Introduction

The Projections Unit of the Office of Economic Advisors (OEA) develops long-term and short-term outlooks of employment in approximately 270 industries and 800 occupations. Wage information and typical education and training paths are also included for each occupation. This report highlights some of the findings for long-term projections 2016-2026.

Wisconsin is expected to create 210,200 jobs between 2016 and 2026. With 6.8% growth, employment is projected to increase from 3.11 to 3.32 million jobs. As figure 1 shows, employment has been rising since 1990, except for the periods around the Recession of 2001 and the Great Recession from 2007-2009. In addition to newly created jobs, 3.53 million openings will occur due to people leaving an occupation or exiting the labor force entirely. To ensure future growth, Wisconsin will require a labor force with a variety of skills, interests, and educational backgrounds.

Figure 1: Wisconsin Total Employment

Source: Wisconsin Department of Workforce Development, Office of Economic Advisors, Wisconsin Employment Projections 2016-2026
What should you know when looking at **occupational projections?**

**What are the key components of the occupational projections?**

(1) Expected annual job openings which are based on historic growth within the occupation. Included is this are **TRANSFERS** which are those who are changing jobs and leaving an occupation, and **EXITS** which are those who are leaving the labor force entirely, and

(2) Job growth that are **NEW JOBS** projected to develop within the decade 2016-2026.

What does a large number of openings mean?

It means that many in those occupations are leaving the occupation or changing occupations. Therefore it may be relatively easy to find a job within that occupation (given you have the right skills).

Data outlining the 2016-2026 employment outlook for 270 industries and 800 occupations is now available in Wisconomy.com, Wisconsin’s source for economic and labor market information. Wage and typical education and training paths are also included for each occupation. Long-term projections by Workforce Development Areas (WDA) are also available on the website above.

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**What should you know when looking at **industry** projections?**

**What are super-sectors and sectors?**

As a way to put structure around the collection of industry data, the North American Industry Classification System (NAICS) was developed. The broadest NAICS category is the **Super-sector**. Under each Super-sector there are individual **Sectors** (see figure A). **NAICS details.**

<table>
<thead>
<tr>
<th>Super-sector</th>
<th>Education and Health Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector (62)</td>
<td>Health Care and social assistance</td>
</tr>
<tr>
<td>Subsector (621)</td>
<td>Ambulatory health care services</td>
</tr>
<tr>
<td>Industry group (621)</td>
<td>Offices of physicians</td>
</tr>
</tbody>
</table>

This paper reports the information at the two broadest NAICS categories: **Super-sector** and **Sector**.

**What is the difference between an establishment, a firm and an industry?**

(1) An establishment is typically at one physical location and engaged in one type of economic activity, such as a farm, a mine, a factory, or a store, that produces goods or services; and

(2) A firm is a business and may consist of one or more establishments, where each establishment may participate in a different predominant economic activity.

(3) An industry is assigned to a NAICS based on the information given from an employer regarding the economic activity that takes place there.
Industry Employment

*Education and Health Services* expected numeric changes lead the way within the top five industry super-sectors with an anticipated 53,353 new jobs over the period 2016-2026 (see figures 2 and 3). *Professional and Business Services* is projected to add the second most jobs (37,725), followed by *Leisure and Hospitality* (30,231); *Trade, Transportation, and Utilities* (24,890); and *Construction* (10,670).

The driving force behind the growth of *Education and Health Services* is the *Health Care and Social Assistance* sector - the largest sector in Wisconsin - which has a projected increase of 45,407 new jobs. Many of the establishments in this sector compromise providing health care and social assistance for individuals. Some examples are: nursing homes, dental hygienists’ offices, blood analysis laboratories, and in-home hospice care services.

The sector projected to add the most jobs in the *Professional and Business Services* super-sector is *Management of Companies and Enterprises* with 18,081. Establishments in the sector perform essential activities that are often undertaken, in-house, by establishments in many sectors of the economy. Some examples are: centralized administrative offices, corporate offices, district and regional offices, head offices, holding companies that manage, and subsidiary management offices.

In the case of *Leisure and Hospitality*, the growth is...
mainly explained by the sector *Accommodation and Food Services*, which shows an expected increase of 24,815 jobs. The industries in this sector provide customers with lodging and/or make meals, snacks, and beverages for direct consumption.

Considering *Trade, Transportation, and Utilities* (24,890), the sector to add the most is *Wholesale Trade*, which has a projected increase of 17,287 new jobs. *Wholesale Trade* sector establishments wholesale merchandise, commonly without transformation, and render services related to the sale. Wholesale merchandise includes the outputs of agriculture, mining, manufacturing, and some information industries (e.g., publishing).

*Construction*, adding 10,670 new jobs, contains establishments mainly involved in the construction of buildings or engineering projects (such as highways and utility systems).

The only super-sector projected to decrease during the 10-year period is *Information*, which shows a 1,012 job decline. This is explained in part by declines in one of the largest subsectors in this industry, *Telecommunications* and *Publishing Industries (except internet)* including newspaper, book, periodical, directory and mailing list publishers.

Figure 4 shows the projected percent job change by super-sector; most of them are expected to increase over the 2016-2026 decade. The fastest growing is *Professional and Business Services* (+11.7%), mainly explained by the continued expansion since 2001 of the sector *Management of Companies and Enterprises* (+26.4%). The remaining super-sectors expected to grow at a higher rate than the state average (+6.8%) are *Leisure and Hospitality* (+10.8%); *Construction* (+9.5%); and *Education and Health Service* (+8.1%). *Natural Resources and Mining* shows as a tie with the state level (+6.8%). *Other Services (except Government)* (+5.7%); *Financial Activities* (+5.5%); *Trade, Transportation and Utilities* (+4.5%); *Government* (+2.5%); *Manufacturing* (+1.7%); and *Information* (-2.1%) have lower projected growth rates than the state rate.

**Occupational Employment**

There are several factors that determine the need for a certain occupation. Industry growth and decline have a direct impact in employment change and technological factors affect skills demanded. Occupations are grouped by 22 broad occupational categories.
Figure 5 shows the ten occupational groups projected to grow faster than the statewide average (6.8). The Personal Care and Service occupational group leads with +17.7% job growth followed by the Computer and Mathematical (+14.4%); Life, Physical, and Social Science (+12.2%); Community and Social Service (+12.2%); and the Architecture and Engineering (+11.8%).

Overall, 563 out of Wisconsin’s 800 occupations are expected to have at least 300 job openings during the decade. While high-skill jobs that are in demand tend to exhibit large percentage growth, many relatively low-skill jobs contribute to a significant number of openings due to their relative size and high turnover. The occupations expected to have the most openings are outlined in figure 6. These ten occupations are expected to account for 27% of the State’s openings. Many people in the occupations in this list hold these jobs for a relatively short periods of time before moving on to other occupations.
**Typical Education**

Each occupation is assigned to one of eight typical education levels that most workers need to enter an occupation. The assignment only gives a general indication. There may be other pathways into the occupation, as well as additional educational, training, or licensing requirements.

Figure 7 illustrates the percentage of job openings anticipated in each education and training group.

Among the job openings expected between 2016 and 2026, 27% fall into the Associate’s, Bachelor’s, Master’s or Doctoral degree education categories. Some examples of occupations growing quickly inside these categories are: *Software Developers, Applications* (+31.7%); *Physician Assistants* (+29.2%); and *Medical Assistants* (+19.6%).

About 32% of openings will generally require no formal educational credential. Examples of occupations growing quickly inside this category are: *Gaming Change Persons and Booth Cashiers* (+37.3%); *Taxi Drivers and Chauffeurs* (+20.4%); and *Combined Food Preparation and Serving Workers, Including Fast Food* (+18.1%). However, a lack of education needed to enter an occupation does not indicate a lack of requirements and/or training. Within this category nearly all workers require some type of post-hire training.

The remaining 41% of openings will generally require a high school diploma. Included in this category are: *Veterinary Assistants and Laboratory Animal Caretakers* (+32.5%); *Personal Care Aides* (+29.7%); and *Home Health Aides* (+29.6%).

Within the 41% of the annual openings typically requiring a high school diploma or equivalent credential, 87.2% would require additional training or preparation, to attain competency, once employed in the occupation. These types of training are broken out into 4 different categories: *Apprenticeships, Short-term on the job training, Moderate-term on the job training or Long-term on the job training*. BLS detail education definitions.
Skills

Two sources are used for the skill-based projections: (1) WI Long-term Employment Projections 2016-2026 and (2) the Occupational Information Network (O*Net). O*Net has 35 different types of skills. For this analysis a skill descriptor is assigned to an occupation when it is deemed at least moderately important and when at least a moderate level of competence is required. Projected employment levels are then calculated for each skill.

Figure 8 below indicates the skills expected to be associated with most new job opportunities through 2026. Most of these are basic skills, ones that facilitate learning or the more rapid acquisition of knowledge. Among these are: Active

Listening, Speaking, and Critical Thinking. Also prominent are what are typically considered or referred to as social skills; these skills including Social Perceptiveness and Service Orientation enable people to work together to achieve common goals. Next are the technical skills (e.g. Troubleshooting and Programming), which involve designing, setting-up, and operating machines or technological systems. Also considered are system skills, which help individuals understand, monitor, and improve socio-technical systems; and complex problem-solving skills; which are used to solve novel, ill-defined problems in complex, real-world settings.

Figure 8: Top Fifteen Skills expected for Projected Employment Growth 2026

Source: Wisconsin Department of Workforce Development, Office of Economic Advisors, Wisconsin Employment Projections 2016-2026 and O*Net
Notes

Employment projections are prepared by the Office of Economic Advisors in the Bureau of Workforce Information and Technical Support.

The Office updates long-term projections every two years. The current projections are for the 2016-2026 time period.

Long-term projections are used by individuals seeking employment; career opportunities; and businesses considering future staffing needs. These projections are also used as a planning tool by policymakers, economic developers, and academic authorities.

The projections were constructed using a methodology that combines econometric models, state economic variables, national projections and analytical judgment. Information is derived using the May 2016 Occupational Employment Statistics (OES) survey, and 2016 annual data from the Quarterly Census of Employment and Wages (QCEW) and Current Employment Statistics (CES) programs. Unpublished data from the US Bureau of Labor Statistics, Current Population Survey (CPS) and US Census Bureau was also used.

To the extent possible, the projections take into account anticipated changes in Wisconsin’s economy from 2016 to 2026. It is important to note that unanticipated events may affect the accuracy of these projections.

If you have questions about this publication or need more detailed projections data, please contact:

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