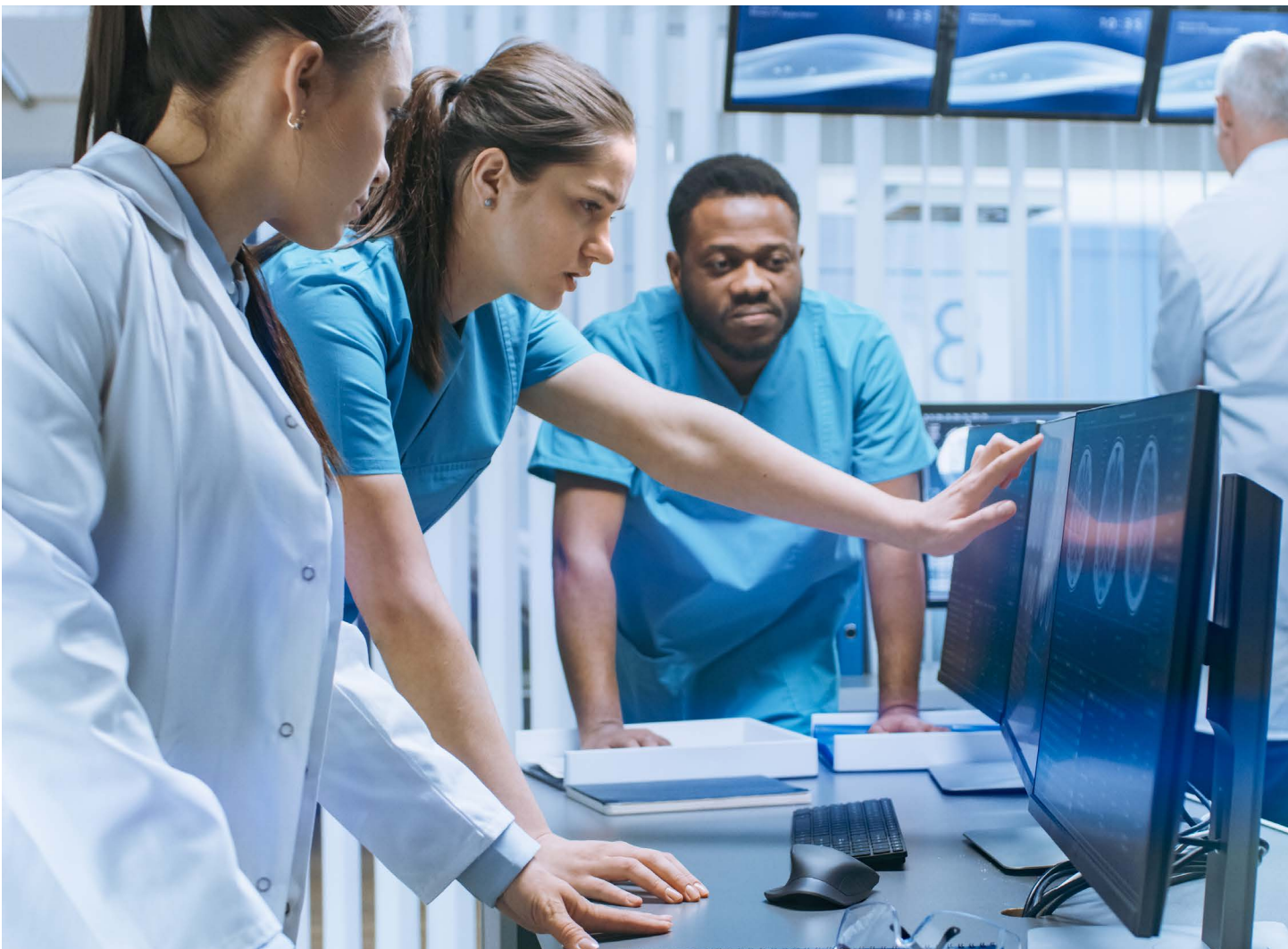


# Workforce Analysis Healthcare Summer 2023



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**This report is one industry of a larger analysis covering five target industries: construction, cybersecurity/IT, financial services, healthcare, and manufacturing.**



# Introduction

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The Greater Phoenix region is a leader in the development of the state's economy and has become a notable leader across the nation as a whole. The state has become a destination for not only new residents, but for new businesses as well. Workforce quality, availability, and cost effectiveness are keys to maintaining this momentum.

Rounds Consulting Group ("RCG") partnered with the Greater Phoenix Chamber Foundation ("Foundation") to perform a workforce summary of key target industries including a "high-level" review of supply and demand opportunities and constraints. The analysis examined multiple data points from various sources in order to determine if the supply of labor in the target sectors is expected to meet the demand. The five target industries include: Manufacturing, Construction, Healthcare, Financial Services, and Cybersecurity/IT.

## Analysis Methodology

Within the analysis, employment projections from the Arizona Office of Economic Opportunity ("OEO") were used to determine the number of jobs that are expected to be demanded by either industry sub-sector or occupation within the given industries over the next 10 years. Information was then collected related to the educational requirements needed for entry into each occupation or industry sub-sector.

The information was analyzed and displays the total number of jobs that will be demanded by industry sub-sector or occupation at each educational attainment level (i.e., requiring a high school diploma, associate's degree, bachelor's degree, etc.). The statistics were then compared to degrees awarded, graduation rates, post-secondary education outcomes, and retention rates, among other data, from the Arizona Department of Education ("ADE") and the Arizona Board of Regents ("ABOR").

These figures were combined with projected population inflow data to determine the overall workforce supply that is expected in Arizona over the next 10 years. The information is presented from top to bottom. In other words, the broader industry data is presented first followed by more detailed occupational data and detailed information about degrees awarded.

The gap between supply and demand that was identified provides an insight into the strengths and weaknesses in the state's workforce and education pipeline. This information can also serve as a high-level guide in forming public policy recommendations and decisions.

## Research Limitations

This research analysis is subject to certain limitations arising from the limited availability of data and the classification of the available data. These limitations should be taken into consideration when interpreting and generalizing the findings of this high-level analysis.

First, the entire scope of degrees awarded by all of the state's universities and colleges is limited and can vary among the institutions and regions. Variations in data collection methods, reporting, and disclosure policies may contribute to gaps or discrepancies in the information obtained. Furthermore, predicting the industry that specific graduates will enter upon earning their degree is a challenging task due to the dynamic nature of the job market and evolving industry trends. Factors such as individual preferences, market demands, technological advancements, and economic conditions greatly influence the career choices made by graduates, making it difficult to make precise projections. Consequently, the research outcomes may not represent the entire landscape of degrees or the industries in which graduates will enter; therefore, caution should be used when interpreting the information related to university and college degrees.

## Introduction

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Secondly, there are two standard classification systems of the available data regarding employment counts, occupations, wages, and projections utilized by both the federal and local governments: the North American Industry Classification System (“NAICS”) and the Standard Occupational Classification (“SOC”).

NAICS and SOC are distinct classification systems designed to categorize different aspects of employment data. NAICS primarily focus on classifying establishments and industries based on the primary activity of a business – while SOC classifies occupations based on job duties, skills, and qualifications across various industries. The differences in the classification framework and criteria make it difficult to cross-reference and reconcile the data between the two systems.

Furthermore, the NAICS and SOC systems have different hierarchical structures. The NAICS system organizes industries into hierarchical levels based on broad economic sectors, industries, and sub-industries. While the SOC system classifies occupations into hierarchical levels based on broad occupations and detailed occupations within the broader group.

Utilizing NAICS data provides insights into industry trends or sector-specific research. However, caution should be used when analyzing the industry’s workforce as several varying occupations can be employed at establishments that are classified under similar industries. SOC data should be used when analyzing occupations with similar skills, job duties, and education. However, the workers in the occupational groups can be employed in various industries.

While cross-referencing NAICS data with SOC data presents its challenges due to the differing classification systems, both are valuable resources and analyzed in this report. Further NAICS and SOC definitions and information regarding the classifications are summarized in the following table.

Due to the research limitations, it is essential to interpret and utilize the findings of this research with caution. The intent of this disclosure is to ensure transparency and promote a responsible understanding of the scope and implications of the research conducted for this assignment. It is recommended that further research by industries employing more extensive data collection methods should be considered to enhance the validity and reliability of the findings.

For any inquiries or clarifications regarding this disclosure statement or the research conducted, please feel free to contact RCG or the Foundation.

**Utilizing NAICS data provides insights into industry trends or sector-specific research. However, caution should be used when analyzing the industry’s workforce as several varying occupations can be employed at establishments that are classified under similar industries.**

# Introduction

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## Table 1: NAICS and SOC Definitions and Classifications

### North American Industry Classification System - NAICS

NAICS employment and payroll data is based on survey information collected from establishments (i.e., employers). The establishments are grouped into industries according to similarity in the processes used to produce goods or services.

For example, a semiconductor manufacturing company would be classified under the broader manufacturing industry (i.e., NAICS 31-33) and the semiconductor and related device manufacturing sub-industry (i.e., NAICS 33-4413).

Although the sub-industry is comprised of establishments primarily engaged in similar activity, the employment and payroll data include occupations of all types such as management professionals, accountants, human resource managers, engineers, production workers, janitorial staff, etc.

### Standard Occupational Classification - SOC

The SOC system classifies occupations based on their job duties, skills, and qualifications. It encompasses a wide range of occupations across various industries and sectors. Each broad occupational group is further broken down into detailed occupations, representing specific job titles and roles.

Examples of detailed occupations within the broad occupational “nurse” group include registered nurses, nurse anesthetists, nurse midwives, nurse practitioners, etc. Nurses, however, can be employed across different industries such as the ambulatory healthcare services industry, hospital industry, nursing and residential care industry, and the social assistance industry.

The SOC system is widely used for various purposes, including labor market analysis, workforce policy development, and research on occupational trends. The data is compiled through collaboration with government agencies, subject matter experts, employers, and labor market analysts as well as various surveys.

Source: U.S. Census Bureau; U.S. Bureau of Labor Statistics

# The Healthcare Industry

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The healthcare and social assistance (“healthcare”) industry is a critical element of Arizona’s vibrant economy. Top hospital organizations, medical and academic institutions, the state’s burgeoning workforce, and overabundance of innovative research and development centers have turned the state into a major hub for the healthcare industry. This has contributed strongly to the region’s overall economic growth.

Arizona has fostered an environment filled with opportunities for discovering, developing, and delivering innovative medical devices, health technologies, and medicines. The state specializes in health information technologies, neurosciences, diagnostics, precision medicine and biomarkers, cancer research, and algae and plant-based genomic research, according to the Arizona Commerce Authority (“ACA”)¹.

It is home to top healthcare institutions like the Mayo Clinic, Barrow Neurological Institute, Banner Alzheimer’s Institute, Dignity Health headquarters, Banner Health headquarters, HonorHealth and Phoenix Children’s Hospital.

**“Research teams across the state are developing and discovering improvements in diagnosing and treating cancer. The remarkable expertise of Arizona’s bioscience and healthcare community is at the forefront of global medical advancement.”**  
**- Arizona Commerce Authority**

The state has become a leading destination for treatments concerning cancer, heart care, lung transplants, bariatrics, chest, lung and esophagus care, and advanced gynecology. Arizona continues to make strategic investments in emerging healthcare enterprises and research capabilities. The area offers a large collaborative network, an exceptional talent pipeline, state-of-the-art research and development facilities that lead to healthcare innovations, and a robust workforce. Arizona has built the foundation to be an innovative and forward-thinking healthcare hub.

## Employment in Healthcare

The healthcare and social assistance industry employed 13.4% of Arizona’s total workforce as of 2022, according to the Arizona Office of Economic Opportunity (“OEO”). In comparison, the national healthcare industry represented 13.6% of the total national workforce in 2022, according to the United States Bureau of Labor Statistics (“BLS”).

The industry’s share of employment is likely to exceed the national share of employment in the coming years due to the thriving conditions the state has to offer for the industry. Arizona’s healthcare industry employed approximately 413,300 individuals in 2022, reported by the OEO. From 2021 to 2022 the industry added over 12,100 new employees accounting for a 3.0% increase.

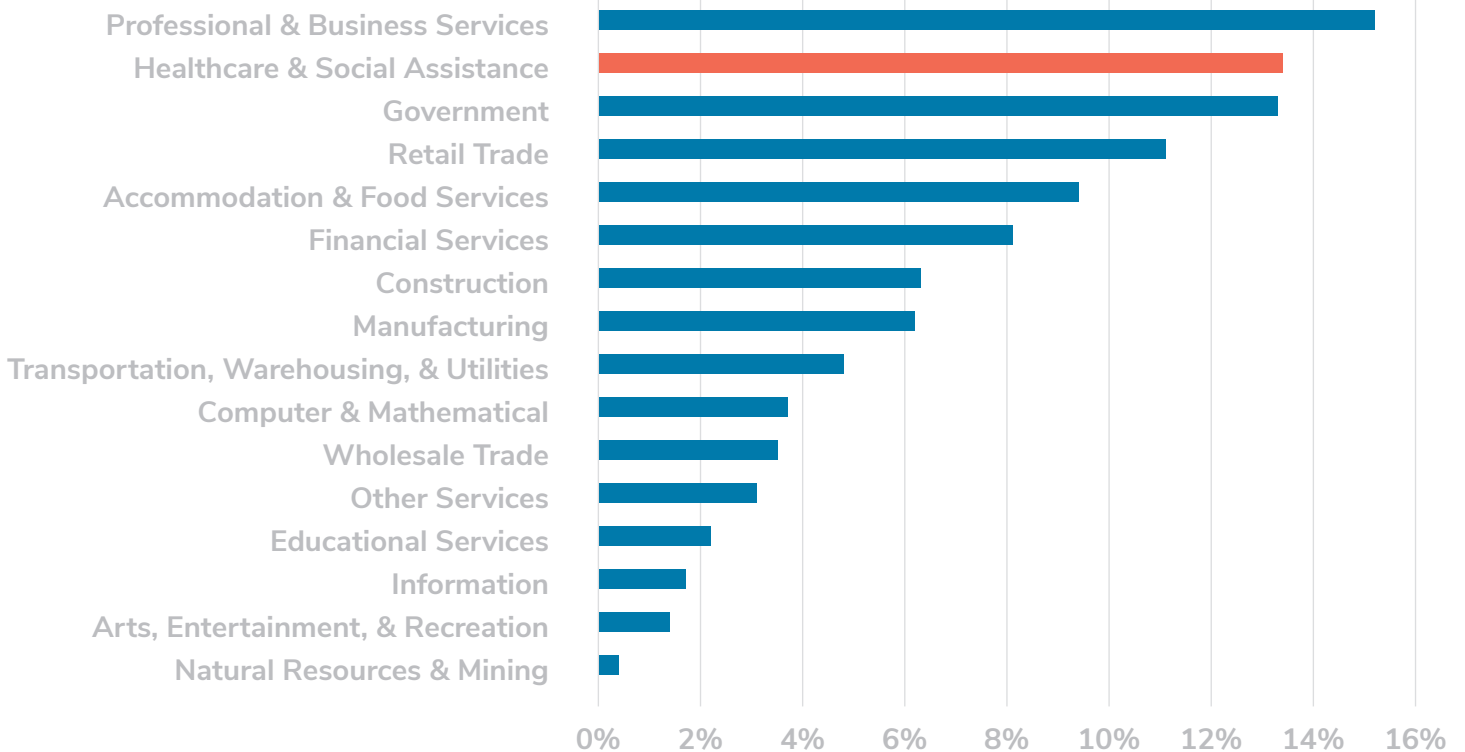
Over the last decade, the healthcare industry in Arizona has grown at a rate of 2.9% per year on average (see Figure 3). This can be compared to the national healthcare industry’s growth rate of 1.7% per year over the same time period. This displays that Arizona’s healthcare industry continues to attract and foster job opportunities within the industry.

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1 <https://www.azcommerce.com/industries/bioscience-health-care>

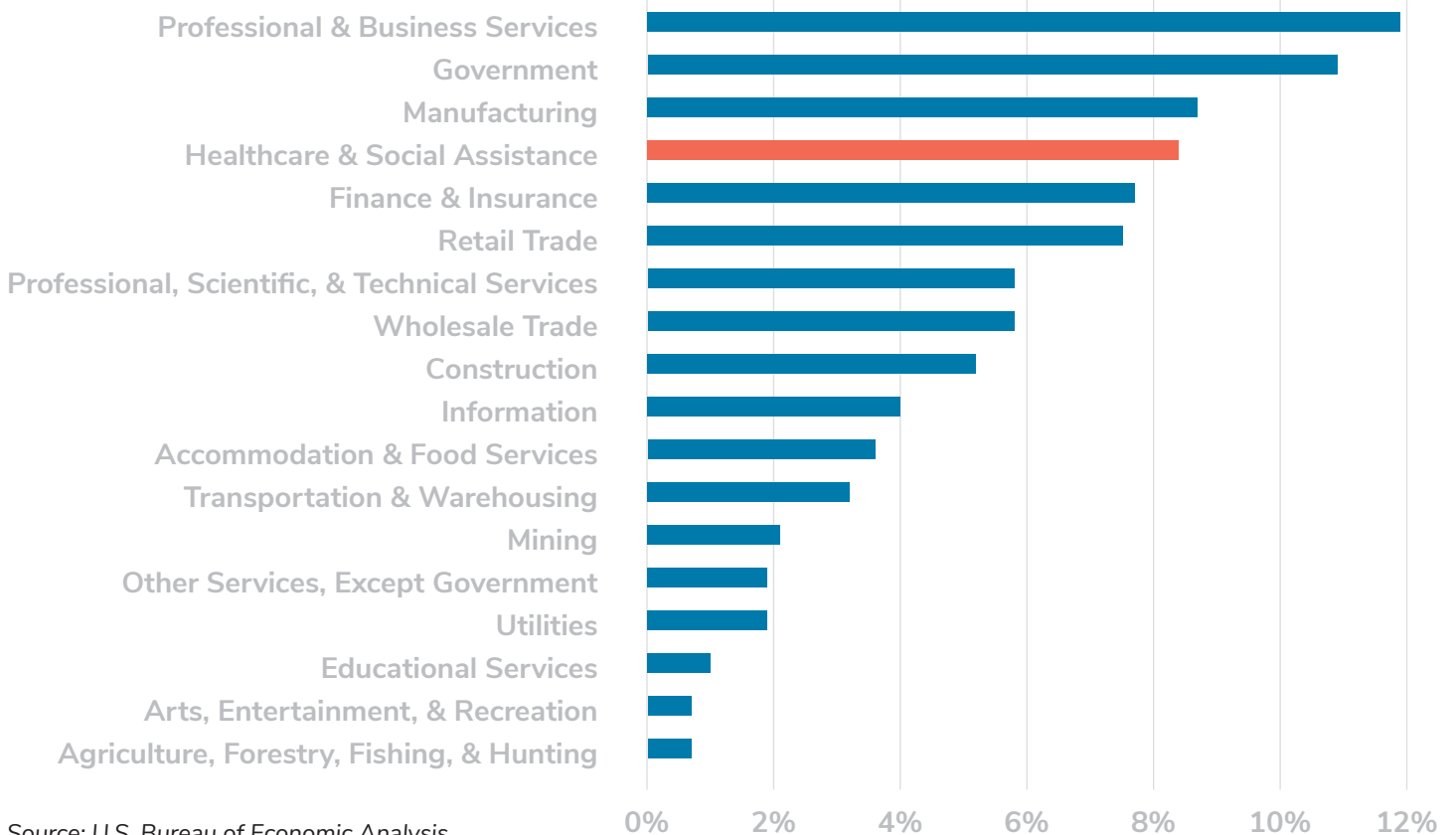
# The Healthcare Industry

**Figure 1: Share of Employment in Arizona by Industry in 2022**



Source: U.S. Bureau of Labor Statistics; Arizona Office of Economic Opportunity

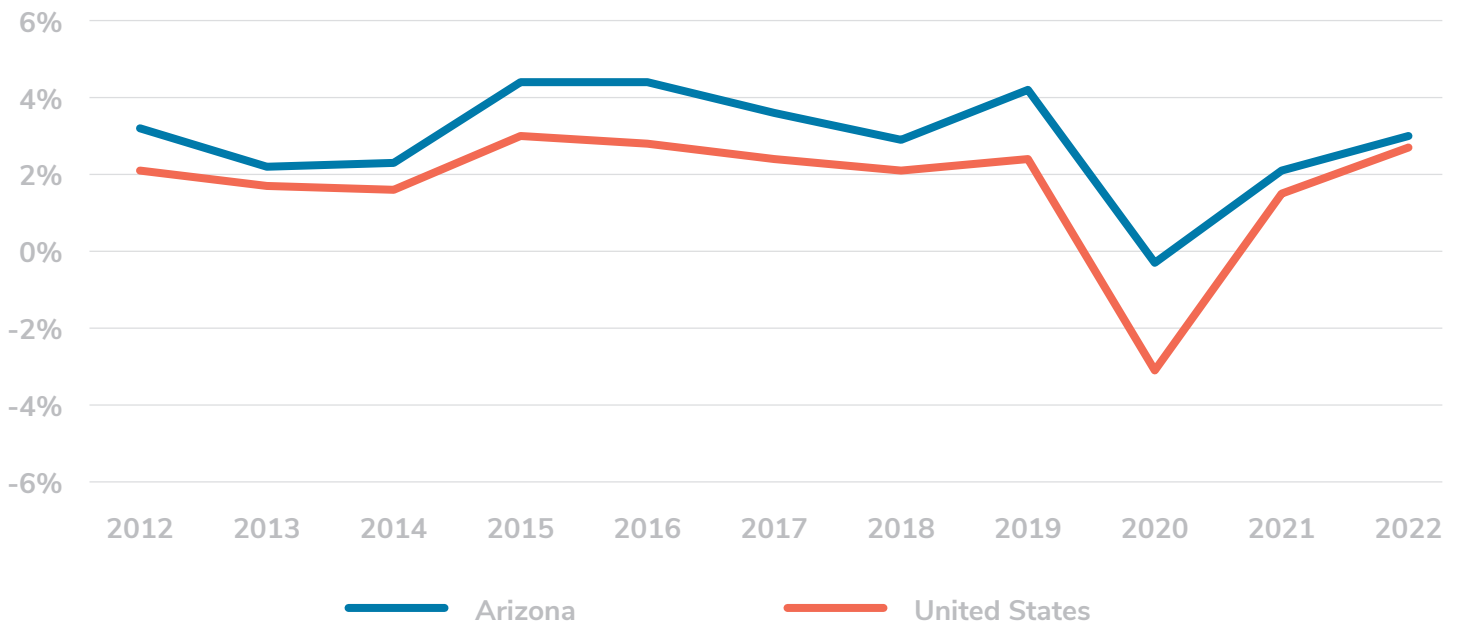
**Figure 2: Share of Arizona's GDP by Industry in 2022**



Source: U.S. Bureau of Economic Analysis

# The Healthcare Industry

**Figure 3: Annual Healthcare Industry Employment Change in Arizona and the U.S.**



Source: U.S. Bureau of Labor Statistics; Arizona Office of Economic Opportunity

## Healthcare Employment by Broad Occupational Group

Figure 4 displays a “bubble chart” providing a perspective on the size of occupational groups, their respective wages, and the growth opportunities of the broad occupational groups with job skills, duties, and education related to the healthcare industry, as defined by the SOC system in Arizona.

The broad occupational groups are “mapped” by wage level and future demand. Ideally, an economic region should focus efforts on the employment categories that are higher in wages and have a high projected demand expected in the future.

Occupations above the dashed horizontal line have an expected projected growth that is higher – meaning that the occupations will have the largest employment growth relative to the industry’s average growth. The occupations below the dotted line have a lower demand than the industry average.

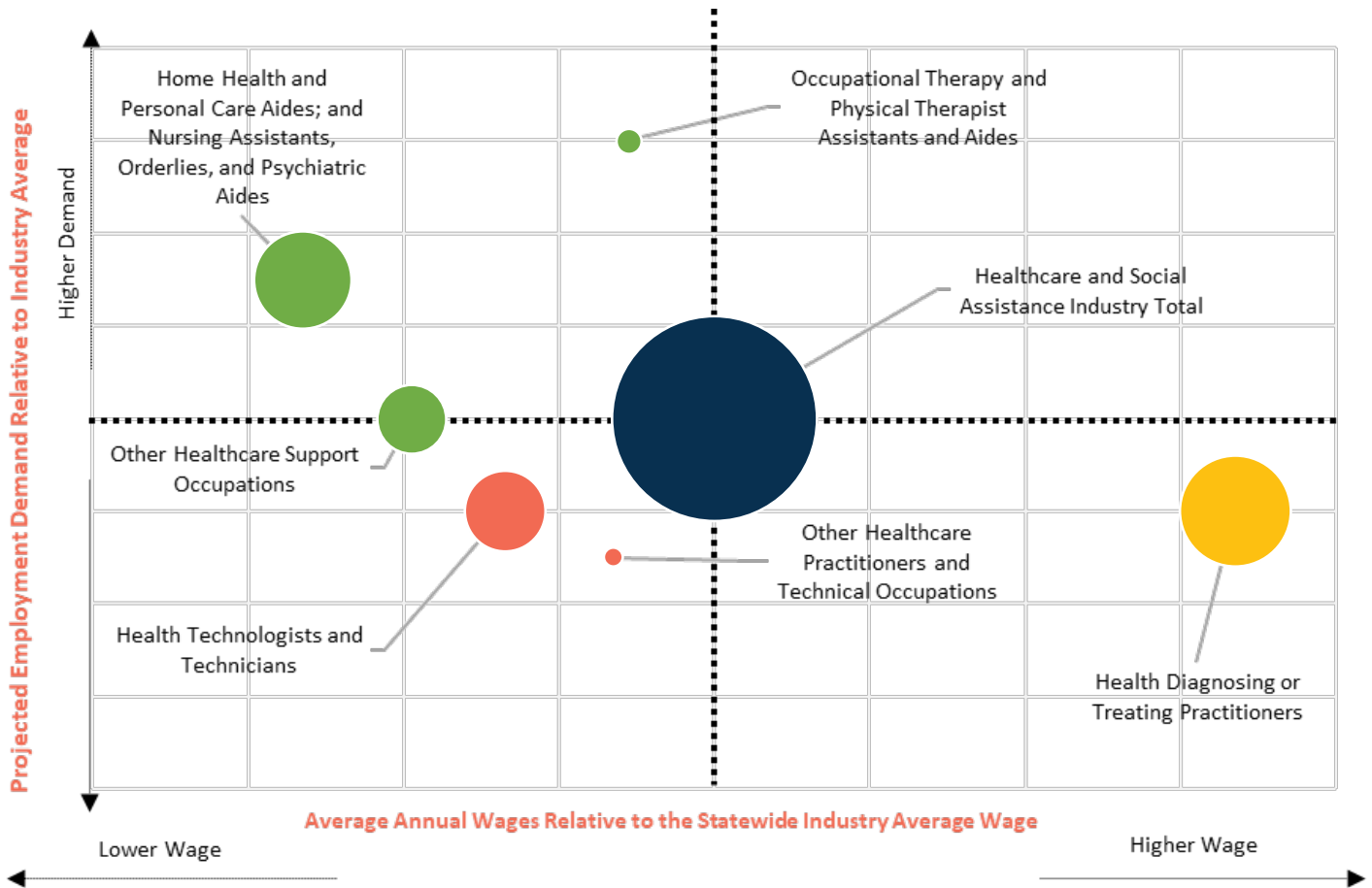
The base of the broad occupational group (the current supply or the current number of jobs classified under the occupational group) as of 2021 represents the size of the bubble. For example, the health technologists and technicians circle is larger than the occupational therapy and physical therapist assistants and aides circle – meaning there were more health technologists and technicians than occupational therapy and physical therapist assistants and aides in 2021.

In order to give a perspective on the size of the healthcare industry relative to occupational groups, the dark blue bubble was added to represent the industry as a whole.



# The Healthcare Industry

**Figure 4: Healthcare Employment Demand and Wage levels by Broad Occupational Groups**



Source: U.S. Bureau of Labor Statistics; Arizona Office of Economic Opportunity



# The Healthcare Industry

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## Occupations in Healthcare with High-Demand and High-Wages

Occupational data will allow the identification of the specific areas of the industry that will best support the state's economic growth and need. The occupations with a higher projected demand and higher wages must be considered.

Table 2 displays top occupations within the healthcare industry and detailed information pertaining to mean wages, the expected ten-year projected growth rates, and the educational attainment needed for entry into each occupation.

Table 2 displays detailed information on the high-wage occupations that are in demand by the healthcare industry overall. The 2022 mean wage in healthcare was estimated at \$69,693, according to the OEO. The occupation in the industry with the highest mean wage was earned by radiologists at \$430,649. The lowest mean wage was earned by home health and personal care aides at \$36,405.

The wages on Table 2 reflect that the occupations with higher educational attainment are typically higher-paying occupations. The occupations with wages below the statewide mean wage require lower education attainment levels.



# The Healthcare Industry

**Table 2: High-Wage and High Projected Growth Occupations in the Healthcare Industry**

| Occupation Title                      | 10-Year Employment Growth Rate | Mean Wage       | Educational Attainment            |
|---------------------------------------|--------------------------------|-----------------|-----------------------------------|
| Nurse Practitioners                   | 74.8%                          | \$120,407       | Master's Degree                   |
| Occupational Therapy Assistants       | 59.1%                          | \$60,133        | Associate's Degree                |
| Physician Assistants                  | 51.1%                          | \$122,417       | Master's Degree                   |
| Physical Therapist Assistants         | 44.5%                          | \$62,876        | Associate's Degree                |
| Home Health and Personal Care Aides   | 44.1%                          | \$36,405        | High School Diploma or Equivalent |
| Phlebotomists                         | 40.6%                          | \$40,505        | Postsecondary Non-Degree Award    |
| Orthotists and Prosthetists           | 39.8%                          | \$71,625        | Master's Degree                   |
| Respiratory Therapists                | 37.6%                          | \$70,209        | Associate's Degree                |
| Speech-Language Pathologists          | 36.1%                          | \$91,988        | Master's Degree                   |
| Diagnostic Medical Sonographers       | 35.0%                          | \$89,981        | Associate's Degree                |
| Medical Assistants                    | 34.7%                          | \$40,345        | Postsecondary Non-Degree Award    |
| Orthopedic Surgeons, Except Pediatric | 34.7%                          | \$405,173       | Doctoral or Professional Degree   |
| Radiologists                          | 34.3%                          | \$430,649       | Doctoral or Professional Degree   |
| Physical Therapists                   | 34.2%                          | \$99,199        | Doctoral or Professional Degree   |
| Neurologists                          | 33.7%                          | \$219,853       | Doctoral or Professional Degree   |
| Massage Therapists                    | 32.9%                          | \$60,017        | Postsecondary Non-Degree Award    |
|                                       |                                |                 |                                   |
| <b>Healthcare Industry Total</b>      | <b>31.5%</b>                   | <b>\$69,693</b> | -                                 |
| <b>Statewide Total Employment</b>     | <b>17.2%</b>                   | <b>\$58,620</b> | -                                 |

Source: U.S. Bureau of Labor Statistics; Arizona Office of Economic Opportunity

**The wages on Table 2 reflect that the occupations with higher educational attainment are typically higher-paying occupations. The occupations with wages below the statewide mean wage require lower education attainment levels.**

# The Healthcare Industry

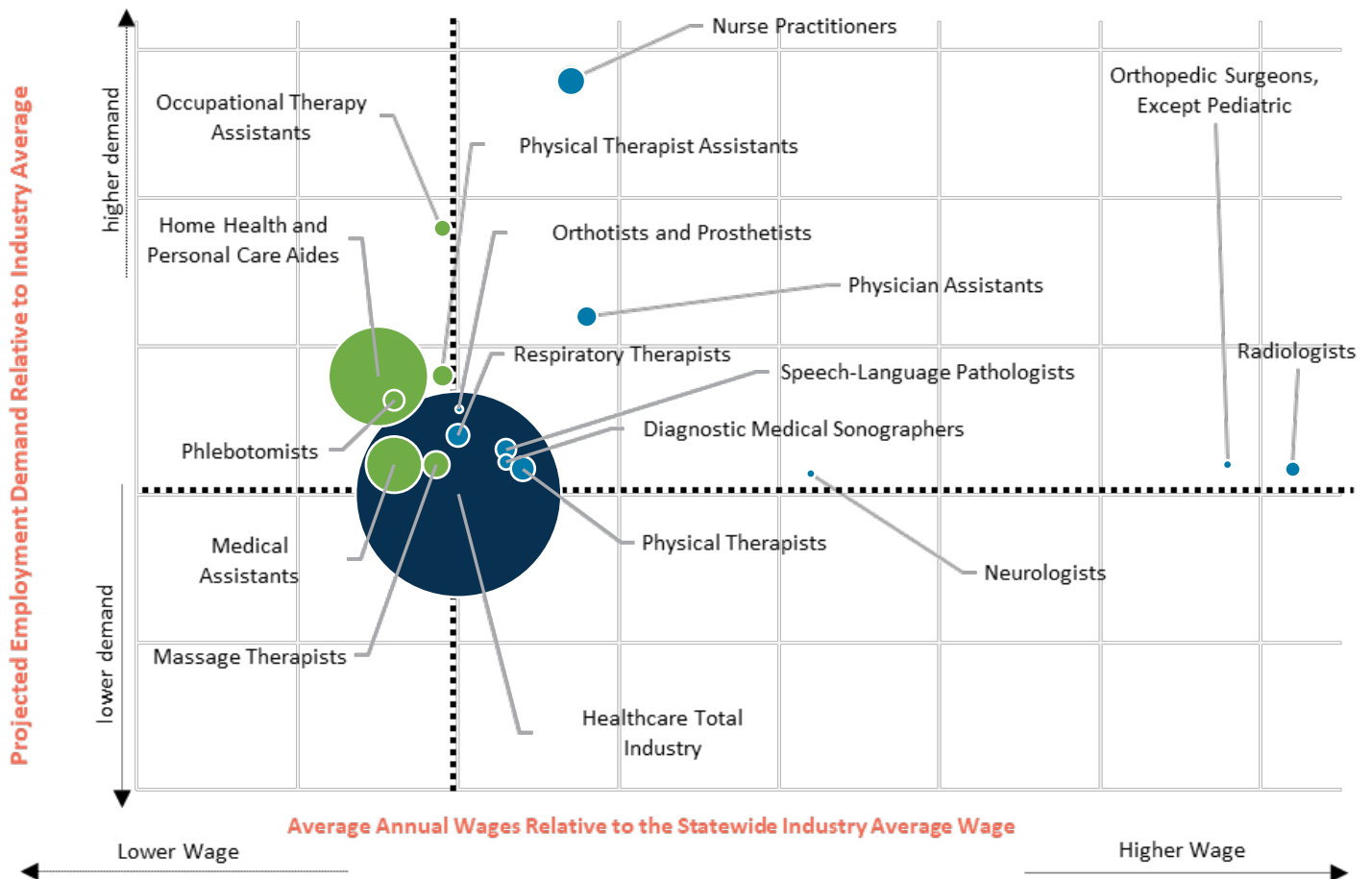
Figure 5 includes the previously mentioned occupations given in Table 2 and represents the projected demand relative to the industry average and includes a scale to measure the current size of the workforce and their mean wages.

The occupations that lie above the dashed horizontal line represent the occupations with a greater demand than the statewide industry average over the next decade. The projected growth rate of each occupation exceeds the statewide industry average. Nurse practitioners are expected to grow at the fastest rate out of all the occupations given.

Additionally, the occupations to the right of the dashed vertical line have mean wages that are higher than the statewide industry average for all healthcare workers. The occupations that are on the left of the dashed vertical line have a lower mean wage than the statewide healthcare mean wage.

The total employment base, or the supply of workers, as of 2021 within a given occupation represents the size of each circle, taken from the OEO's 2021-2031 occupational projections. Home health and personal care aides, medical assistants, and nurse practitioners employed the largest share of workers out of the aforementioned occupations.

**Figure 5: Employment Demand and Wage Level in Healthcare with High-demand and High-wages**



Source: Arizona Office of Economic Opportunity

# The Healthcare Industry

## Highlighting Educational Programs Preparing Arizona’s Healthcare Workforce

- Maricopa Community Colleges offers bachelor’s degrees, associate degrees, and certificates for those interested in the field of health science. The bachelor of applied science (“BAS”) in nuclear medicine technology and computed tomography prepares individuals to enter careers in biotechnology and research with ample opportunities to supplement the degree using certifications.

The associate applied science (“AAS”) degree programs span a wide array of career options from healthcare management to dental hygiene and seeks to prepare students to transfer to a 4-year university. The fast-track certifications provided by the Maricopa Community Colleges require fewer courses to complete and train students for entry-level work in careers such as dental assistance, health service management, phlebotomy, and more.

In 2022, the Maricopa Community College system awarded 1,984 certifications in healthcare. The most common certification awarded by Maricopa Colleges was in emergency medical technology/technician (676 certifications), nursing assistant (443 certifications), and substance abuse/addiction counseling (256 certifications).

In 2022, the Maricopa Community College system awarded 1,641 healthcare-related associate degrees. Of the total, 1,081 degrees were awarded in registered nursing. Dental hygiene (78 degrees) and radiologic technician (77 degrees) degrees followed.

| Community College                   | Health Professionals and Related Programs |              |
|-------------------------------------|---|--------------|
|                                     | Certifications                            | Degrees      |
| Level of Attainment                 |   |              |
| Mesa Community College              | 295                                       | 242          |
| Phoenix College                     | 241                                       | 285          |
| Rio Salado Community College        | 284                                       | 58           |
| Estrella Mountain Community College | 15  | 115          |
| Paradise Valley Community College   | 306                                       | 125          |
| Glendale Community College          | 331                                       | 203          |
| Chandler-Gilbert Community College  | 41  | 68           |
| Scottsdale Community College        | 24  | 105          |
| South Mountain Community College    | -   | -            |
| GateWay Community College           | 447                                       | 440          |
| <b>Total – Maricopa County</b>      | <b>1,984</b>                              | <b>1,641</b> |

Source: National Center for Education Statistics – Integrated Postsecondary Education Data System

# The Healthcare Industry

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- **Midwestern University** is a private medical school with a campus in Glendale, AZ. The university offers master's and doctoral degrees in dentistry, occupational therapy, optometry, pharmacy, physical therapy, physician assistant, and speech-language-pathology, among many others. In the 2021-2022 academic year, the university awarded 373 master's degrees and 726 doctoral degrees in healthcare.
- **Arizona State University's College of Health Solutions** provides students with the necessary education to pursue careers in medicine, healthcare management, bioinformatics, and more. Undergraduate degree programs at ASU include bachelor's of science degrees in public health, nursing, and health sciences, to name a few.

Graduate degree programs include audiology, genetic counseling, speech and hearing science, psychology, and more with opportunities for students to add supplemental certifications. In 2022, the university awarded 1,886 bachelor's degrees, 196 master's degrees, and 104 doctoral degrees in healthcare related programs.

- **Northern Arizona University's College of Health and Human Services** offers undergraduate and graduate degrees in healthcare-related fields. These programs prepare students for a career in the healthcare industry and include: degrees in public health, medical imaging, physical therapy, and paramedic care, among many more. The university awarded 1,173 bachelor's degrees, 274 master's degrees, and 149 doctoral degrees in healthcare-related majors, in 2022.
- **University of Arizona's Health Sciences Department** offers undergraduate programs and graduate programs with the goal of training physicians, scientists, and research leaders to meaningfully contribute to health science professions. The University of Arizona has a long-standing relationship with Banner – University Medicine that is particularly useful for those pursuing careers in medicine. In 2022, the university awarded 1,207 bachelor's degrees, 487 master's degrees, and 466 doctoral degrees in healthcare-related fields.



# The Healthcare Industry

**Table 4: Sample of Degrees Awarded by Classification of Instructional Program (CIP) and Major – 2021-2022**

| CIP or Major Related to the Healthcare Industry               | ASU   | NAU | UA  | Total |
|---|-------|-----|-----|-------|
| Classification of Instructional Program                       |       |     |     |       |
| Bachelor's Degree in Health Professions and Related Programs  | 2,189 | 810 | 661 | 3,660 |
| Bachelor's Degree in Psychology                               | 1,760 | 387 | 572 | 2,719 |
| Bachelor's Degree in Biological and Biomedical Sciences       | 1,743 | 490 | 730 | 2,963 |
| Master's Degree in Health Professions and Related Programs    | 279   | 246 | 472 | 997   |
| Master's Degree in Psychology                                 | 574   | 28  | 15  | 617   |
| Master's Degree in Biological and Biomedical Sciences         | 190   | 16  | 69  | 275   |
| Doctoral Degree in Health Professions and Related Programs    | 85    | 147 | 466 | 698   |
| Doctoral Degree in Psychology                                 | 78    | 2   | 22  | 102   |
| Doctoral Degree in Biological and Biomedical Sciences         | 55    | 10  | 42  | 107   |
| <b>Specific Majors</b>  |       |     |     |       |
| Bachelor's of Science Degree in Biological Science            | 1,105 | 261 | 215 | 1,581 |
| Bachelor's of Science Degree in Nursing                       | 985   | 433 | 221 | 1,639 |
| Bachelor's of Science Degree in Psychology                    | 844   | 350 | 116 | 1,310 |
| Bachelor's of Arts Degree in Psychology                       | 893   | 37  | -   | 930   |
| Bachelor's of Science Degree in Exercise Physiology           | -     | 140 | -   | 140   |
| Bachelor's of Science Degree in Health Sciences/Public Health | 384   | 199 | 310 | 893   |
| Bachelor's of Science Degree in Speech and Hearing Science    | 221   | -   | 124 | 345   |
| Bachelor's of Science Degree in Medical Studies               | 203   | -   | 79  | 282   |
| Master's of Science Degree in Psychology                      | 180   | 20  | -   | 200   |
| Master's of Science Degree in Physician Assistant Studies     | -     | 41  | -   | 41    |
| Master's of Science Degree in Nursing                         | -     | 39  | 175 | 214   |
| Master's of Science Degree in Clinical Mental Health          | -     | 37  | -   | 37    |
| Master's of Science Degree in Public Health                   | -     | -   | 154 | 154   |
| Master's of Science Degree in Healthcare Management           | -     | -   | 46  | 46    |
| Doctoral Degree in Advanced Nursing Practice                  | 68    | 1   | 110 | 179   |
| Doctoral Degree in Behavior Health                            | 59    | -   | -   | 59    |
| Doctoral Degree in Medicine                                   | -     | -   | 190 | 190   |
| Doctoral Degree in Pharmacy                                   | -     | -   | 135 | 135   |
| Doctoral Degree in Physical Therapy                           | -     | 98  | -   | 98    |
| Doctoral Degree in Psychology                                 | 19    | -   | 15  | 34    |
| Doctoral Degree in Public Health                              | -     | -   | 9   | 9     |
| Doctoral Degree in Occupational Therapy                       | -     | 46  | -   | 46    |

Source: Arizona Board of Regents.

Note: Information on degrees awarded for every major was not available.

# The Healthcare Industry

## Key Findings

The data exhibits that Arizona’s healthcare industry overall will experience a labor shortage of approximately 76,000 over the next decade. Although a small portion of the shortage will be filled by workers moving to Arizona for work, state and local government support should be considered to help build up the local workforce pipeline in healthcare to avoid future shortages and other issues.

Occupations including nurse practitioners, occupational therapist assistants, physician assistants, physical therapist assistants, and home health and personal care aides, among others, have an expected higher demand than the industry’s average. Radiologists, orthopedic surgeons, and neurologists earned the highest wages relative to the industry as a whole. Home health and personal care aides, phlebotomists, and massage therapists had the lowest wages relative to the overall healthcare industry.

In general, for the state to meet the future demand of these high-demand and high-wage jobs, there needs to be an increased focus on building the state’s workforce pipeline of highly skilled professionals in the industry. The demand for these positions will continue to increase as the industry continues to grow, the population ages, and the state continues to be a destination for healthcare services.

**Table 5: Future Supply and Demand in the Healthcare Industry**

|  | No. of Jobs     |
|--|-----------------|
| 10-Year Projected Demand in Healthcare Workers     | 132,800         |
| 10-Year Projected New Supply of Healthcare Workers | 56,800          |
| <b>Surplus/(Shortage)</b>                          | <b>(76,000)</b> |

Notes: Estimates for the 10-year projected demand in healthcare workers is based on OEO’s estimated job growth for the healthcare industry as a whole. Estimates for the 10-year projected new supply of healthcare workers is based on the expected number of graduates and certification awarded in the identified majors related to healthcare. The calculations assume a 50% graduate retention rate for the identified healthcare majors from Midwestern University, Maricopa Community Colleges, and the state’s three public universities.

Source: U.S. Bureau of Labor Statistics; Arizona Office of Economic Opportunity; Arizona Board of Regents; National Center for Education Statistics – Integrated Postsecondary Education Data System.

Note: These calculations were conducted to provide context on the state’s potential future workforce gap and talent pipeline within the state in the healthcare industry; however, the estimates are based on a limited availability of data and highly assumption based. These limitations should be taken into consideration when interpreting and generalizing the findings of this high-level analysis.

**The data exhibits that Arizona’s healthcare industry overall will experience a labor shortage of approximately 76,000 over the next decade. Although a small portion of the shortage will be filled by workers moving to Arizona for work, state and local government support should be considered to help build up the local workforce pipeline in healthcare to avoid future shortages and other issues.**



## Conclusions

This report is one in a series of reports highlighting workforce supply and demand in five target high-wage, high-demand industries. The full series of reports can be accessed at [www.phoenixchamberfoundation.com/wfseries](http://www.phoenixchamberfoundation.com/wfseries).

Efforts by the state, local governments, and economic development organizations in strengthening Arizona's base sector industries and attracting new businesses to the region has created a high-demand for employment in the five target industries outlined in this series. However, based on the current talent pipeline and projections, significant workforce shortages are expected in four of the five target industries if the state does not focus efforts on educating and training individuals.

- The manufacturing industry will suffer from a labor shortage of an estimated 10,200 employees over the next 10 years. On a broad basis, the occupational groups with a high projected demand include the food processing workers, woodworkers, engineers, and operations specialties managers groups.
- Over the next 10 years, the state will demand approximately 36,900 construction jobs. The occupational groups with the highest expected demand include construction trades workers and supervisors of construction and extraction workers.
- The healthcare industry overall will experience a labor shortage of approximately 76,000 over the next decade. The occupations with the highest demand include nurse practitioners, occupational therapist assistants, physician assistants, physical therapist assistants, and home health and personal care aides, among others.
- The financial services industry will be short approximately 5,200 workers over the next 10 years. The occupations including financial examiners, credit counselors, personal financial advisors, and loan officers are expected to have a high-demand relative to the entire financial services industry.
- Over the next decade, the cybersecurity/IT services industry will experience a relatively minor shortage of 700 workers. The occupational groups with higher projected demand compared to the industry as a whole include information securities analysts, computer and information research scientists, web developers, computer systems analysts, web and digital interface designers, and software quality assurance analysts and testers.

Prioritizing education and technical training programs to meet the future demand for workers in the identified fields is critical in continuing Arizona's growth momentum and securing the state's long-term economic sustainability.

**Table 6: Future Supply and Demand in the Five Target Industries**

| Industry                          | Surplus/(Shortage) |
|-----------------------------------|--------------------|
| Manufacturing Workers             | (10,200)           |
| Construction Workers              | (32,100)           |
| Healthcare Workers                | (76,000)           |
| Financial Services Workers        | (5,200)            |
| Cybersecurity/IT Services Workers | (700)              |

Notes: Estimates for the 10-year projected demand for workers is based on OEO's estimated job growth by industry. Estimates for the 10-year projected new supply of workers is based on the expected number of graduates and certification awarded in the identified majors related to each industry.

Source: U.S. Bureau of Labor Statistics; Arizona Office of Economic Opportunity; Arizona Board of Regents; National Center for Education Statistics – Integrated Postsecondary Education Data System.



GREATER PHOENIX CHAMBER  
**FOUNDATION**

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