food prep supervisors and serving[a] | 100 | 10 | $12.50 | | x | | | None |
| Supervisors of sales workers[a] | 88 | 5 | $18.95 | | x | | | None |
| Personal appearance workers | 86 | 10 | $2.98 | | | x | | None |
| Grounds maintenance workers | 78 | 6 | $9.62 | x | | | | Short OJT |
| Other protective service workers | 74 | 5 | $14.42 | | x | | | Short OJT |
| Other office/administrative support | 62 | 2 | $17.01 | | x | | | Short OJT |
| Entertainer/sports/related workers | 46 | 6 | $19.21 | | | x | | Short OJT |
| Helpers, construction trades | 33 | 14 | $14.11 | | x | | | Short OJT |
| Entertainment attendants | 33 | 6 | $12.98 | x | | | | Short OJT |
| Personal care & service supervisors[a] | 28 | 10 | $15.38 | | x | | | None |
| Media and communication equipment | 27 | 5 | $16.58 | | | x | | Moderate OJT |
| Other sales and related workers | 27 | 3 | $12.53 | | x | | | Short OJT |
| Other food prep & serving related | 26 | 2 | $9.61 | x | | | | Short OJT |
| Animal care and service workers | 26 | 11 | $5.77 | | x | | | Short OJT |
| Supervisors of building and grounds | 24 | 6 | $14.90 | | x | | | None |

| Occupation | Projected Growth, 2014–24 | | Median wage | Education Requirements | | | | OJT requirements |
|---|---|---|---|---|---|---|---|---|
| | Number (thousands) | Percentage | | None | HS diploma or GED | Postsecondary, no degree | BA or AA degree | |
| cleaning and maintenance workers[a] | | | | | | | | |
| Food processing workers | 23 | 3 | $13.46 | x | | | | Moderate OJT |
| Religious workers | 22 | 5 | $16.79 | | | | x | Short OJT |
| Other transportation workers | 21 | 6 | $15.87 | x | | | | Short OJT |
| Art and design workers | 17 | 2 | $15.38 | | | | x | Short OJT |
| Baggage porters, bellhops, concierges | 7 | 9 | $14.90 | | x | | | Short OJT |
| Tour and travel guides | 2 | 5 | $10.82 | | x | | | Moderate OJT |
| Funeral service workers | 1 | 2 | $19.05 | | | x | | Moderate OJT |

**Source:** US Bureau of Labor Statistics Employment Projections program; 2015 American Community Survey; and O*NET database.

**Notes:** AA = associate of arts; BA = bachelor of arts; HS = high school; GED = general equivalency diploma; OJT = on-the-job training. We use wage data from the American Community Survey to determine low- and middle-wage occupations. We calculate the median wage among the older population for each occupation. Occupations falling below the 25th percentile ($14.43) are low wage. Occupations falling between the 25th and 50th percentile ($14.42 to $19.23) are middle wage. Wages for personal appearance workers and animal care and service workers fall below the federal minimum wage, likely because of a high prevalence of self-employment in those occupations.

[a] These occupations have required experience of less than five years; for all other occupations, no experience is required.

In addition to the median wage and the number of jobs projected within each occupation, it is also important to consider the education, experience, and on-the-job training requirements for a given occupation. The majority of jobs listed in table 5 require either no formal education or a high school diploma or GED. Of the jobs listed in table 5 that have no education requirements, however, only one of these—other transportation workers—pays over $15 per hour, and that occupation has only about 21,000 projected new jobs.

Jobs that both pay reasonably well and require a high school diploma or GED (an education level that may be attainable for many older workers) include secretaries and administrative assistants, supervisors of sales workers, and other office and administrative support jobs. Further, each of those three jobs requires short or no on-the-job training. Eight occupations listed in table 5 require postsecondary education but not a degree. Several of these—other healthcare support occupations, entertainer/sports/related workers, media and communication equipment, and funeral service workers—pay over $15 per hour, and all but two require no or short on-the-job training.

Only three occupations listed in table 5 require a two-year degree or higher; of those, other teachers and instructors is the only occupation projected to have a substantial number of new jobs. Finally, three jobs in table 5 require less than five years of experience: food prep supervisors and serving workers, supervisors of sales workers, and personal care and service supervisors; all other listed jobs do not require experience.

In addition to the national occupational projections, it is also important to consider state-level variations in projected growth. We examined the top 20 occupations projected to grow most rapidly nationally between 2014 and 2024 and present the total number of projected jobs in each of those 20 occupations for every state (table A.1). Our analyses also include the top 10 low- and middle-wage occupations that are projected to grow most rapidly between 2014 and 2024 for every state (table A.2).

Examining state-level projected growth in the occupations listed in table 5, we find that in a majority of states, the three highest-growth occupations are also within the top six highest-growth occupations nationally. Following from table 5, table A.1 lists the same top 20 low- and middle-wage occupations projected to grow most rapidly at the national level. Median wages are used to restrict the sample of jobs in table A.1. For each state, projected growth in thousands of jobs for 2014 to 2024 is shown, and the top three occupations with the highest projected growth are shaded in blue. The majority of states follow the national pattern.

Fourteen states do not follow the national patterns as closely. In Illinois, for example, material-moving jobs are the second fastest growing occupation (with nearly 23,000 jobs), but that occupation is ranked

10th nationally. Table 5 shows that material-moving workers are paid a median wage of $14.42, have no formal educational requirements, and require short on-the-job training; further, job growth in this occupation in Illinois amounts to over 10 percent of the nearly 200,000 jobs projected nationally. Five other states—Indiana, Kentucky, New Jersey, South Carolina, and Tennessee—also show significant projected job growth in material-moving occupations. Similarly, in Maryland, secretaries and administrative assistants are projected to be the highest-growing occupation with nearly 19,000 jobs, and that amounts to over 15 percent of the nearly 119,000 jobs projected nationally. Requiring a high school diploma or GED and short on-the-job training, secretaries and administrative assistants receive a median wage of $17.31, making this occupation an important one for low-income older workers in Maryland to consider.

Several states have projected declines in some of the top 20 occupations. For example, North Dakota, West Virginia, and Wyoming as well as Puerto Rico all have negative projected growth in at least 3 of the 20 occupations projected to grow most rapidly nationally. Eleven states project no growth or a decline in secretaries and administrative assistants or other office and administrative support workers, despite those occupations' projected growth nationally.

Table A.2 lists the top 10 low- and middle-wage occupations projected to grow most rapidly for each state as well as the District of Columbia and Puerto Rico. The percent change and absolute change are shown for each occupation. The occupations projected to grow most rapidly vary substantially across the states, but patterns exist. Forty-seven states have food and beverage–serving workers as one of the three highest-growth occupations. Construction trades workers and retail sales workers are one of the three highest-growth occupations for 24 and 23 states, respectively. Nursing, psychiatric, and home health aides as well as other personal care and service workers are also one the three highest-growth occupations in 19 and 18 states, respectively. Other occupations appear in the top three only once or a handful of times. For example, financial clerks are the second-fastest growing occupation in Tennessee, but that occupation does not appear in any of the other states' top three. Likewise, secretaries and administrative assistants are only among the top three highest-growth occupations for Maryland and Massachusetts.

## Current and Projected Knowledge, Skills, and Abilities

Knowledge, skills, and abilities are each somewhat distinct in O*NET. O*NET defines knowledge as "organized sets of principles and facts that apply to a wide range of situations," including both traditional academic fields and disciplines as well as applied areas of expertise such as clerical or administrative knowledge. Skills are defined as "developed capacities that facilitate learning and the performance of

activities that occur across jobs." Examples of skills include critical thinking and complex problem solving. Finally, abilities are "enduring attributes of an individual that influence performance," and range from physical abilities, such as stamina or trunk strength, to sensory abilities, such as hearing sensitivity and night vision. Knowledge and skills are probably more amenable to education and training programs, although many abilities could certainly be developed and trained for as well. For simplicity, and to be consistent with the broader "skill gap" discussion, we refer to all three as "skills" in the text and in table titles moving forward. Skill types (i.e., knowledge, skill, or ability) are specified in each table. O*NET scores each skill on its importance and on the "level" of the skill required for each occupation, presented here on a scale of 0 to 100. An importance score indicates how critical that skill is to a given occupation, while a level score indicates the occupation's required mastery of that skill. O*NET provides an example of lawyers and paralegals to illustrate the difference. Speaking skills are critical in both occupations, so their importance scores for speaking skills are comparable. However, because lawyers frequently speak publicly in high-pressure environments, the level of speaking skill required to be a lawyer is much higher than the level required to be a paralegal. We use importance scores to identify the most important skills to target in education and training programs and level scores to identify gaps in skill levels that need to be filled.

One hundred and twenty skill categories are tracked in the O*NET database, although some are less critical to success in high-growth jobs than others. Only the 40 most important skill categories for the occupations projected to have the highest levels of growth are reported in table 6.

Table 6 compares skill levels for all workers to the skill levels for low-income older workers across the 40 most important skills in growing occupations. Because data on skills are only available at the occupational level from O*NET, we impute the skills of the population by assuming individuals have the skill levels required to succeed in their occupation as reported in O*NET. That is, if worker is in a job that requires a given skill (e.g., customer and personal service), then we assume this worker has that skill. If this occupation does not require some other skill (e.g., trunk strength), then we assume this worker does not have this skill. Individual skill levels, which could be higher or lower than occupational requirements, would be ideal, but those are not available.[12]

TABLE 6

**Rank of Current Knowledge, Skills, and Abilities by Importance Score among Growing Occupations**

| Rank of importance among growing occupations | Knowledge, skills, or abilities | Type | Skill levels for all workers | Skill levels for low-income workers age 50+ | Net difference in current skill levels |
|---|---|---|---|---|---|
| 1 | Customer & personal service | Knowledge | 57 | 55 | -3 |
| 2 | Oral comprehension | Ability | 54 | 51 | -3 |
| 3 | Oral expression | Ability | 53 | 51 | -3 |
| 4 | Active listening | Skill | 48 | 45 | -3 |
| 5 | English language | Knowledge | 49 | 45 | -4 |
| 6 | Speech recognition | Ability | 47 | 44 | -2 |
| 7 | Near vision | Ability | 49 | 48 | -1 |
| 8 | Speaking | Skill | 47 | 44 | -3 |
| 9 | Problem sensitivity | Ability | 48 | 45 | -2 |
| 10 | Speech clarity | Ability | 45 | 43 | -2 |
| 11 | Service orientation | Skill | 42 | 41 | -2 |
| 12 | Social perceptiveness | Skill | 43 | 41 | -2 |
| 13 | Information ordering | Ability | 45 | 43 | -2 |
| 14 | Written comprehension | Ability | 49 | 46 | -3 |
| 15 | Deductive reasoning | Ability | 47 | 44 | -3 |
| 16 | Monitoring | Skill | 45 | 43 | -3 |
| 17 | Critical thinking | Skill | 48 | 45 | -3 |
| 18 | Coordination | Skill | 44 | 42 | -2 |
| 19 | Reading comprehension | Skill | 48 | 44 | -4 |
| 20 | Inductive reasoning | Ability | 46 | 43 | -3 |
| 21 | Time management | Skill | 42 | 40 | -2 |
| 22 | Selective attention | Ability | 40 | 40 | -1 |
| 23 | Judgment & decision making | Skill | 42 | 39 | -3 |
| 24 | Written expression | Ability | 45 | 41 | -4 |
| 25 | Category flexibility | Ability | 43 | 42 | -2 |
| 26 | Finger dexterity | Ability | 35 | 36 | 1 |
| 27 | Arm-hand steadiness | Ability | 30 | 32 | 2 |
| 28 | Writing | Skill | 43 | 40 | -4 |
| 29 | Far vision | Ability | 40 | 40 | 0 |
| 30 | Complex problem solving | Skill | 41 | 38 | -2 |
| 31 | Active learning | Skill | 42 | 38 | -3 |
| 32 | Administration & management | Knowledge | 41 | 38 | -2 |
| 33 | Public safety and security | Knowledge | 33 | 33 | 1 |
| 34 | Instructing | Skill | 39 | 36 | -3 |
| 35 | Education and training | Knowledge | 44 | 41 | -3 |
| 36 | Trunk strength | Ability | 30 | 33 | 4 |
| 37 | Manual dexterity | Ability | 28 | 31 | 3 |
| 38 | Persuasion | Skill | 39 | 37 | -2 |
| 39 | Time sharing | Ability | 36 | 35 | -1 |
| 40 | Learning strategies | Skill | 38 | 35 | -3 |

**Source:** Occupational Information Network (O*NET) database and the American Community Survey.

**Notes:** O*NET scores each skill on its importance and on the "level" of the skill required for each occupation and ranges from 0 to 100. Net differences may not equal the difference of the preceding two columns because of rounding. Skill levels for all workers are calculated by weighting the O*NET skill levels by the current employment level of that occupation. Skill levels for low-income workers age 50 and older are calculated by weighting the same O*NET skill levels by the employment of older low-income workers in that occupation, using the American Community Survey sample.

For the majority of the 40 most important skill areas, low-income older workers work in occupations that require lower skills than the occupations of workers overall. This difference is particularly high in language-related skills, such as English language skills, reading comprehension, written expression, and writing. All of those skill areas have a difference of at least 4 points on a 100-point skill level scale. Relative to average skill levels in those categories for low-income older workers, this represents an 8 to 10 percent skills deficit. This is consistent with research that shows that a lack of basic skills may prevent some older workers from participating in education and training programs (Good 2011; Heidkamp and Mabe 2011). Skills differences are also relatively high in the 10 most important skills, including customer and personal service, oral comprehension and expression, and active listening.

Notably, the 40 most important skills do not include technical skills related to computers or other equipment. This may be because technical skills that are important to one growing occupation may not be important to another, but nontechnical skills are more generalizable across occupations. Any occupational training is likely to highlight occupation-specific skills, but table 6 suggests that older, low-income workers would benefit from blending that occupational training with basic skills instruction, particularly those basic skills that relate to language and communication.

Table 6 includes some seemingly unusual results related to the physical abilities of the older, low-income population relative to all workers. For example, low-income older workers have "trunk strength" scores several points higher those for all workers. These results are accurate but reflect the data limitations around workers' knowledge, skills, and abilities. As noted, the O*NET database reports required skills at the occupational level; none of the datasets we use report an individual's skill level. Instead, we use required occupational skill levels from O*NET to estimate the skills profile of the workforce; if a worker is employed in a particular occupation, they are assumed to meet that occupation's skill requirements. Low-income older workers are disproportionately employed in low- and middle-wage occupations that require greater levels of physical strength. For example, many older workers are in retail or nursing occupations, transportation, personal care, or protective services. Because we focus on low-income workers, relatively fewer are employed in white-collar jobs. The scores for physical abilities therefore do not necessarily imply that older workers are physically stronger than workers in the general population, only that they are working in jobs where the strength requirements are higher. Younger workers presumably have higher levels of physical ability but do not always use those abilities on the job.

# Will a Skill Gap Arise among Older Low-Income Workers?

Table 7 examines the skills that current workers have relative to the skills that will be needed in the future given the projected pattern of occupational growth. The projected skills that will be needed in the future are based on the BLS data that estimate the growth and decline of all occupations in the economy combined with the O*NET data that provide the skills needed in each of these occupations. The skills of the current workforce are estimated based on the skills required for the occupations the workers are currently in. The workforce as a whole faces only small skill deficits relative to projected skills needs, but many more significant skill gaps are projected for low-income older workers.

The relatively small skill gaps for all workers reflect that the projected distribution of occupations in 2024 differs from the current distribution of occupations, but not radically so. In contrast, the current distribution of occupations among low-income older workers differs substantially from the projected 2024 distribution. Consequently, the skill sets of older workers less closely resemble future needs.

Table 7 allows for some comparison of the relative skill gaps facing low-income older workers by skill category. For example, the average skill gap facing older workers for basic skills is larger than the average gap in any other skills category in table 7, reinforcing the importance of blending basic skills into training opportunities (as highlighted previously). Knowledge of computers and electronics is included in table 7 as well, and the gap in this skill facing older workers is larger than any other skill gap. Some computer training may therefore be valuable to older workers, although knowledge of computers and electronics was not among the 40 most important skills for the fastest-growing occupations among low-income older workers.

TABLE 7

**Projected Knowledge, Skills, and Abilities by Importance Score Needed for All Workers and Low-Income Workers Age 50 and Older**

| | Importance of projected skills needed | Gap in skill levels for all workers (projected to current) | Gap in skill levels for age low-income workers age 50+ (projected to current) |
|---|---|---|---|
| **Basic skills** | | | |
| Active listening | 64.6 | -0.1 | -3.1 |
| Speaking | 63.2 | -0.1 | -3.2 |
| Critical thinking | 58.5 | -0.1 | -3.1 |
| Reading comprehension | 58.0 | -0.1 | -3.8 |
| Monitoring | 55.6 | -0.1 | -2.6 |
| Writing | 50.4 | -0.1 | -3.8 |
| Active learning | 48.6 | -0.2 | -3.3 |
| Learning strategies | 41.6 | -0.2 | -3.5 |
| **Social skills** | | | |

| | Importance of projected skills needed | Gap in skill levels for all workers (projected to current) | Gap in skill levels for age low-income workers age 50+ (projected to current) |
|---|---|---|---|
| Social perceptiveness | 55.9 | -0.2 | -2.6 |
| Coordination | 54.4 | -0.1 | -2.1 |
| Service orientation | 52.9 | -0.2 | -1.8 |
| Persuasion | 44.8 | -0.1 | -2.6 |
| Instructing | 44.3 | -0.2 | -3.1 |
| Negotiation | 41.6 | -0.1 | -2.5 |
| **Additional miscellaneous skills** | | | |
| Judgment and decision making | 52.9 | -0.1 | -3.0 |
| Time management | 52.1 | -0.1 | -1.8 |
| Complex problem solving | 49.4 | -0.1 | -2.6 |
| **Knowledge** | | | |
| Customer and personal service | 66.5 | -0.3 | -3.0 |
| English language | 64.0 | -0.2 | -3.8 |
| Administration and management | 48.0 | -0.1 | -2.4 |
| Education and training | 44.3 | -0.2 | -3.2 |
| Computers and electronics | 43.1 | -0.1 | -6.4 |
| Clerical | 42.7 | 0.0 | -4.8 |
| Mathematics | 41.3 | 0.0 | -4.0 |
| Public safety and security | 40.6 | -0.1 | 0.4 |
| **Cognitive abilities** | | | |
| Oral comprehension | 68.3 | -0.1 | -2.7 |
| Oral expression | 67.4 | -0.1 | -2.7 |
| Problem sensitivity | 62.2 | -0.2 | -2.6 |
| Written comprehension | 59.9 | -0.1 | -3.5 |
| Deductive reasoning | 58.4 | -0.1 | -2.7 |
| Information ordering | 57.1 | -0.1 | -2.0 |
| Inductive reasoning | 55.5 | -0.2 | -2.7 |
| Written expression | 54.4 | -0.1 | -4.1 |
| Category flexibility | 50.5 | -0.1 | -1.8 |
| Selective attention | 49.7 | 0.0 | -0.9 |
| Fluency of ideas | 42.9 | -0.1 | -2.9 |
| Flexibility of closure | 42.6 | -0.1 | -1.8 |
| Perceptual speed | 41.8 | 0.0 | -1.0 |
| Originality | 41.2 | -0.1 | -2.9 |
| Time sharing | 41.0 | -0.1 | -0.8 |
| **Sensory abilities** | | | |
| Near vision | 61.3 | 0.0 | -1.5 |
| Speech clarity | 61.2 | -0.1 | -2.5 |
| Speech recognition | 60.9 | -0.1 | -2.3 |
| Far vision | 44.2 | 0.0 | 0.1 |

**Source:** Occupational Information Network (O*NET) database and the American Community Survey.
**Notes:** O*NET scores each skill on its importance and on the "level" of the skill required for each occupation and ranges from 0 to 100. Skill levels for all workers and projected skill needs are calculated by weighting the O*NET skill levels by the current and projected employment level of that occupation, respectively. Skill levels for low-income workers age 50 and older are calculated by weighting the same O*NET skill levels by the employment of older low-income workers in that occupation, using the American Community Survey sample.

# Knowledge, Skills, and Abilities for the Top 20 Fastest-Growing Occupations

Table 8 presents the skill importance scores for the most important skills for each of the 20 fastest-growing occupations among workers of all ages. Recall that a skill's importance refers to the centrality of a skill to a job, not the level of expertise required in the skill (expertise levels are reported in table 6 and gaps are reported in table 7). Table 8 provides information on what skills matter most for an individual who is interested in a particular occupation.

The blue and red shading in table 8 shows the relative importance of a given knowledge, skill, or ability to the top 20 fastest-growing occupations. The blue-shaded cells show skill areas that are relatively more important for a given occupation and include any skills rated 60 and higher. Conversely, red-shaded cells show skill areas that are relatively less important for a given occupation and include any skills rated 40 and lower. The darker the blue, the more important the skill is to that occupation. For example, among nursing, psychiatric, and home health aides, three knowledges, skills, or abilities are rated 71—customer and personal service, oral comprehension, and service orientation—and are the skills deemed most important to those occupations. A skill that is important for these occupations but less so would be speech recognition, shown in a lighter shade of blue and rated 62. Unlike for nursing, psychiatric, and home health aides, service orientation has very low importance as a skill for material moving (rated 31) and is therefore shaded dark red in that column.

TABLE 8

**Occupation-Specific Skill Importance Scores for Skill Areas with the Highest Importance, by Top 20 Fastest-Growing Occupations for all Workers**

| | | Occupations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| **Knowledge, skills, or abilities** | **Skill type** | Nursing, psychiatric, & home health aides | Other personal care & service | Food & beverage serving | Construction trades | Retail sales | Information & record clerks | Other healthcare support | Building cleaning & pest control | Motor vehicle operators | Material moving | Cooks & food preparation | Other teachers & instructors | Secretaries & admin assistants | Other education, training, & library | Supervisors of food prep & serving | Supervisors of sales | Personal appearance | Grounds maintenance | Other protective service | Other office & admin support |
| Customer & personal service | Knowledge | 71 | 71 | 78 | 53 | 80 | 82 | 80 | 60 | 67 | 39 | 54 | 72 | 72 | 53 | 71 | 83 | 82 | 56 | 59 | 76 |
| Oral comprehension | Ability | 71 | 67 | 69 | 57 | 73 | 74 | 72 | 52 | 54 | 51 | 55 | 77 | 79 | 67 | 75 | 68 | 66 | 48 | 61 | 68 |
| Oral expression | Ability | 68 | 68 | 66 | 52 | 74 | 74 | 69 | 47 | 52 | 48 | 51 | 81 | 74 | 73 | 78 | 68 | 66 | 45 | 59 | 67 |
| Active listening | Skill | 66 | 62 | 65 | 52 | 65 | 70 | 68 | 49 | 53 | 44 | 52 | 73 | 72 | 67 | 68 | 68 | 67 | 45 | 61 | 65 |
| English language | Knowledge | 66 | 58 | 56 | 59 | 58 | 69 | 73 | 50 | 57 | 50 | 49 | 84 | 77 | 67 | 50 | 66 | 48 | 60 | 59 | 69 |
| Speech recognition | Ability | 62 | 56 | 66 | 50 | 63 | 68 | 66 | 45 | 50 | 48 | 52 | 66 | 71 | 66 | 65 | 68 | 62 | 48 | 57 | 63 |
| Near vision | Ability | 64 | 55 | 52 | 62 | 60 | 62 | 66 | 52 | 64 | 55 | 52 | 57 | 70 | 54 | 56 | 56 | 71 | 51 | 54 | 62 |
| Speaking | Skill | 55 | 61 | 60 | 50 | 64 | 70 | 65 | 43 | 53 | 44 | 49 | 71 | 72 | 67 | 72 | 65 | 65 | 47 | 58 | 64 |
| Problem sensitivity | Ability | 69 | 63 | 50 | 59 | 55 | 58 | 64 | 47 | 59 | 51 | 53 | 59 | 58 | 61 | 72 | 62 | 51 | 51 | 71 | 54 |
| Speech clarity | Ability | 56 | 58 | 59 | 49 | 67 | 69 | 61 | 44 | 51 | 44 | 50 | 75 | 70 | 66 | 63 | 67 | 55 | 47 | 57 | 64 |
| Service orientation | Skill | 71 | 68 | 62 | 37 | 62 | 64 | 56 | 45 | 48 | 31 | 43 | 57 | 63 | 57 | 68 | 62 | 62 | 38 | 46 | 51 |
| Social perceptiveness | Skill | 65 | 64 | 58 | 46 | 57 | 54 | 61 | 44 | 49 | 36 | 42 | 64 | 52 | 60 | 63 | 62 | 52 | 38 | 52 | 54 |
| Information ordering | Ability | 52 | 53 | 53 | 54 | 52 | 54 | 54 | 48 | 52 | 47 | 54 | 55 | 62 | 52 | 60 | 56 | 48 | 47 | 49 | 55 |
| Written comprehension | Ability | 56 | 55 | 43 | 48 | 55 | 63 | 65 | 32 | 49 | 43 | 41 | 70 | 75 | 57 | 61 | 55 | 48 | 33 | 46 | 67 |
| Deductive reasoning | Ability | 54 | 53 | 47 | 54 | 50 | 55 | 59 | 46 | 51 | 49 | 48 | 55 | 54 | 53 | 69 | 59 | 48 | 45 | 55 | 53 |
| Monitoring | Skill | 56 | 58 | 52 | 49 | 48 | 49 | 58 | 42 | 50 | 44 | 50 | 61 | 50 | 55 | 66 | 65 | 49 | 38 | 57 | 49 |
| Critical thinking | Skill | 55 | 54 | 45 | 51 | 51 | 55 | 58 | 43 | 50 | 46 | 45 | 62 | 52 | 58 | 60 | 65 | 54 | 48 | 54 | 51 |
| Coordination | Skill | 54 | 55 | 53 | 50 | 50 | 50 | 53 | 46 | 44 | 46 | 48 | 53 | 57 | 55 | 69 | 64 | 47 | 44 | 52 | 46 |
| Reading comprehension | Skill | 54 | 50 | 42 | 48 | 52 | 61 | 63 | 36 | 48 | 42 | 41 | 68 | 70 | 57 | 58 | 55 | 48 | 32 | 51 | 65 |
| Inductive reasoning | Ability | 56 | 51 | 38 | 52 | 50 | 51 | 53 | 46 | 49 | 44 | 42 | 55 | 51 | 52 | 57 | 52 | 48 | 44 | 53 | 50 |
| Time management | Skill | 49 | 53 | 39 | 47 | 47 | 50 | 51 | 42 | 51 | 40 | 44 | 54 | 67 | 50 | 60 | 60 | 48 | 41 | 36 | 55 |
| Selective attention | Ability | 44 | 49 | 48 | 50 | 50 | 47 | 48 | 40 | 52 | 42 | 45 | 54 | 49 | 51 | 53 | 44 | 50 | 48 | 59 | 51 |
| Judgment & decision making | Skill | 48 | 53 | 48 | 46 | 44 | 45 | 49 | 33 | 47 | 38 | 43 | 55 | 49 | 52 | 57 | 58 | 51 | 38 | 47 | 44 |
| Written expression | Ability | 49 | 53 | 36 | 36 | 49 | 62 | 58 | 27 | 44 | 40 | 37 | 65 | 71 | 54 | 48 | 50 | 44 | 21 | 45 | 62 |
| Category flexibility | Ability | 50 | 45 | 42 | 48 | 47 | 45 | 50 | 39 | 45 | 42 | 43 | 48 | 52 | 51 | 50 | 56 | 47 | 36 | 35 | 53 |
| Finger dexterity | Ability | 47 | 43 | 47 | 53 | 42 | 41 | 51 | 40 | 46 | 44 | 41 | 35 | 38 | 29 | 50 | 47 | 66 | 45 | 25 | 48 |
| Arm-hand steadiness | Ability | 50 | 40 | 50 | 62 | 37 | 23 | 46 | 42 | 49 | 49 | 52 | 22 | 21 | 21 | 50 | 32 | 68 | 54 | 28 | 34 |
| Writing | Skill | 49 | 49 | 33 | 34 | 42 | 50 | 55 | 27 | 44 | 34 | 32 | 57 | 70 | 53 | 47 | 53 | 42 | 20 | 48 | 56 |
| Far vision | Ability | 44 | 47 | 34 | 52 | 35 | 37 | 41 | 43 | 68 | 48 | 34 | 36 | 35 | 45 | 52 | 48 | 33 | 47 | 61 | 38 |
| Complex problem solving | Skill | 46 | 47 | 39 | 46 | 39 | 46 | 46 | 30 | 44 | 33 | 35 | 58 | 44 | 50 | 53 | 56 | 45 | 33 | 40 | 41 |

**Source:** Occupational Information Network (O*NET) database.
**Notes:** O*NET skills scores are provided at the six-digit occupation level. They are aggregated up to the three-digit level for this table.

Broadly, the skills identified as important across all fast-growing occupations are of high importance in individual occupations as well. Customer and personal service, oral comprehension, and oral expression are extremely important in most occupations. However, some notable exceptions exist. Those skills are of much lower importance among material moving occupations, cooks and food preparation, and grounds maintenance, and they are only marginally important in building cleaning and pest control. Workers interested in such occupations would be better served investing in other skills that are more important to those jobs.

Table 8 also shows that some skills that are not particularly important to most fast-growing jobs are more critical in specific occupations. For example, writing is generally of low importance, but it is predictably very important to the work of secretaries and administrative assistants. Arm-hand steadiness is also of negligible importance in most occupations, but it is of high importance in construction trades and personal appearance workers. Although such nuances may not matter for developing a broader skills strategy, they are essential for designing specific programs or directing job seekers to necessary education and training.

# When Do Low-income Older Workers Plan to Stop Working?

The HRS provides information on when low-income older workers think they will retire from various industries and occupations. We include the HRS analysis in our report for two reasons. First, knowing the occupations that low-income older workers plan to retire from allows us to look for potential opportunities for incumbent workers who plan to continue working. Second, employers often say that they do not want to train older workers because they are likely to retire soon, but our analysis shows that this is not the case for the majority of low-income older workers in many different occupations.

The survey is weighted to represent the 86.5 million Americans who were age 53 or older at the time of the most recent survey (2014). Almost half (47 percent) of the weighted sample have low incomes (less than 300 percent of FPL), representing 40.5 million individuals. Among this group, 42 percent (10.1 million people) are currently working for pay. The survey asks what year the respondent thinks he or she will stop working (table 9). Of the low-income, working respondents, 44 percent have no plans to retire. An additional 9 percent do not know when they will retire. Of the remaining 48 percent, 15 percent said they thought they would retire within five years of the survey (between 2014

and 2018), 17 percent expected to retire between 2019 and 2023, and the remaining 15 percent expected to retire after 2023.

Low-income older workers are less likely to have any plans to retire than older workers with higher incomes. Fifty-three percent of low-income older workers do not know when they will retire or say they have no plans to retire compared with 46 percent of older workers who do not have low incomes. Among low-income older workers, as their level of poverty increases, their likelihood of having plans to retire at all and in the next five years decreases.

TABLE 9

**Year That Low-Income Older Workers Think They Will Stop Working**

| | All Low-Income | | < 100% of FPL | | 100–199% of FPL | | 200–300% of FPL | |
|---|---|---|---|---|---|---|---|---|
| | % | # | % | # | % | # | % | # |
| 2014–18 | 15 | 1,452,932 | 11 | 237,246 | 16 | 562,450 | 17 | 653,236 |
| 2019–23 | 17 | 1,648,555 | 15 | 332,201 | 17 | 591,505 | 19 | 724,849 |
| 2024–28 | 10 | 966,342 | 10 | 217,827 | 9 | 319,448 | 11 | 429,067 |
| 2029+ | 5 | 491,696 | 5 | 111,033 | 6 | 201,976 | 5 | 178,687 |
| Don't know | 9 | 840,974 | 10 | 222,229 | 11 | 388,937 | 6 | 229,808 |
| No plans to retire | 44 | 4,189,004 | 49 | 1,069,949 | 41 | 1,457,760 | 43 | 1,661,295 |
| Total | 100 | 9,589,503 | 100 | 2,190,485 | 100 | 3,522,076 | 100 | 3,876,942 |

**Source:** Health and Retirement Survey, 2014.
**Notes:** Because of missing data, the overall percentages in tables 10 and 11 may not match those in table 9. Includes individuals age 53 and older.

Tables 10 and 11 show the current occupations and industries of low-income older workers who had plans to retire within five years of the time of the survey.

TABLE 10

**Current Occupations of Low-Income Older Workers Planning to Retire between 2014 and 2018**

| | Likelihood of retiring 2014–18 (%) | Number of people planning to retire 2014–18 |
|---|---|---|
| All | 14 | 1,082,574 |
| Protective service occupations | 26 | 52,071 |
| Business and financial operations occupations | 25 | 55,594 |
| Personal care and service occupations | 20 | 132,218 |
| Building and grounds cleaning and maintenance occupations | 17 | 143,550 |
| Education, training, and library occupations | 16 | 50,511 |
| Office and administrative support occupations | 15 | 165,214 |
| Food preparation and serving related occupations | 15 | 71,008 |
| Transportation and material moving occupations | 15 | 97,826 |
| Healthcare support occupations | 14 | 43,177 |

| | | |
|---|---|---|
| Production occupations | 11 | 59,159 |
| Sales and related occupations | 11 | 79,781 |
| Healthcare practitioners and technical occupations | 10 | 16,151 |
| Management occupations | 9 | 22,429 |
| Construction and extraction occupations | 9 | 49,795 |
| Other occupations[a] | 9 | 29,235 |
| Community and social service occupations | 7 | 8,741 |
| Installation, maintenance, and repair occupations | 3 | 6,114 |

**Source:** Health and Retirement Survey, 2014.

**Notes:** Because of missing data, the overall percentages in tables 10 and 11 may not match those in table 9.

[a] Includes occupations with low sample size: computer and mathematical occupations; architecture and engineering occupations; life, physical, and social science occupations; legal occupations; arts, design, entertainment, sports, and media occupations; farming, fishing, and forestry occupations; and military specific occupations.

In table 10, the occupation categories are broad because the HRS only provides information on occupations at the two-digit SOC level. The second column shows the "likelihood" of retiring between 2014 and 2018 (i.e., the percentage of respondents within that occupational category that said they planned to retire in that year range). The occupational categories with the highest likelihood of retiring between 2014 and 2018 were protective service occupations (26 percent), business and financial operations occupations (25 percent), and personal care and service occupations (20 percent). The number of low-income older workers planning to retire is highest in the following occupations: office and administrative support occupations (165,214), building and grounds cleaning and maintenance occupations (143,550), and personal care and service occupations (132,218). The occupational categories with the least likelihood of retiring in 2014 to2018 are installation, maintenance, and repair occupations (3 percent); community and social service occupations (7 percent); and construction and extraction occupations (9 percent).

Table 11 shows similar information by industry. The industries with the highest likelihood of retiring between 2014 and 2018 are public administration (30 percent); arts, entertainment, and recreation (19 percent); and professional, scientific, and technical services (18 percent). The number of low-income older workers planning to retire is highest in the following industries: health care and social assistance (197,553), retail trade (117,983), and other services (116,314). The industries with the least likelihood of retiring are manufacturing (7 percent), construction (7 percent), and wholesale trade (10 percent).

Assuming that the likelihood of retiring within the next five years remains stable among older workers, the information presented in tables 10 and 11 can be used to predict retirement patterns over the next five years and therefore could be used to inform training, recruitment, and retention efforts. The occupations and industries that are expecting many low-income retirees may be good targets for training and recruitment efforts for other low-income older workers. In contrast, low-income older

workers may find themselves unable to retire as expected, creating possible opportunities for incumbent-worker training to retain this segment of the workforce. Finally, in industries with low rates of expected retirement among low-income older workers, including manufacturing and construction, employers may want to consider investing more in training their older incumbent workforce. It is also possible, however, that the age distribution is younger in occupations such as construction and manufacturing, possibly accounting for the lower percentages of people planning to retire from those jobs.

TABLE 11

**Current Industries of Low-Income Older Workers Planning to Retire between 2014 and2018**

| | Likelihood of retiring 2014–18 (%) | Number of people planning to retire 2014–18 |
|---|---|---|
| All | 14 | 1,036,946 |
| Public administration | 30 | 67,834 |
| Arts, entertainment, and recreation | 19 | 36,476 |
| Professional, scientific, and technical services | 18 | 31,997 |
| Agriculture, forestry, fishing and hunting | 17 | 27,853 |
| Real estate and rental and leasing | 17 | 33,801 |
| Health care and social assistance | 17 | 197,553 |
| Transportation and warehousing | 16 | 68,415 |
| Educational services | 15 | 89,799 |
| Accommodation and food services | 14 | 54,412 |
| Other services (except public administration) | 14 | 116,314 |
| Retail trade | 14 | 117,983 |
| Other industries[a] | 13 | 21,702 |
| Management of companies and enterprises | 11 | 59,484 |
| Wholesale trade | 10 | 21,730 |
| Construction | 7 | 39,842 |
| Manufacturing | 7 | 51,751 |

**Source:** Health and Retirement Survey, 2014.

**Notes:** Because of missing data, the overall percentages in tables 10 and 11 may not match those in table 9.

[a] Includes industries with low sample size: mining, quarrying, and oil and gas extraction; utilities; information; and finance and insurance.

# Conclusion
# Recommendations

In this section, we describe the overall implications of this study for the AARP Foundation and provide recommendations that foundation leadership may want to consider. The AARP Foundation's mission is "to serve vulnerable people 50+ by creating and advancing effective solutions that help them secure the essentials." Our data analyses and resultant recommendations will assist the AARP Foundation in better meeting the current and future training needs of low-income older workers to ultimately improve their employment prospects and overall financial well-being.

Our recommendations draw on the data analyses from this report and are focused within the three major avenues of program development that the AARP Foundation focuses on: public outreach, direct service, and fundraising. Public outreach and direct service are core components of the AARP Foundation's mission, and their fundraising efforts support these core components by targeting programs and initiatives that will provide skills training and education for low-income, older, incumbent workers.

To further their mission of **public outreach**, we recommend that the AARP Foundation does the following:

1. Allow states to delve deeper into this report's findings for each state. Each state should
    - examine the absolute change in occupations expected to grow most rapidly (tables A.1 and A.2);
    - among the highest-growth occupations, select those with reasonable median wages, education requirements, and on-the-job training requirements (table 5);
    - among the selected occupations, examine the occupation-specific knowledge, skills, and abilities with the highest importance (table 8);
    - determine whether the relevant knowledge, skills, and abilities show a gap for low-income older workers (table 7); and
    - find or develop local training programs that can provide those skills to individuals seeking to move into a higher-paying occupation that has high expected growth within their state.
2. Dispel the myth among some employers that it is not worth the investment to train older workers who plan to retire soon. The HRS analyses show that more than 4 in 10 low-income older workers have no plans to retire and that fewer than one-third of older workers plan to retire in the next 5 to 10 years (table 9). Further, many of the low-income older workers that

are planning to retire within the next five years are concentrated in a handful of occupations and industries.

To further their mission of **direct service**, we recommend that the AARP Foundation does the following:

3. Assist low-income older workers in gaining the skills they need by developing a training and education resource guide. The guide could provide general information about how to afford training, such as using employer-provided benefits (e.g., tuition reimbursement, flexible work arrangements, and on-the-job training for incumbent workers) or publically subsidized training programs through the public workforce development system or a local community college. Resource guides could also be tailored to include local information about low-cost training, education, and services.

4. Develop and use skills-assessment tools for the low-income incumbent workers they serve. Ideally, such assessments should correspond to the knowledge, skills, and abilities this report identifies as relevant for specific growth occupations. By using an individual's educational background and skill profile in combination with the state-level information about growing occupations that pay a living wage, the AARP Foundation can help clients develop an individualized career-advancement plan.

To further their mission of **fundraising/grantmaking**, we recommend that the AARP Foundation does the following:

5. Use the national- and state-level findings about occupations that are expected to grow as well as the identified skill gaps between current and projected occupations for low-income older workers to raise funds for new training programs that target specific workers and specific skill gaps.

# Appendix A. Additional Tables

TABLE A.1

**Top 20 Occupations Projected to Grow Most Rapidly from 2014 to 2024 at the National Level, by State**

| | Occupations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | Nursing, psychiatric, home health aides | Other personal care/ services | Food/beverage serving | Construction trades | Retail sales | Information/record clerks | Other healthcare support | Building cleaning and pest control | Motor vehicle operators | Material moving | Cooks and food prep | Other teachers and instructors | Secretaries/admin assistants | Other education, training, and library | Food prep supervisors/serving | Sales supervisors | Personal appearance | Grounds maintenance | Other protective service | Other office/admin support |
| Alabama | 6 | 6 | 7 | 6 | 9 | 7 | 3 | 3 | 5 | 5 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 1 | 1 | 1 |
| Alaska | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Arizona | 10 | 18 | 31 | 38 | 27 | 36 | 8 | 13 | 13 | 14 | 10 | 2 | 12 | 6 | 5 | 6 | 2 | 6 | 7 | 13 |
| Arkansas | 4 | 5 | 10 | 4 | 7 | 4 | 2 | 2 | 5 | 4 | 4 | 1 | 2 | 1 | 2 | 2 | 0 | 1 | 1 | 3 |
| California | 33 | 211 | 193 | 168 | 74 | 62 | 45 | 39 | 58 | 77 | 84 | 31 | 40 | 22 | 32 | 13 | 16 | 17 | 29 | 42 |
| Colorado | 15 | 20 | 36 | 45 | 26 | 23 | 10 | 14 | 15 | 11 | 13 | 1 | 22 | 4 | 5 | 4 | 4 | 7 | 6 | 6 |
| Connecticut | 3 | 10 | 5 | 6 | 2 | 4 | 2 | 4 | 3 | 3 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Delaware | 2 | 1 | 2 | 2 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DC | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Florida | 30 | 26 | 106 | 95 | 100 | 81 | 29 | 41 | 37 | 40 | 41 | 12 | 35 | 9 | 16 | 23 | 9 | 22 | 17 | 27 |
| Georgia | 11 | 13 | 29 | 19 | 22 | 24 | 12 | 7 | 14 | 22 | 9 | 7 | 6 | 7 | 5 | 5 | 2 | 3 | 3 | 5 |
| Hawaii | 2 | 1 | 2 | 3 | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| Idaho | 1 | 0 | 4 | 5 | 2 | 1 | 0 | 2 | 4 | 3 | 0 | 2 | 0 | 1 | 1 | 2 | 1 | - | 1 | 3 |
| Illinois | 16 | 14 | 31 | 17 | 17 | 13 | 6 | 10 | 15 | 23 | 11 | 4 | -1 | 2 | 5 | 3 | 2 | 2 | 3 | 4 |
| Indiana | 10 | 10 | 18 | 14 | 15 | 8 | 6 | 6 | 11 | 16 | 5 | 2 | 4 | 2 | 3 | 3 | 1 | 2 | 2 | 3 |
| Iowa | 7 | 5 | 7 | 9 | 7 | 7 | 2 | 4 | 8 | 5 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 3 |
| Kansas | 2 | 9 | 8 | 2 | 2 | 4 | 1 | 2 | 3 | 3 | 3 | 1 | 3 | 0 | 2 | 0 | 1 | 1 | 1 | 0 |
| Kentucky | 15 | 9 | 9 | 12 | 8 | 13 | 5 | 6 | 7 | 14 | 5 | 2 | 6 | 5 | 2 | 3 | 1 | 2 | 2 | 5 |
| Louisiana | 7 | 10 | 8 | 3 | 10 | 4 | 2 | 4 | 4 | 5 | 5 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| Maine | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maryland | 16 | 18 | 6 | 10 | 11 | 15 | 7 | 15 | 14 | 8 | 2 | 11 | 19 | 11 | 1 | 3 | 2 | 4 | 8 | 4 |
| Massachusetts | 5 | 5 | 9 | 4 | 3 | 4 | 2 | 4 | 4 | 2 | 4 | 1 | 6 | 2 | 1 | 1 | 2 | 1 | 2 | 4 |
| Michigan | 15 | 10 | 18 | 12 | 12 | 13 | 5 | 6 | 10 | 9 | 5 | 4 | 2 | 1 | 3 | 3 | 2 | 2 | 2 | 4 |
| Minnesota | 12 | 20 | 7 | 7 | 6 | 3 | 4 | 4 | 3 | 2 | 3 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Mississippi | 4 | 3 | 5 | 4 | 1 | 2 | 1 | 2 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| Missouri | 8 | 14 | 13 | 9 | 7 | 8 | 3 | 4 | 3 | 3 | 2 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 0 |
| Montana | 1 | 2 | 4 | 3 | 4 | 2 | 0 | 2 | 1 | 1 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| Nebraska | 2 | 3 | 6 | 5 | 4 | 4 | 1 | 2 | 6 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |

TABLE A.1

**Top 20 Occupations Projected to Grow Most Rapidly from 2014 to 2024 at the National Level, by State (continued)**

| | Occupations | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | Nursing, psychiatric, home health aides | Other personal care/ services | Food/beverage serving | Construction trades | Retail sales | Information/record clerks | Other healthcare support | Building cleaning and pest control | Motor vehicle operators | Material moving | Cooks and food prep | Other teachers and instructors | Secretaries/admin assistants | Other education, training, and library | Food prep supervisors/serving | Sales supervisors | Personal appearance | Grounds maintenance | Other protective service | Other office/admin support |
| Nevada | 2 | 5 | 29 | 17 | 23 | 12 | 4 | 16 | 13 | 9 | 12 | 3 | 4 | 3 | 5 | 3 | 1 | 3 | 7 | 8 |
| New Hampshire | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| New Jersey | 24 | 8 | 21 | 13 | 13 | 10 | 7 | 4 | 10 | 19 | 7 | 4 | 0 | 3 | 4 | 2 | 5 | 3 | 3 | -2 |
| New Mexico | 3 | 11 | 7 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| New York | 92 | 72 | 86 | 63 | 40 | 43 | 15 | 44 | 28 | 22 | 30 | 20 | 24 | 13 | 17 | 8 | 14 | 5 | 25 | 16 |
| North Carolina | 31 | 13 | 44 | 20 | 29 | 25 | 11 | 11 | 12 | 14 | 13 | 2 | 7 | 4 | 7 | 7 | 2 | 5 | 4 | 7 |
| North Dakota | 2 | 3 | 3 | -1 | 2 | 2 | 1 | 1 | -3 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 40 | 8 | 22 | 15 | 6 | 8 | 9 | 6 | 9 | 8 | 6 | 3 | 8 | 3 | 3 | 1 | 4 | 2 | 2 | 1 |
| Oklahoma | 5 | 6 | 9 | 8 | 8 | 5 | 2 | 3 | 4 | 5 | 2 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 2 |
| Oregon | 4 | 8 | 18 | 15 | 13 | 8 | 5 | 6 | 7 | 7 | 11 | 2 | 6 | 2 | 3 | 2 | 1 | 2 | 1 | 4 |
| Pennsylvania | 24 | 19 | 27 | 24 | 7 | 9 | 6 | 10 | 15 | 13 | 7 | 3 | 2 | 2 | 4 | 1 | 5 | 3 | 4 | -2 |
| Rhode Island | 2 | 1 | 3 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Carolina | 7 | 5 | 11 | 7 | 8 | 7 | 3 | 5 | 4 | 8 | 4 | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 |
| South Dakota | 1 | 1 | 3 | 2 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tennessee | 14 | 12 | 12 | 10 | 6 | 15 | 8 | 8 | 11 | 19 | 3 | 2 | 9 | 2 | 3 | 2 | 1 | 2 | 6 | 6 |
| Texas | 54 | 109 | 183 | 110 | 148 | 94 | 36 | 66 | 80 | 71 | 66 | 27 | 60 | 23 | 29 | 31 | 12 | 24 | 27 | 63 |
| Utah | 5 | 8 | 21 | 23 | 15 | 22 | 6 | 7 | 11 | 10 | 7 | 5 | 9 | 3 | 3 | 3 | 2 | 4 | 2 | 7 |
| Vermont | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia | 14 | 17 | 22 | 13 | 14 | 14 | 9 | 7 | 5 | 5 | 8 | 6 | 3 | 4 | 4 | 3 | 3 | 3 | 6 | 5 |
| Washington | 8 | 17 | 30 | 30 | 20 | 18 | 12 | 17 | 13 | 17 | 14 | 8 | 10 | 7 | 4 | 6 | 8 | 11 | 7 | 11 |
| West Virginia | 2 | 4 | 0 | -2 | -2 | 1 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | -2 |
| Wisconsin | 7 | 23 | 15 | 8 | 4 | 6 | 2 | 6 | 10 | 5 | 4 | 2 | 0 | 1 | 2 | 1 | 0 | 3 | 1 | 1 |
| Wyoming | 1 | 1 | 2 | -1 | 1 | 0 | 0 | 1 | -1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Puerto Rico | 1 | 1 | 5 | -3 | 3 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | -2 | -1 | 1 | 1 | 0 | 0 | 1 | -3 |

**Source:** State occupational projections 2014–24.
**Notes:** NA = not available. State-level occupational projections are developed in the labor market information sections of each State Employment Security Agency; therefore, the state-level projections may not be consistent with the national projections. The top 20 occupations are those with the most projected absolute growth at the national level. In each row, the three occupations with the most growth are shaded in blue.

TABLE A.2

**Top 10 Low- to Middle-wage Occupations Projected to Grow Most Rapidly from 2014 to 2024, by State**

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Alabama | 1 | Assemblers and fabricators | 23% | 11 | | x |
| Alabama | 2 | Retail sales workers | 7% | 9 | x | |
| Alabama | 3 | Information and record clerks | 9% | 7 | | x |
| Alabama | 4 | Food and beverage serving workers | 8% | 7 | x | |
| Alabama | 5 | Construction trades workers | 10% | 6 | | x |
| Alabama | 6 | Nursing, psychiatric, and home health aides | 19% | 6 | x | |
| Alabama | 7 | Other personal care and service workers | 15% | 6 | x | |
| Alabama | 8 | Material moving workers | 7% | 5 | x | |
| Alabama | 9 | Motor vehicle operators | 7% | 5 | | x |
| Alabama | 10 | Other healthcare support occupations | 18% | 3 | | x |
| Alaska | 1 | Retail sales workers | 7% | 2 | x | |
| Alaska | 2 | Other personal care and service workers | 13% | 1 | x | |
| Alaska | 3 | Food and beverage serving workers | 10% | 1 | x | |
| Alaska | 4 | Other healthcare support occupations | 18% | 1 | | x |
| Alaska | 5 | Cooks and food preparation workers | 10% | 1 | x | |
| Alaska | 6 | Information and record clerks | 7% | 1 | | x |
| Alaska | 7 | Other office and administrative support workers | 5% | 1 | | x |
| Alaska | 8 | Building cleaning and pest control workers | 7% | 1 | x | |
| Alaska | 9 | Other food preparation and serving related workers | 11% | 1 | x | |
| Alaska | 10 | Motor vehicle operators | 6% | 0 | | x |
| Arizona | 1 | Construction trades workers | 45% | 38 | | x |
| Arizona | 2 | Information and record clerks | 25% | 36 | | x |
| Arizona | 3 | Food and beverage serving workers | 22% | 31 | x | |
| Arizona | 4 | Retail sales workers | 16% | 27 | x | |
| Arizona | 5 | Other personal care and service workers | 27% | 18 | x | |
| Arizona | 6 | Material moving workers | 22% | 14 | x | |
| Arizona | 7 | Other office and administrative support workers | 18% | 13 | | x |
| Arizona | 8 | Motor vehicle operators | 21% | 13 | | x |
| Arizona | 9 | Building cleaning and pest control workers | 22% | 13 | x | |
| Arizona | 10 | Secretaries and administrative assistants | 16% | 12 | | x |
| Arkansas | 1 | Food and beverage serving workers | 21% | 10 | x | |
| Arkansas | 2 | Retail sales workers | 10% | 7 | x | |
| Arkansas | 3 | Motor vehicle operators | 10% | 5 | | x |
| Arkansas | 4 | Other personal care and service workers | 14% | 5 | x | |
| Arkansas | 5 | Information and record clerks | 10% | 4 | | x |
| Arkansas | 5 | Construction trades workers | 11% | 4 | | x |
| Arkansas | 7 | Cooks and food preparation workers | 12% | 4 | x | |
| Arkansas | 8 | Nursing, psychiatric, and home health aides | 15% | 4 | x | |
| Arkansas | 9 | Material moving workers | 8% | 4 | x | |
| Arkansas | 10 | Other office and administrative support workers | 6% | 3 | | x |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| California | 1 | Other personal care and service workers | 29% | 211 | x | |
| California | 2 | Food and beverage serving workers | 26% | 193 | x | |
| California | 3 | Construction trades workers | 30% | 168 | | x |
| California | 4 | Cooks and food preparation workers | 21% | 84 | x | |
| California | 5 | Material moving workers | 14% | 77 | x | |
| California | 6 | Retail sales workers | 8% | 74 | x | |
| California | 7 | Information and record clerks | 12% | 62 | | x |
| California | 8 | Motor vehicle operators | 16% | 58 | | x |
| California | 9 | Other healthcare support occupations | 21% | 45 | | x |
| California | 10 | Other office and administrative support workers | 8% | 42 | | x |
| Colorado | 1 | Construction trades workers | 41% | 45 | | x |
| Colorado | 2 | Food and beverage serving workers | 27% | 36 | x | |
| Colorado | 3 | Retail sales workers | 17% | 26 | x | |
| Colorado | 4 | Information and record clerks | 21% | 23 | | x |
| Colorado | 5 | Secretaries and administrative assistants | 25% | 22 | | x |
| Colorado | 6 | Other personal care and service workers | 40% | 20 | x | |
| Colorado | 7 | Nursing, psychiatric, and home health aides | 43% | 15 | x | |
| Colorado | 8 | Motor vehicle operators | 22% | 15 | | x |
| Colorado | 9 | Building cleaning and pest control workers | 23% | 14 | x | |
| Colorado | 10 | Cooks and food preparation workers | 24% | 13 | x | |
| Connecticut | 1 | Other personal care and service workers | 17% | 10 | x | |
| Connecticut | 2 | Construction trades workers | 10% | 6 | | x |
| Connecticut | 3 | Food and beverage serving workers | 7% | 5 | x | |
| Connecticut | 4 | Building cleaning and pest control workers | 9% | 4 | x | |
| Connecticut | 5 | Information and record clerks | 6% | 4 | | x |
| Connecticut | 6 | Nursing, psychiatric, and home health aides | 10% | 3 | x | |
| Connecticut | 7 | Motor vehicle operators | 7% | 3 | | x |
| Connecticut | 8 | Material moving workers | 8% | 3 | x | |
| Connecticut | 9 | Retail sales workers | 2% | 2 | x | |
| Connecticut | 10 | Other healthcare support occupations | 12% | 2 | | x |
| Delaware | 1 | Food and beverage serving workers | 10% | 2 | x | |
| Delaware | 2 | Construction trades workers | 15% | 2 | | x |
| Delaware | 3 | Retail sales workers | 6% | 2 | x | |
| Delaware | 4 | Nursing, psychiatric, and home health aides | 19% | 2 | x | |
| Delaware | 5 | Information and record clerks | 7% | 1 | | x |
| Delaware | 6 | Motor vehicle operators | 9% | 1 | | x |
| Delaware | 7 | Material moving workers | 9% | 1 | x | |
| Delaware | 8 | Building cleaning and pest control workers | 9% | 1 | x | |
| Delaware | 9 | Other personal care and service workers | 16% | 1 | x | |
| Delaware | 10 | Cooks and food preparation workers | 8% | 1 | x | |
| DC | 1 | Nursing, psychiatric, and home health aides | 33% | 3 | x | |
| DC | 2 | Food and beverage serving workers | 9% | 2 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| DC | 3 | Other personal care and service workers | 20% | 2 | x | |
| DC | 4 | Building cleaning and pest control workers | 6% | 1 | x | |
| DC | 5 | Construction trades workers | 13% | 1 | | x |
| DC | 6 | Retail sales workers | 7% | 1 | x | |
| DC | 7 | Cooks and food preparation workers | 9% | 1 | x | |
| DC | 8 | Motor vehicle operators | 11% | 1 | | x |
| DC | 9 | Information and record clerks | 4% | 1 | | x |
| DC | 10 | Other protective service workers | 5% | 1 | x | |
| Florida | 1 | Food and beverage serving workers | 21% | 106 | x | |
| Florida | 2 | Retail sales workers | 17% | 100 | x | |
| Florida | 3 | Construction trades workers | 32% | 95 | | x |
| Florida | 4 | Information and record clerks | 19% | 81 | | x |
| Florida | 5 | Building cleaning and pest control workers | 19% | 41 | x | |
| Florida | 6 | Cooks and food preparation workers | 24% | 41 | x | |
| Florida | 7 | Material moving workers | 18% | 40 | x | |
| Florida | 8 | Motor vehicle operators | 19% | 37 | | x |
| Florida | 9 | Secretaries and administrative assistants | 14% | 35 | | x |
| Florida | 10 | Nursing, psychiatric, and home health aides | 25% | 30 | x | |
| Georgia | 1 | Food and beverage serving workers | 15% | 29 | x | |
| Georgia | 2 | Information and record clerks | 13% | 24 | | x |
| Georgia | 3 | Retail sales workers | 9% | 22 | x | |
| Georgia | 4 | Material moving workers | 13% | 22 | x | |
| Georgia | 5 | Construction trades workers | 16% | 19 | | x |
| Georgia | 6 | Motor vehicle operators | 11% | 14 | | x |
| Georgia | 7 | Other personal care and service workers | 16% | 13 | x | |
| Georgia | 8 | Other healthcare support occupations | 27% | 12 | | x |
| Georgia | 9 | Nursing, psychiatric, and home health aides | 23% | 11 | x | |
| Georgia | 10 | Assemblers and fabricators | 16% | 10 | | x |
| Hawaii | 1 | Construction trades workers | 11% | 3 | | x |
| Hawaii | 2 | Retail sales workers | 6% | 3 | x | |
| Hawaii | 3 | Food and beverage serving workers | 6% | 2 | x | |
| Hawaii | 4 | Nursing, psychiatric, and home health aides | 21% | 2 | x | |
| Hawaii | 5 | Building cleaning and pest control workers | 6% | 2 | x | |
| Hawaii | 6 | Other personal care and service workers | 12% | 1 | x | |
| Hawaii | 7 | Cooks and food preparation workers | 6% | 1 | x | |
| Hawaii | 8 | Motor vehicle operators | 7% | 1 | | x |
| Hawaii | 9 | Other healthcare support occupations | 11% | 1 | | x |
| Hawaii | 10 | Information and record clerks | 4% | 1 | | x |
| Idaho | 1 | Construction trades workers | 26% | 5 | | x |
| Idaho | 2 | Motor vehicle operators | 19% | 4 | | x |
| Idaho | 3 | Food and beverage serving workers | 30% | 4 | x | |
| Idaho | 4 | Material moving workers | 16% | 3 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Idaho | 4 | Other office and administrative support workers | 15% | 3 | | x |
| Idaho | 6 | Building cleaning and pest control workers | 15% | 2 | x | |
| Idaho | 7 | Retail sales workers | 13% | 2 | x | |
| Idaho | 8 | Supervisors of sales workers | 21% | 2 | | x |
| Idaho | 9 | Material recording, scheduling, dispatching, and distributing workers | 14% | 2 | | x |
| Idaho | 10 | Other teachers and instructors | 21% | 2 | | x |
| Illinois | 1 | Food and beverage serving workers | 12% | 31 | x | |
| Illinois | 2 | Material moving workers | 9% | 23 | x | |
| Illinois | 3 | Retail sales workers | 5% | 17 | x | |
| Illinois | 4 | Construction trades workers | 9% | 17 | | x |
| Illinois | 5 | Nursing, psychiatric, and home health aides | 17% | 16 | x | |
| Illinois | 6 | Motor vehicle operators | 9% | 15 | | x |
| Illinois | 7 | Other personal care and service workers | 11% | 14 | x | |
| Illinois | 8 | Information and record clerks | 6% | 13 | | x |
| Illinois | 9 | Cooks and food preparation workers | 9% | 11 | x | |
| Illinois | 10 | Building cleaning and pest control workers | 6% | 10 | x | |
| Indiana | 1 | Food and beverage serving workers | 11% | 18 | x | |
| Indiana | 2 | Material moving workers | 13% | 16 | x | |
| Indiana | 3 | Retail sales workers | 9% | 15 | x | |
| Indiana | 4 | Construction trades workers | 13% | 14 | | x |
| Indiana | 5 | Assemblers and fabricators | 12% | 14 | | x |
| Indiana | 6 | Motor vehicle operators | 11% | 11 | | x |
| Indiana | 7 | Nursing, psychiatric, and home health aides | 20% | 10 | x | |
| Indiana | 8 | Other personal care and service workers | 19% | 10 | x | |
| Indiana | 9 | Information and record clerks | 9% | 8 | | x |
| Indiana | 10 | Other production occupations | 8% | 7 | | x |
| Iowa | 1 | Construction trades workers | 14% | 9 | | x |
| Iowa | 2 | Motor vehicle operators | 12% | 8 | | x |
| Iowa | 3 | Food and beverage serving workers | 10% | 7 | x | |
| Iowa | 4 | Information and record clerks | 12% | 7 | | x |
| Iowa | 5 | Retail sales workers | 7% | 7 | x | |
| Iowa | 6 | Nursing, psychiatric, and home health aides | 20% | 7 | x | |
| Iowa | 7 | Material moving workers | 9% | 5 | x | |
| Iowa | 8 | Other personal care and service workers | 13% | 5 | x | |
| Iowa | 9 | Building cleaning and pest control workers | 10% | 4 | x | |
| Iowa | 10 | Other office and administrative support workers | 6% | 3 | | x |
| Kansas | 1 | Other personal care and service workers | 24% | 9 | x | |
| Kansas | 2 | Food and beverage serving workers | 13% | 8 | x | |
| Kansas | 3 | Information and record clerks | 7% | 4 | | x |
| Kansas | 4 | Motor vehicle operators | 8% | 3 | | x |
| Kansas | 5 | Financial clerks | 10% | 3 | | x |
| Kansas | 6 | Cooks and food preparation workers | 9% | 3 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Kansas | 7 | Secretaries and administrative assistants | 7% | 3 | | x |
| Kansas | 8 | Material moving workers | 7% | 3 | x | |
| Kansas | 9 | Construction trades workers | 5% | 2 | | x |
| Kansas | 10 | Nursing, psychiatric, and home health aides | 8% | 2 | x | |
| Kentucky | 1 | Nursing, psychiatric, and home health aides | 47% | 15 | x | |
| Kentucky | 2 | Material moving workers | 18% | 14 | x | |
| Kentucky | 3 | Information and record clerks | 15% | 13 | | x |
| Kentucky | 4 | Construction trades workers | 19% | 12 | | x |
| Kentucky | 5 | Food and beverage serving workers | 9% | 9 | x | |
| Kentucky | 6 | Other personal care and service workers | 18% | 9 | x | |
| Kentucky | 7 | Retail sales workers | 7% | 8 | x | |
| Kentucky | 8 | Motor vehicle operators | 11% | 7 | | x |
| Kentucky | 9 | Building cleaning and pest control workers | 16% | 6 | x | |
| Kentucky | 10 | Secretaries and administrative assistants | 11% | 6 | | x |
| Louisiana | 1 | Other personal care and service workers | 19% | 10 | x | |
| Louisiana | 2 | Retail sales workers | 7% | 10 | x | |
| Louisiana | 3 | Food and beverage serving workers | 11% | 8 | x | |
| Louisiana | 4 | Nursing, psychiatric, and home health aides | 19% | 7 | x | |
| Louisiana | 5 | Cooks and food preparation workers | 8% | 5 | x | |
| Louisiana | 6 | Material moving workers | 7% | 5 | x | |
| Louisiana | 7 | Information and record clerks | 7% | 4 | | x |
| Louisiana | 8 | Motor vehicle operators | 7% | 4 | | x |
| Louisiana | 9 | Building cleaning and pest control workers | 8% | 4 | x | |
| Louisiana | 10 | Construction trades workers | 3% | 3 | | x |
| Maine | 1 | Nursing, psychiatric, and home health aides | 10% | 1 | x | |
| Maine | 2 | Other personal care and service workers | 7% | 1 | x | |
| Maine | 3 | Food and beverage serving workers | 4% | 1 | x | |
| Maine | 4 | Information and record clerks | 4% | 1 | | x |
| Maine | 5 | Other healthcare support occupations | 8% | 1 | | x |
| Maine | 6 | Building cleaning and pest control workers | 3% | 0 | x | |
| Maine | 7 | Grounds maintenance workers | 4% | 0 | x | |
| Maine | 7 | Cooks and food preparation workers | 2% | 0 | x | |
| Maine | 9 | Retail sales workers | 1% | 0 | x | |
| Maine | 10 | Supervisors of food preparation and serving workers | 5% | 0 | x | |
| Maryland | 1 | Secretaries and administrative assistants | 18% | 19 | | x |
| Maryland | 2 | Other personal care and service workers | 36% | 18 | x | |
| Maryland | 3 | Nursing, psychiatric, and home health aides | 34% | 16 | x | |
| Maryland | 4 | Information and record clerks | 14% | 15 | | x |
| Maryland | 5 | Building cleaning and pest control workers | 21% | 15 | x | |
| Maryland | 6 | Motor vehicle operators | 19% | 14 | | x |
| Maryland | 7 | Other teachers and instructors | 27% | 11 | | x |
| Maryland | 8 | Retail sales workers | 7% | 11 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Maryland | 9 | Other education, training, and library occupations | 26% | 11 | x | |
| Maryland | 10 | Construction trades workers | 13% | 10 | | x |
| Massachusetts | 1 | Food and beverage serving workers | 6% | 9 | x | |
| Massachusetts | 2 | Secretaries and administrative assistants | 6% | 6 | | x |
| Massachusetts | 3 | Nursing, psychiatric, and home health aides | 7% | 5 | x | |
| Massachusetts | 4 | Other personal care and service workers | 5% | 5 | x | |
| Massachusetts | 5 | Building cleaning and pest control workers | 5% | 4 | x | |
| Massachusetts | 6 | Motor vehicle operators | 5% | 4 | | x |
| Massachusetts | 7 | Information and record clerks | 4% | 4 | | x |
| Massachusetts | 8 | Other office and administrative support workers | 5% | 4 | | x |
| Massachusetts | 9 | Construction trades workers | 4% | 4 | | x |
| Massachusetts | 10 | Cooks and food preparation workers | 6% | 4 | x | |
| Michigan | 1 | Food and beverage serving workers | 8% | 18 | x | |
| Michigan | 2 | Nursing, psychiatric, and home health aides | 16% | 15 | x | |
| Michigan | 3 | Assemblers and fabricators | 11% | 13 | | x |
| Michigan | 4 | Information and record clerks | 8% | 13 | | x |
| Michigan | 5 | Construction trades workers | 11% | 12 | | x |
| Michigan | 6 | Retail sales workers | 5% | 12 | x | |
| Michigan | 7 | Motor vehicle operators | 9% | 10 | | x |
| Michigan | 8 | Other personal care and service workers | 12% | 10 | x | |
| Michigan | 9 | Material moving workers | 9% | 9 | x | |
| Michigan | 10 | Other production occupations | 8% | 8 | | x |
| Minnesota | 1 | Other personal care and service workers | 17% | 20 | x | |
| Minnesota | 2 | Nursing, psychiatric, and home health aides | 19% | 12 | x | |
| Minnesota | 3 | Food and beverage serving workers | 5% | 7 | x | |
| Minnesota | 4 | Construction trades workers | 8% | 7 | | x |
| Minnesota | 5 | Retail sales workers | 4% | 6 | x | |
| Minnesota | 6 | Other healthcare support occupations | 14% | 4 | | x |
| Minnesota | 7 | Building cleaning and pest control workers | 5% | 4 | x | |
| Minnesota | 8 | Information and record clerks | 3% | 3 | | x |
| Minnesota | 9 | Cooks and food preparation workers | 7% | 3 | x | |
| Minnesota | 10 | Motor vehicle operators | 3% | 3 | | x |
| Mississippi | 1 | Food and beverage serving workers | 12% | 5 | x | |
| Mississippi | 2 | Construction trades workers | 11% | 4 | | x |
| Mississippi | 3 | Nursing, psychiatric, and home health aides | 15% | 4 | x | |
| Mississippi | 4 | Material moving workers | 8% | 3 | x | |
| Mississippi | 5 | Other personal care and service workers | 15% | 3 | x | |
| Mississippi | 6 | Building cleaning and pest control workers | 9% | 2 | x | |
| Mississippi | 7 | Assemblers and fabricators | 9% | 2 | | x |
| Mississippi | 8 | Cooks and food preparation workers | 4% | 2 | x | |
| Mississippi | 9 | Information and record clerks | 5% | 2 | | x |
| Mississippi | 10 | Supervisors of food preparation and serving workers | 15% | 1 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Missouri | 1 | Other personal care and service workers | 19% | 14 | x | |
| Missouri | 2 | Food and beverage serving workers | 9% | 13 | x | |
| Missouri | 3 | Construction trades workers | 10% | 9 | | x |
| Missouri | 4 | Information and record clerks | 7% | 8 | | x |
| Missouri | 5 | Nursing, psychiatric, and home health aides | 13% | 8 | x | |
| Missouri | 6 | Retail sales workers | 4% | 7 | x | |
| Missouri | 7 | Building cleaning and pest control workers | 6% | 4 | x | |
| Missouri | 8 | Assemblers and fabricators | 8% | 4 | | x |
| Missouri | 9 | Motor vehicle operators | 4% | 3 | | x |
| Missouri | 10 | Material moving workers | 4% | 3 | x | |
| Montana | 1 | Food and beverage serving workers | 16% | 4 | x | |
| Montana | 2 | Retail sales workers | 12% | 4 | x | |
| Montana | 3 | Construction trades workers | 22% | 3 | | x |
| Montana | 4 | Building cleaning and pest control workers | 15% | 2 | x | |
| Montana | 5 | Other personal care and service workers | 18% | 2 | x | |
| Montana | 6 | Information and record clerks | 13% | 2 | | x |
| Montana | 7 | Cooks and food preparation workers | 16% | 2 | x | |
| Montana | 8 | Motor vehicle operators | 9% | 1 | | x |
| Montana | 9 | Material moving workers | 12% | 1 | x | |
| Montana | 10 | Secretaries and administrative assistants | 8% | 1 | | x |
| Nebraska | 1 | Food and beverage serving workers | 12% | 6 | x | |
| Nebraska | 2 | Motor vehicle operators | 13% | 6 | | x |
| Nebraska | 3 | Construction trades workers | 14% | 5 | | x |
| Nebraska | 4 | Retail sales workers | 7% | 4 | x | |
| Nebraska | 5 | Information and record clerks | 9% | 4 | | x |
| Nebraska | 6 | Other personal care and service workers | 15% | 3 | x | |
| Nebraska | 7 | Material moving workers | 8% | 3 | x | |
| Nebraska | 8 | Nursing, psychiatric, and home health aides | 13% | 2 | x | |
| Nebraska | 9 | Building cleaning and pest control workers | 7% | 2 | x | |
| Nebraska | 10 | Other production occupations | 8% | 2 | | x |
| Nevada | 1 | Food and beverage serving workers | 32% | 29 | x | |
| Nevada | 2 | Retail sales workers | 26% | 23 | x | |
| Nevada | 3 | Construction trades workers | 34% | 17 | | x |
| Nevada | 4 | Building cleaning and pest control workers | 26% | 16 | x | |
| Nevada | 5 | Motor vehicle operators | 33% | 13 | | x |
| Nevada | 6 | Information and record clerks | 23% | 12 | | x |
| Nevada | 7 | Cooks and food preparation workers | 29% | 12 | x | |
| Nevada | 8 | Other food preparation and serving related workers | 26% | 9 | x | |
| Nevada | 9 | Material moving workers | 25% | 9 | x | |
| Nevada | 10 | Material recording, scheduling, dispatching, and distributing workers | 22% | 8 | | x |
| New Hampshire | 1 | Food and beverage serving workers | 9% | 3 | x | |
| New Hampshire | 2 | Retail sales workers | 5% | 2 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| New Hampshire | 3 | Nursing, psychiatric, and home health aides | 20% | 2 | x | |
| New Hampshire | 4 | Other personal care and service workers | 14% | 2 | x | |
| New Hampshire | 5 | Information and record clerks | 7% | 2 | | x |
| New Hampshire | 6 | Motor vehicle operators | 8% | 1 | | x |
| New Hampshire | 7 | Building cleaning and pest control workers | 8% | 1 | x | |
| New Hampshire | 8 | Construction trades workers | 7% | 1 | | x |
| New Hampshire | 9 | Other healthcare support occupations | 15% | 1 | | x |
| New Hampshire | 10 | Material moving workers | 6% | 1 | x | |
| New Jersey | 1 | Nursing, psychiatric, and home health aides | 25% | 24 | x | |
| New Jersey | 2 | Food and beverage serving workers | 13% | 21 | x | |
| New Jersey | 3 | Material moving workers | 12% | 19 | x | |
| New Jersey | 4 | Retail sales workers | 5% | 13 | x | |
| New Jersey | 5 | Construction trades workers | 12% | 13 | | x |
| New Jersey | 6 | Information and record clerks | 6% | 10 | | x |
| New Jersey | 7 | Motor vehicle operators | 9% | 10 | | x |
| New Jersey | 8 | Other personal care and service workers | 12% | 8 | x | |
| New Jersey | 9 | Other healthcare support occupations | 15% | 7 | | x |
| New Jersey | 10 | Cooks and food preparation workers | 11% | 7 | x | |
| New Mexico | 1 | Other personal care and service workers | 35% | 11 | x | |
| New Mexico | 2 | Food and beverage serving workers | 16% | 7 | x | |
| New Mexico | 3 | Nursing, psychiatric, and home health aides | 22% | 3 | x | |
| New Mexico | 4 | Retail sales workers | 4% | 2 | x | |
| New Mexico | 5 | Construction trades workers | 6% | 2 | | x |
| New Mexico | 6 | Cooks and food preparation workers | 10% | 2 | x | |
| New Mexico | 7 | Information and record clerks | 6% | 2 | | x |
| New Mexico | 8 | Building cleaning and pest control workers | 7% | 1 | x | |
| New Mexico | 9 | Other healthcare support occupations | 14% | 1 | | x |
| New Mexico | 10 | Motor vehicle operators | 6% | 1 | | x |
| New York | 1 | Nursing, psychiatric, and home health aides | 32% | 92 | x | |
| New York | 2 | Food and beverage serving workers | 21% | 86 | x | |
| New York | 3 | Other personal care and service workers | 23% | 72 | x | |
| New York | 4 | Construction trades workers | 21% | 63 | | x |
| New York | 5 | Building cleaning and pest control workers | 15% | 44 | x | |
| New York | 6 | Information and record clerks | 12% | 43 | | x |
| New York | 7 | Retail sales workers | 7% | 40 | x | |
| New York | 8 | Cooks and food preparation workers | 17% | 30 | x | |
| New York | 9 | Motor vehicle operators | 12% | 28 | | x |
| New York | 10 | Other protective service workers | 17% | 25 | x | |
| North Carolina | 1 | Food and beverage serving workers | 18% | 44 | x | |
| North Carolina | 2 | Nursing, psychiatric, and home health aides | 29% | 31 | x | |
| North Carolina | 3 | Retail sales workers | 11% | 29 | x | |
| North Carolina | 4 | Information and record clerks | 14% | 25 | | x |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| North Carolina | 5 | Construction trades workers | 18% | 20 | | x |
| North Carolina | 6 | Material moving workers | 9% | 14 | x | |
| North Carolina | 7 | Cooks and food preparation workers | 17% | 13 | x | |
| North Carolina | 8 | Other personal care and service workers | 16% | 13 | x | |
| North Carolina | 9 | Motor vehicle operators | 10% | 12 | | x |
| North Carolina | 10 | Building cleaning and pest control workers | 11% | 11 | x | |
| North Dakota | 1 | Food and beverage serving workers | 14% | 3 | x | |
| North Dakota | 2 | Other personal care and service workers | 21% | 3 | x | |
| North Dakota | 3 | Nursing, psychiatric, and home health aides | 21% | 2 | x | |
| North Dakota | 4 | Retail sales workers | 7% | 2 | x | |
| North Dakota | 5 | Information and record clerks | 10% | 2 | | x |
| North Dakota | 6 | Building cleaning and pest control workers | 9% | 1 | x | |
| North Dakota | 7 | Cooks and food preparation workers | 10% | 1 | x | |
| North Dakota | 8 | Other education, training, and library occupations | 11% | 1 | x | |
| North Dakota | 9 | Other healthcare support occupations | 18% | 1 | | x |
| North Dakota | 10 | Supervisors of food preparation and serving workers | 15% | 1 | x | |
| Ohio | 1 | Nursing, psychiatric, and home health aides | 27% | 40 | x | |
| Ohio | 2 | Food and beverage serving workers | 7% | 22 | x | |
| Ohio | 3 | Construction trades workers | 9% | 15 | | x |
| Ohio | 4 | Other healthcare support occupations | 18% | 9 | | x |
| Ohio | 5 | Motor vehicle operators | 5% | 9 | | x |
| Ohio | 6 | Material moving workers | 4% | 8 | x | |
| Ohio | 7 | Information and record clerks | 4% | 8 | | x |
| Ohio | 8 | Other personal care and service workers | 10% | 8 | x | |
| Ohio | 9 | Secretaries and administrative assistants | 5% | 8 | | x |
| Ohio | 10 | Retail sales workers | 2% | 6 | x | |
| Oklahoma | 1 | Food and beverage serving workers | 12% | 9 | x | |
| Oklahoma | 2 | Construction trades workers | 12% | 8 | | x |
| Oklahoma | 3 | Retail sales workers | 8% | 8 | x | |
| Oklahoma | 4 | Other personal care and service workers | 18% | 6 | x | |
| Oklahoma | 5 | Information and record clerks | 8% | 5 | | x |
| Oklahoma | 6 | Nursing, psychiatric, and home health aides | 16% | 5 | x | |
| Oklahoma | 7 | Material moving workers | 9% | 5 | x | |
| Oklahoma | 8 | Motor vehicle operators | 9% | 4 | | x |
| Oklahoma | 9 | Building cleaning and pest control workers | 8% | 3 | x | |
| Oklahoma | 10 | Other healthcare support occupations | 13% | 2 | | x |
| Oregon | 1 | Food and beverage serving workers | 21% | 18 | x | |
| Oregon | 2 | Construction trades workers | 21% | 15 | | x |
| Oregon | 3 | Retail sales workers | 12% | 13 | x | |
| Oregon | 4 | Cooks and food preparation workers | 21% | 11 | x | |
| Oregon | 5 | Other personal care and service workers | 24% | 8 | x | |
| Oregon | 6 | Information and record clerks | 11% | 8 | | x |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Oregon | 7 | Material moving workers | 13% | 7 | x | |
| Oregon | 8 | Motor vehicle operators | 13% | 7 | | x |
| Oregon | 9 | Building cleaning and pest control workers | 14% | 6 | x | |
| Oregon | 10 | Secretaries and administrative assistants | 11% | 6 | | x |
| Pennsylvania | 1 | Food and beverage serving workers | 9% | 27 | x | |
| Pennsylvania | 2 | Nursing, psychiatric, and home health aides | 17% | 24 | x | |
| Pennsylvania | 3 | Construction trades workers | 12% | 24 | | x |
| Pennsylvania | 4 | Other personal care and service workers | 13% | 19 | x | |
| Pennsylvania | 5 | Motor vehicle operators | 8% | 15 | | x |
| Pennsylvania | 6 | Material moving workers | 6% | 13 | x | |
| Pennsylvania | 7 | Building cleaning and pest control workers | 6% | 10 | x | |
| Pennsylvania | 8 | Information and record clerks | 4% | 9 | | x |
| Pennsylvania | 9 | Cooks and food preparation workers | 7% | 7 | x | |
| Pennsylvania | 10 | Retail sales workers | 2% | 7 | x | |
| Rhode Island | 1 | Food and beverage serving workers | 10% | 3 | x | |
| Rhode Island | 2 | Construction trades workers | 14% | 2 | | x |
| Rhode Island | 3 | Nursing, psychiatric, and home health aides | 14% | 2 | x | |
| Rhode Island | 4 | Retail sales workers | 5% | 1 | x | |
| Rhode Island | 5 | Information and record clerks | 7% | 1 | | x |
| Rhode Island | 6 | Other personal care and service workers | 11% | 1 | x | |
| Rhode Island | 7 | Material moving workers | 10% | 1 | x | |
| Rhode Island | 8 | Motor vehicle operators | 9% | 1 | | x |
| Rhode Island | 9 | Cooks and food preparation workers | 8% | 1 | x | |
| Rhode Island | 10 | Building cleaning and pest control workers | 7% | 1 | x | |
| South Carolina | 1 | Food and beverage serving workers | 12% | 11 | x | |
| South Carolina | 2 | Retail sales workers | 6% | 8 | x | |
| South Carolina | 3 | Material moving workers | 11% | 8 | x | |
| South Carolina | 4 | Information and record clerks | 9% | 7 | | x |
| South Carolina | 5 | Nursing, psychiatric, and home health aides | 22% | 7 | x | |
| South Carolina | 6 | Construction trades workers | 12% | 7 | | x |
| South Carolina | 7 | Assemblers and fabricators | 13% | 7 | | x |
| South Carolina | 8 | Building cleaning and pest control workers | 10% | 5 | x | |
| South Carolina | 9 | Other personal care and service workers | 14% | 5 | x | |
| South Carolina | 10 | Motor vehicle operators | 8% | 4 | | x |
| South Dakota | 1 | Food and beverage serving workers | 12% | 3 | x | |
| South Dakota | 2 | Retail sales workers | 7% | 2 | x | |
| South Dakota | 3 | Construction trades workers | 8% | 2 | | x |
| South Dakota | 4 | Information and record clerks | 7% | 1 | | x |
| South Dakota | 5 | Motor vehicle operators | 9% | 1 | | x |
| South Dakota | 6 | Building cleaning and pest control workers | 8% | 1 | x | |
| South Dakota | 7 | Other personal care and service workers | 10% | 1 | x | |
| South Dakota | 8 | Material moving workers | 8% | 1 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| South Dakota | 9 | Assemblers and fabricators | 10% | 1 | | x |
| South Dakota | 10 | Nursing, psychiatric, and home health aides | 9% | 1 | x | |
| Tennessee | 1 | Material moving workers | 15% | 19 | x | |
| Tennessee | 2 | Financial clerks | 19% | 15 | | x |
| Tennessee | 3 | Information and record clerks | 14% | 15 | | x |
| Tennessee | 4 | Nursing, psychiatric, and home health aides | 29% | 14 | x | |
| Tennessee | 5 | Assemblers and fabricators | 23% | 12 | | x |
| Tennessee | 6 | Other personal care and service workers | 19% | 12 | x | |
| Tennessee | 7 | Food and beverage serving workers | 16% | 12 | x | |
| Tennessee | 8 | Motor vehicle operators | 10% | 11 | | x |
| Tennessee | 9 | Other production occupations | 12% | 10 | | x |
| Tennessee | 10 | Construction trades workers | 11% | 10 | | x |
| Texas | 1 | Food and beverage serving workers | 31% | 183 | x | |
| Texas | 2 | Retail sales workers | 21% | 148 | x | |
| Texas | 3 | Construction trades workers | 25% | 110 | | x |
| Texas | 4 | Other personal care and service workers | 31% | 109 | x | |
| Texas | 5 | Information and record clerks | 20% | 94 | | x |
| Texas | 6 | Motor vehicle operators | 22% | 80 | | x |
| Texas | 7 | Material moving workers | 20% | 71 | x | |
| Texas | 8 | Building cleaning and pest control workers | 25% | 66 | x | |
| Texas | 9 | Cooks and food preparation workers | 25% | 66 | x | |
| Texas | 10 | Other office and administrative support workers | 15% | 63 | | x |
| Utah | 1 | Construction trades workers | 34% | 23 | | x |
| Utah | 2 | Information and record clerks | 29% | 22 | | x |
| Utah | 3 | Food and beverage serving workers | 34% | 21 | x | |
| Utah | 4 | Retail sales workers | 19% | 15 | x | |
| Utah | 5 | Motor vehicle operators | 28% | 11 | | x |
| Utah | 6 | Material moving workers | 29% | 10 | x | |
| Utah | 7 | Secretaries and administrative assistants | 22% | 9 | | x |
| Utah | 8 | Other personal care and service workers | 35% | 8 | x | |
| Utah | 9 | Material recording, scheduling, dispatching, and distributing workers | 22% | 8 | | x |
| Utah | 10 | Building cleaning and pest control workers | 24% | 7 | x | |
| Vermont | 1 | Other personal care and service workers | 13% | 2 | x | |
| Vermont | 2 | Construction trades workers | 9% | 2 | | x |
| Vermont | 3 | Food and beverage serving workers | 5% | 1 | x | |
| Vermont | 4 | Building cleaning and pest control workers | 5% | 0 | x | |
| Vermont | 5 | Nursing, psychiatric, and home health aides | 11% | 0 | x | |
| Vermont | 6 | Agricultural workers | 18% | 0 | x | |
| Vermont | 7 | Food processing workers | 16% | 0 | x | |
| Vermont | 8 | Other production occupations | 6% | 0 | | x |
| Vermont | 9 | Motor vehicle operators | 3% | 0 | | x |
| Vermont | 9 | Information and record clerks | 3% | 0 | | x |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Virginia | 1 | Food and beverage serving workers | 12% | 22 | x | |
| Virginia | 2 | Other personal care and service workers | 19% | 17 | x | |
| Virginia | 3 | Nursing, psychiatric, and home health aides | 30% | 14 | x | |
| Virginia | 4 | Information and record clerks | 10% | 14 | | x |
| Virginia | 5 | Retail sales workers | 6% | 14 | x | |
| Virginia | 6 | Construction trades workers | 10% | 13 | | x |
| Virginia | 7 | Other healthcare support occupations | 25% | 9 | | x |
| Virginia | 8 | Cooks and food preparation workers | 11% | 8 | x | |
| Virginia | 9 | Building cleaning and pest control workers | 7% | 7 | x | |
| Virginia | 10 | Other teachers and instructors | 13% | 6 | | x |
| Washington | 1 | Food and beverage serving workers | 21% | 30 | x | |
| Washington | 2 | Construction trades workers | 19% | 30 | | x |
| Washington | 3 | Retail sales workers | 11% | 20 | x | |
| Washington | 4 | Information and record clerks | 16% | 18 | | x |
| Washington | 5 | Material moving workers | 17% | 17 | x | |
| Washington | 6 | Building cleaning and pest control workers | 23% | 17 | x | |
| Washington | 7 | Other personal care and service workers | 19% | 17 | x | |
| Washington | 8 | Cooks and food preparation workers | 19% | 14 | x | |
| Washington | 9 | Motor vehicle operators | 14% | 13 | | x |
| Washington | 10 | Other healthcare support occupations | 25% | 12 | | x |
| West Virginia | 1 | Other personal care and service workers | 17% | 4 | x | |
| West Virginia | 2 | Nursing, psychiatric, and home health aides | 16% | 2 | x | |
| West Virginia | 3 | Information and record clerks | 2% | 1 | | x |
| West Virginia | 4 | Other healthcare support occupations | 5% | 0 | | x |
| West Virginia | 5 | Building cleaning and pest control workers | 2% | 0 | x | |
| West Virginia | 6 | Food and beverage serving workers | 1% | 0 | x | |
| West Virginia | 7 | Personal appearance workers | 5% | 0 | x | |
| West Virginia | 8 | Supervisors of food preparation and serving workers | 2% | 0 | x | |
| West Virginia | 9 | Assemblers and fabricators | 2% | 0 | | x |
| West Virginia | 10 | Animal care and service workers | 5% | 0 | x | |
| Wisconsin | 1 | Other personal care and service workers | 20% | 23 | x | |
| Wisconsin | 2 | Food and beverage serving workers | 10% | 15 | x | |
| Wisconsin | 3 | Motor vehicle operators | 10% | 10 | | x |
| Wisconsin | 4 | Construction trades workers | 9% | 8 | | x |
| Wisconsin | 5 | Nursing, psychiatric, and home health aides | 16% | 7 | x | |
| Wisconsin | 6 | Building cleaning and pest control workers | 8% | 6 | x | |
| Wisconsin | 7 | Information and record clerks | 5% | 6 | | x |
| Wisconsin | 8 | Material moving workers | 5% | 5 | x | |
| Wisconsin | 9 | Cooks and food preparation workers | 8% | 4 | x | |
| Wisconsin | 10 | Retail sales workers | 2% | 4 | x | |
| Wyoming | 1 | Food and beverage serving workers | 11% | 2 | x | |
| Wyoming | 2 | Other personal care and service workers | 15% | 1 | x | |

| State | Rank | Occupation | Projected Growth, 2014–24 | | Wage Level | |
|---|---|---|---|---|---|---|
| | | | % | *N* (hundreds) | Low | Middle |
| Wyoming | 3 | Retail sales workers | 5% | 1 | x | |
| Wyoming | 4 | Building cleaning and pest control workers | 8% | 1 | x | |
| Wyoming | 5 | Nursing, psychiatric, and home health aides | 16% | 1 | x | |
| Wyoming | 6 | Cooks and food preparation workers | 8% | 1 | x | |
| Wyoming | 7 | Information and record clerks | 6% | 0 | | x |
| Wyoming | 8 | Other healthcare support occupations | 15% | 0 | | x |
| Wyoming | 9 | Other teachers and instructors | 9% | 0 | | x |
| Wyoming | 10 | Supervisors of food preparation and serving workers | 14% | 0 | x | |
| Puerto Rico | 1 | Food and beverage serving workers | 17% | 5 | x | |
| Puerto Rico | 2 | Retail sales workers | 4% | 3 | x | |
| Puerto Rico | 3 | Supervisors of sales workers | 6% | 1 | | x |
| Puerto Rico | 4 | Cooks and food preparation workers | 5% | 1 | x | |
| Puerto Rico | 5 | Motor vehicle operators | 6% | 1 | | x |
| Puerto Rico | 6 | Building cleaning and pest control workers | 4% | 1 | x | |
| Puerto Rico | 7 | Information and record clerks | 5% | 1 | | x |
| Puerto Rico | 8 | Other personal care and service workers | 9% | 1 | x | |
| Puerto Rico | 9 | Other protective service workers | 4% | 1 | x | |
| Puerto Rico | 10 | Other sales and related workers | 10% | 1 | x | |

**Source:** State occupational projections 2014–24.

**Notes:** National projections are developed by the US Department of Labor, Bureau of Labor Statistics. State-level occupational projections are developed in the labor market information sections of each State Employment Security Agency; therefore, the state-level projections may not be consistent with the national projections. The top 10 occupations are those with the most projected absolute growth for each state. American Community Survey wage data are used to determine which occupations are low- and middle-wage.

# Notes

1. This report defines low-income as 300 percent or less of the federal poverty level (adjusting for household size) and defines older workers as those age 50 and older. These definitions are consistent with those used by the AARP Foundation in their current employment programs serving older workers.
2. The federal poverty guidelines are used to determine financial eligibility for certain federal programs. They are issued each year in the Federal Register by the Department of Health and Human Services. The 2015 guidelines are available at https://www.gpo.gov/fdsys/pkg/FR-2015-01-22/pdf/2015-01120.pdf.
3. Michael S. Teitelbaum, "The Myth of the Science and Engineering Shortage," *Atlantic*, March 19, 2014, http://www.theatlantic.com/education/archive/2014/03/the-myth-of-the-science-and-engineering-shortage/284359/.
4. Barnow, Trutko, and Piatak (2013) take this definition from the US Department of Labor in the Request for Proposals for a study of labor shortages, and it is essentially identical to the definition used by Franke and Sobel (1970).
5. Amanda Dixon, "The Average Retirement Age in Every State in 2016," *SmartReads* (blog), March 29, 2017, https://smartasset.com/retirement/average-retirement-age-in-every-state-2016.
6. State-level occupational projections are estimated by state employment agencies in collaboration with the BLS.
7. Because the HRS sample is only occasionally refreshed with new respondents, the youngest respondents to the 2014 HRS are age 53 or older, and there are a disproportionally low number of 53-year-olds. This means that the HRS sample of low-income older workers is somewhat older than the ACS sample. However, the general size and occupational distribution of the HRS sample match the ACS sample. Because retirement expectations are not reported in the ACS, the HRS remains an important supplementary data source for this analysis.
8. In other words, six-digit occupations that make up a larger share of total employment at the more aggregated three-digit level are given a higher weight when estimating aggregate scores by three-digit SOC codes.
9. An underemployed person is defined as someone involuntarily working part time or not doing work that makes full use of his or her skills and abilities.
10. Our analyses do not consider whether these unmarried individuals are cohabiting with a partner or with family, which could mean their economic situation is different and perhaps better. Further, we do not account for the possibility that low-income singles may be living in a broader household that improves their economic situation.
11. Using the two-digit SOC code, the 36 jobs shown are all those with projected growth. The remaining jobs had flat or negative projected growth, and those occupations have been omitted from our analyses.
12. If we assume that occupational skill requirements in O*NET are a minimum hiring requirement in these occupations, then the skill gaps reported in tables 5 and 6 are likely to exaggerate actual skill gaps, because individual workers are likely to have higher skill levels than are required at hiring. Nevertheless, the skill gaps reported in table 6 provide a starting point for identifying skill areas with training needs.

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