



CENTER OF EXCELLENCE  
FOR LABOR MARKET RESEARCH

**ORANGE COUNTY**



ORANGE COUNTY SECTOR PROFILE.

**HEALTH**

**2024**

ORANGE COUNTY  
REGIONAL CONSORTIUM

WORKFORCE  
DEVELOPMENT ALLIANCE



California  
Community  
Colleges

# TABLE OF CONTENTS

- Table of Contents ..... 1
- Introduction..... 2
- Health Occupational Data Analysis..... 3
- Job Postings Information..... 8
- Key Occupations Driving Employment..... 12
- Health Supply..... 22
- Demographics..... 24
- Public Policy and Funding Opportunities ..... 26
- Appendix A: Methodology ..... 27
- Appendix B: Sector Occupations..... 28
- Appendix C: TOP Codes..... 29
- Appendix D: End Notes ..... 30

[Supplemental Appendices](#)<sup>1</sup> are available as a companion to this report and include the following:

Appendix D: Health Demand – Labor Market Data

Appendix E: Health Supply – Community College and Non-Community College Awards



## INTRODUCTION

This report is the second in a series of 12 sector profiles that aim to provide a comprehensive analysis of Orange County's occupational landscape. This series dives into each of the 12 community college sectors, offering historical and projected occupational insights while building upon foundational research established through the [Orange County Labor Market Overview](#).<sup>2</sup> This sector profile focuses on Health, which the Orange County Region has ranked first out of the 12 sectors based on the Orange County Labor Market Overview and corresponding region-wide survey of community colleges and key partners.

The Health sector covers a broad range of jobs centered around maintaining and improving health. It includes medical professionals like doctors, nurses, and surgeons, who earn high salaries because of their specialized training and expertise, as well as allied health roles. Allied health refers to a broad group of healthcare professionals who are not doctors, dentists, or nurses but provide a range of diagnostic, technical, therapeutic, and support services in connection with health care. These professionals work in various healthcare settings, including hospitals, clinics, laboratories, and private practices, and they often collaborate with physicians and other healthcare providers to deliver high-quality patient care. These professionals are essential to the healthcare system, providing critical support and specialized services that contribute to patient care and overall health outcomes.

Allied health roles, such as *Radiologic Technologists and Technicians (29-2034)*, *Dental Hygienists (29-1292)*<sup>#</sup>, and *Licensed Practical and Licensed Vocational Nurses (29-2061)*<sup>#</sup>, require specific certifications and licenses. These professionals support patient care and diagnostics. The sector also includes health support roles like *Medical Assistants (31-9092)*, *Home Health and Personal Care Aides (31-1128)*, and *Pharmacy Aides (31-9095)*<sup>\*</sup>, who typically have lower salaries but are vital for the everyday functioning of healthcare facilities. Most jobs in this sector demand extensive education and ongoing training to stay updated with new medical technologies and care standards.

The Health sector is comprised of 101 occupations, 79 of which were highlighted in the Orange County Labor Market Overview. These 101 occupations account for 13% of the total number of occupations in the federal Bureau of Labor Statistics (BLS) Standard Occupational Classification (SOC) system and 42% (42) are in U.S. News & World Report's 100 Best Jobs of 2024 list.<sup>3</sup>

Occupations are denoted throughout this report in italics, with their corresponding SOC code in parentheses, with below middle-skill occupations denoted with an \*, above middle-skill occupations denoted with a ^, and occupations that are on U.S. News & World Report's 2024 100 Best Jobs list denoted by #, such as, *Medical and Health Services Managers (11-9111)*<sup>^#</sup>.

By examining key aspects such as occupational trends, major employers, skills, program completions, and opportunities, the OC COE seeks to highlight underlying dynamics and intricacies shaping the Health sector in Orange County. Community colleges and regional stakeholders can use this information for strategic planning and data-informed decision making to address workforce needs in this sector.



# HEALTH OCCUPATIONAL DATA ANALYSIS

## Orange County's Occupational Landscape

The Health sector is comprised of 101 occupations that accounted for 213,359 jobs in 2022, representing 12% of all jobs in Orange County. These jobs are expected to grow by 15% through 2027, resulting in 30,724 projected annual openings.

### Health Sector Key Facts



**213,359**

Number of Jobs  
in 2022



**32,605**

5-Year Change  
through 2027



**15%**

5-Year Percent  
Change



**30,724**

Annual  
Openings



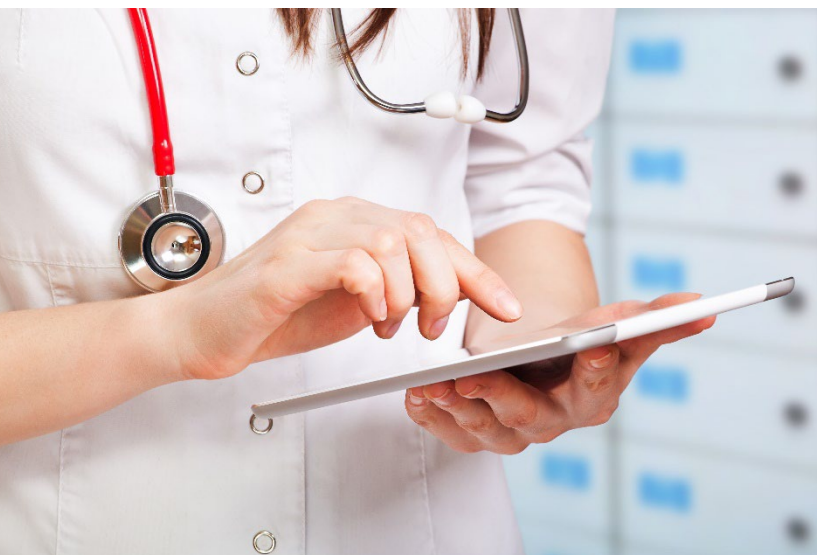
**12,519**

Establishments



**\$13.16 - \$138.35**

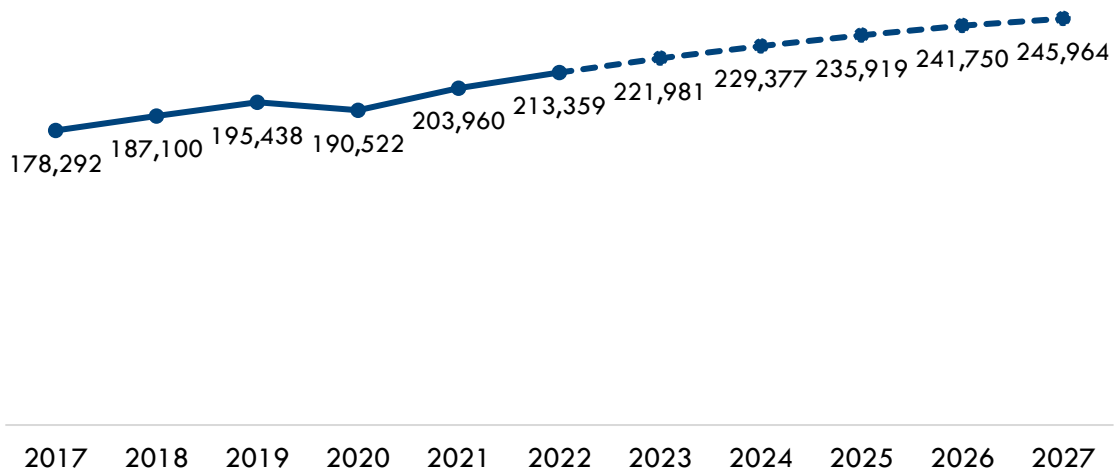
Occupational Entry-Level  
Wage Range



## Historical and Projected Employment

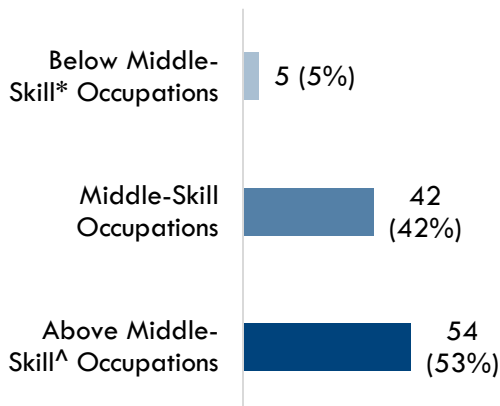
Over a 10-year period, from 2017 projected through 2027, Health jobs have been and are projected to continue steadily rising at a consistent pace, except for 2020 due to the COVID-19 pandemic-related economic downturn (Exhibit 1).

**Exhibit 1: Historical and Projected Health Employment in Orange County (2017-2027)**

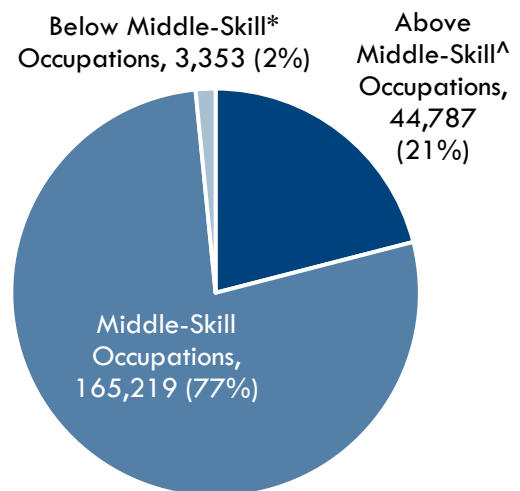


The 101 occupations in the Health sector are categorized into 54 above middle-skill, 42 middle-skill, and 5 below middle-skill occupations (Exhibit 2). In 2022, the 54 above middle-skill occupations accounted for 44,787 jobs, constituting 21% of the total Health workforce; followed by the 42 middle-skill occupations, with 165,219 jobs, representing 77% of the total workforce (Exhibit 3).

**Exhibit 2: Skill-Level for Health Occupations**



**Exhibit 3: Breakdown of 2022 Jobs for Health Occupations by Skill-Level**



*Note: Throughout this report, Below Middle-Skill Occupations are denoted with an \* and Above Middle-Skill Occupations are denoted with a ^.*



## Trends In Occupational Demand

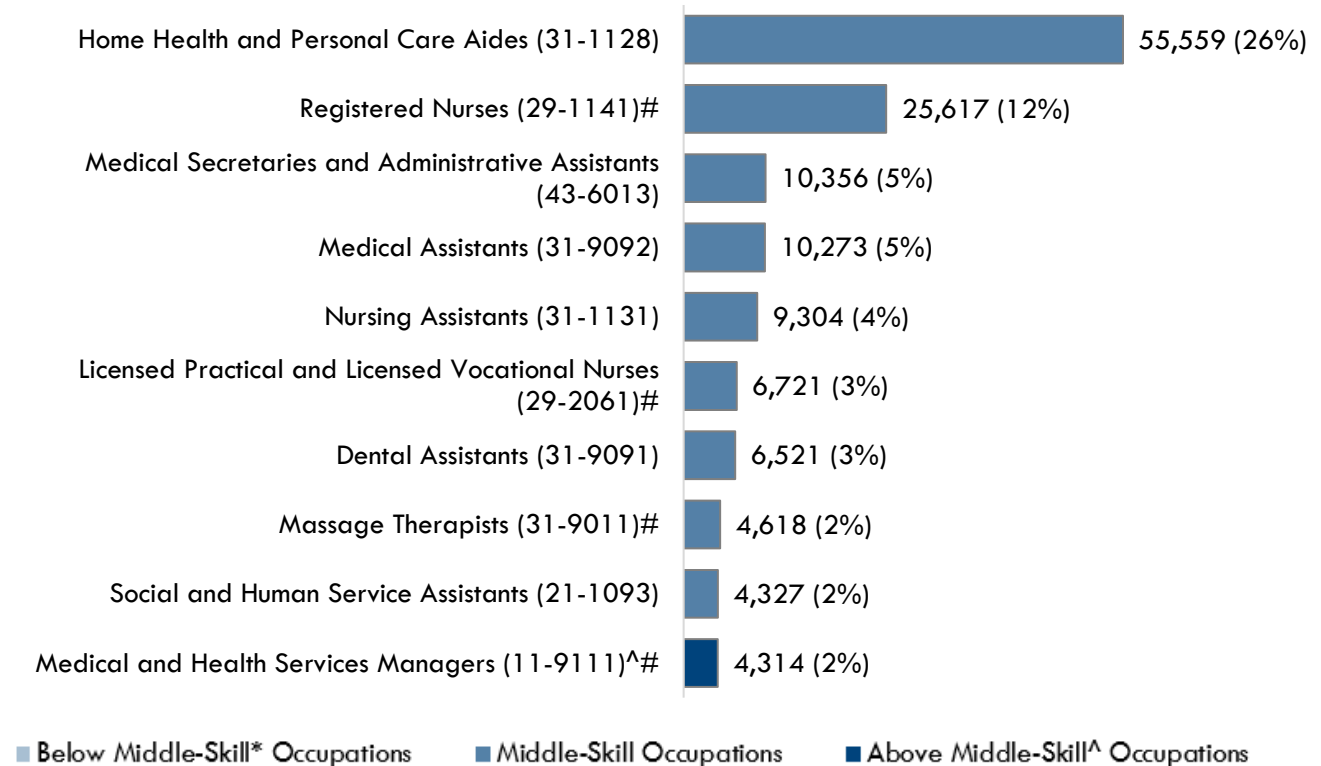
Between 2019 and 2022, the U.S. nursing workforce lost over 100,000 individuals<sup>4</sup>, leading to significant staffing shortages that are causing increased workloads and burnout among nurses and clinicians, according to the American Hospital Association. A November 2023 article in Becker's Hospital Review emphasizes these shortages and highlights efforts by some employers to revise overtime protocols to prevent overworking nurses.<sup>5</sup> Technological advancements like telehealth are being adopted to improve efficiency and care delivery. Reflecting these national trends, health occupations in Orange County, California, are experiencing robust growth due to the county's aging, affluent, and health-conscious population, driving demand for specialized healthcare professionals such as nurse practitioners and physician assistants.<sup>6</sup> The expansion of healthcare facilities and home healthcare services, coupled with the increased use of telehealth spurred by the COVID-19 pandemic, underscores the critical need for a highly skilled healthcare workforce and reflects a dynamic and evolving job market driven by demographic changes and technological advancements.<sup>7</sup>

Regionally, the 101 occupations in this sector accounted for nearly 215,000 jobs in 2022 and are estimated to have over 30,000 annual openings through 2027 in Orange County. Jobs in this sector are projected to grow more than double the rate of all occupations in Orange County through 2027 and nearly half of the occupations have entry-level wages higher than the MIT Living Wage for Orange County of \$30.48.<sup>8</sup> Nearly one-fourth (21%) of Health jobs are for above middle-skill occupations while three-fourths (77%) are for middle-skill occupations.

### Jobs

Jobs equate to the number of people currently in an occupation as opposed to unmet demand, which refers to the number of people still needed in an occupation. Comprising 26% of all jobs in the Health sector, *Home Health and Personal Care Aides (31-1128)*, a middle-skill occupation, ranks first as the sector's occupation with the most jobs. It is followed by *Registered Nurses (29-1141)#*, also a middle-skill occupation, accounting for 12% of all Health jobs. All top 10 Health jobs, 2022 are shown in Exhibit 4.

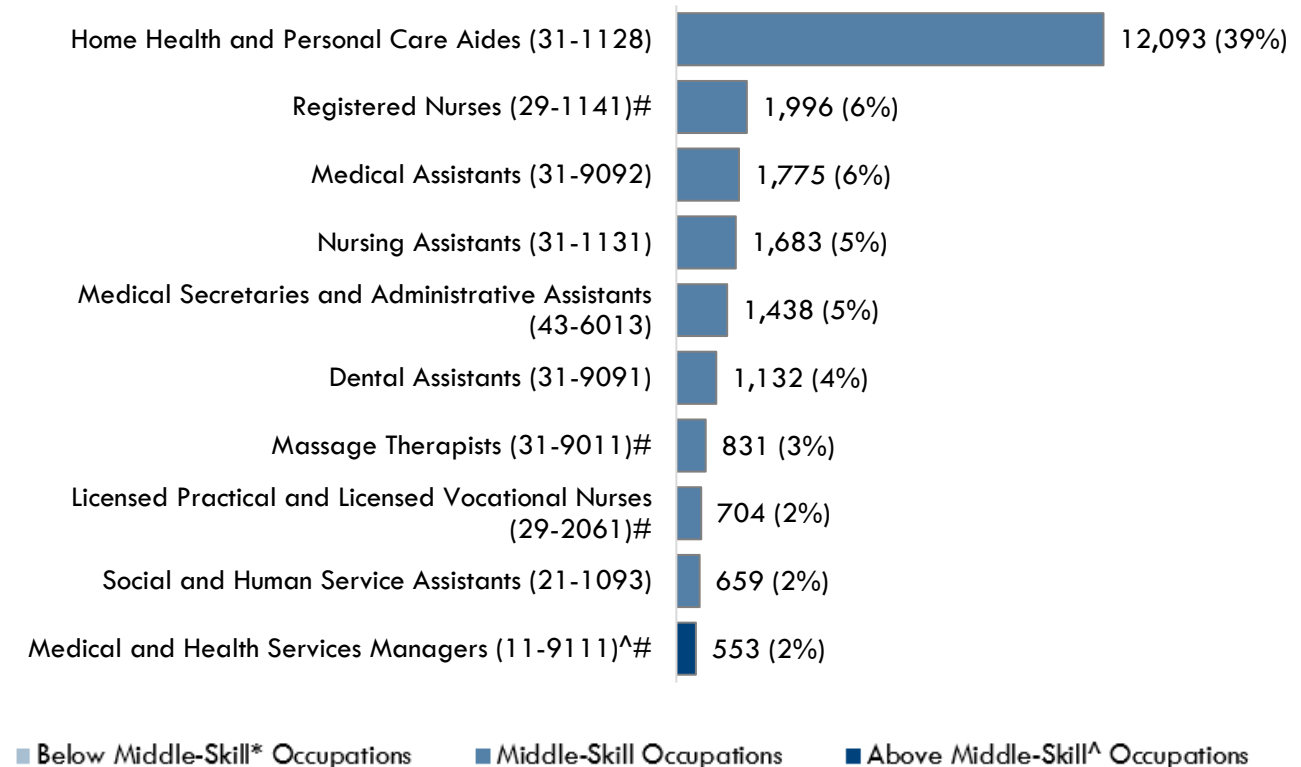
**Exhibit 4: Top 10 Health Jobs, 2022**



## Annual Openings

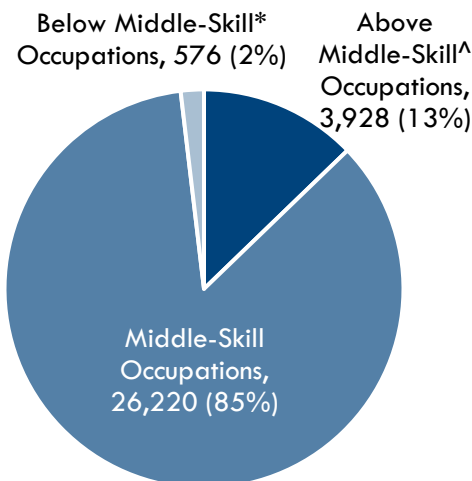
There are 30,724 Health annual openings, also known as “demand” or “unmet demand, in Orange County. Similar to its share in the number of jobs, *Home Health and Personal Care Aides (31-1128)* accounts for the largest percentage of Health annual openings (39%), distantly followed by *Registered Nurses (29-1141)*<sup>#</sup> (6%) and *Medical Assistants (31-9092)* (6%), as shown along with all Health’s top 10 annual openings in Exhibit 5.

**Exhibit 5: Top 10 Annual Openings by Health Occupation**



Middle-skill occupations comprise 85% of all annual openings in the Health sector followed by above middle-skill occupations (13%). Exhibit 6 shows the annual openings by skill-level.

**Exhibit 6: Distribution of All Health Annual Openings by Skill-Level**

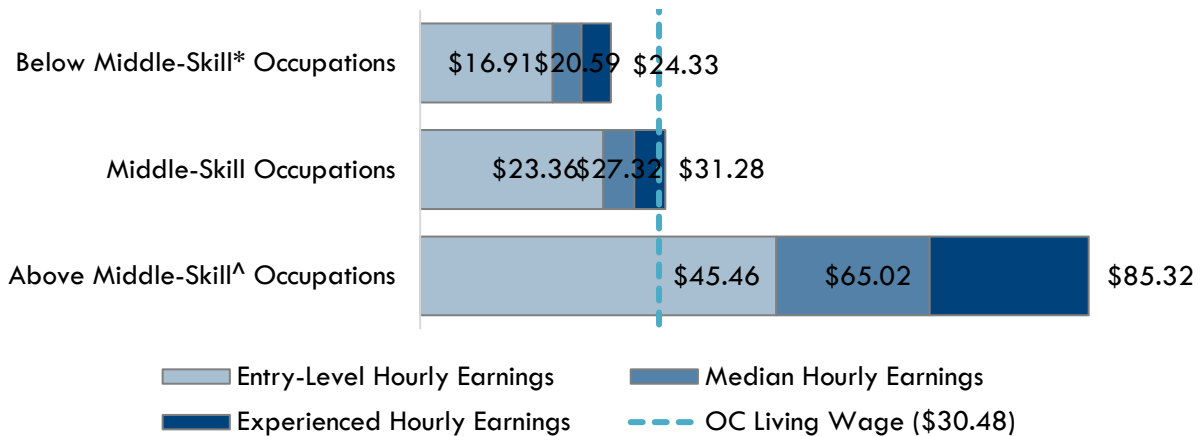


## Earnings

In Orange County, the MIT Living Wage for one adult is \$30.48 per hour, which is the floor benchmark for wages in the county. Of the 101 occupations, nearly half (48 occupations) have entry-level wages above Orange County’s living wage. However, entry-level wages across all 101 Health occupations range from \$13.16 to \$138.35 per hour, with *Healthcare Diagnosing or Treating Practitioners, All Other (29-1299)*<sup>^</sup> and *Orthopedic Surgeons, Except Pediatric (29-1242)*<sup>^</sup> at the lower- and upper-end of this range, respectively.

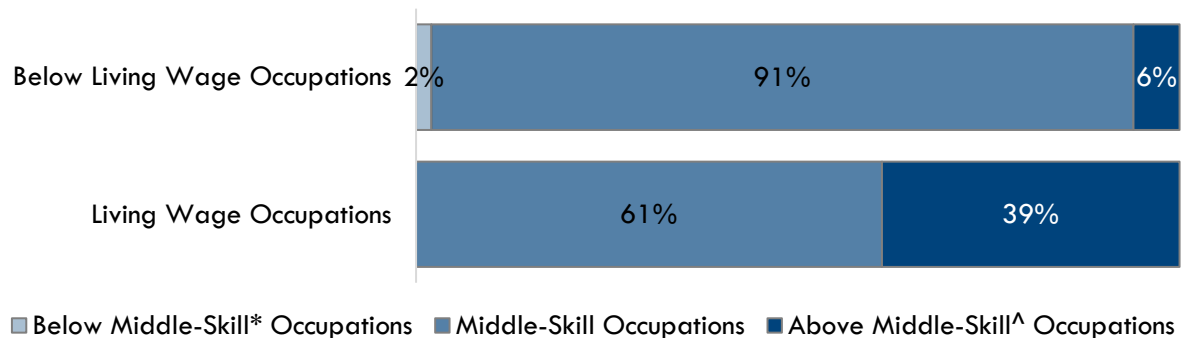
To better understand Health sector wages in Orange County, wages are weighted by the number of 2022 jobs. This accounts for the variation in wages between occupations by using the number of jobs to normalize the wage data, such as large numbers of jobs with low wages, small number of jobs with high wages, or any combination of the two. **Error! Reference source not found.** shows the full spectrum of weighted wages (from entry-level to experienced) by skill level for the 101 Health occupations, ranging from below-middle-skill entry-level wages of \$16.91 to above middle-skill experienced wages of \$85.32.

**Exhibit 7: Health Sector Occupational Wages by Skill Level, Weighted by 2022 Jobs**



Notably, only 19% of the annual job openings in this sector have entry-level wages above the living wage. Of the openings that have entry-level wages above the living wage, none are for below middle-skill occupations, 61% are for middle-skill occupations and 39% are for above middle-skill occupations, as shown in Exhibit 8.

**Exhibit 8: Comparison of Living Wages by Health Annual Openings and Skill Level**



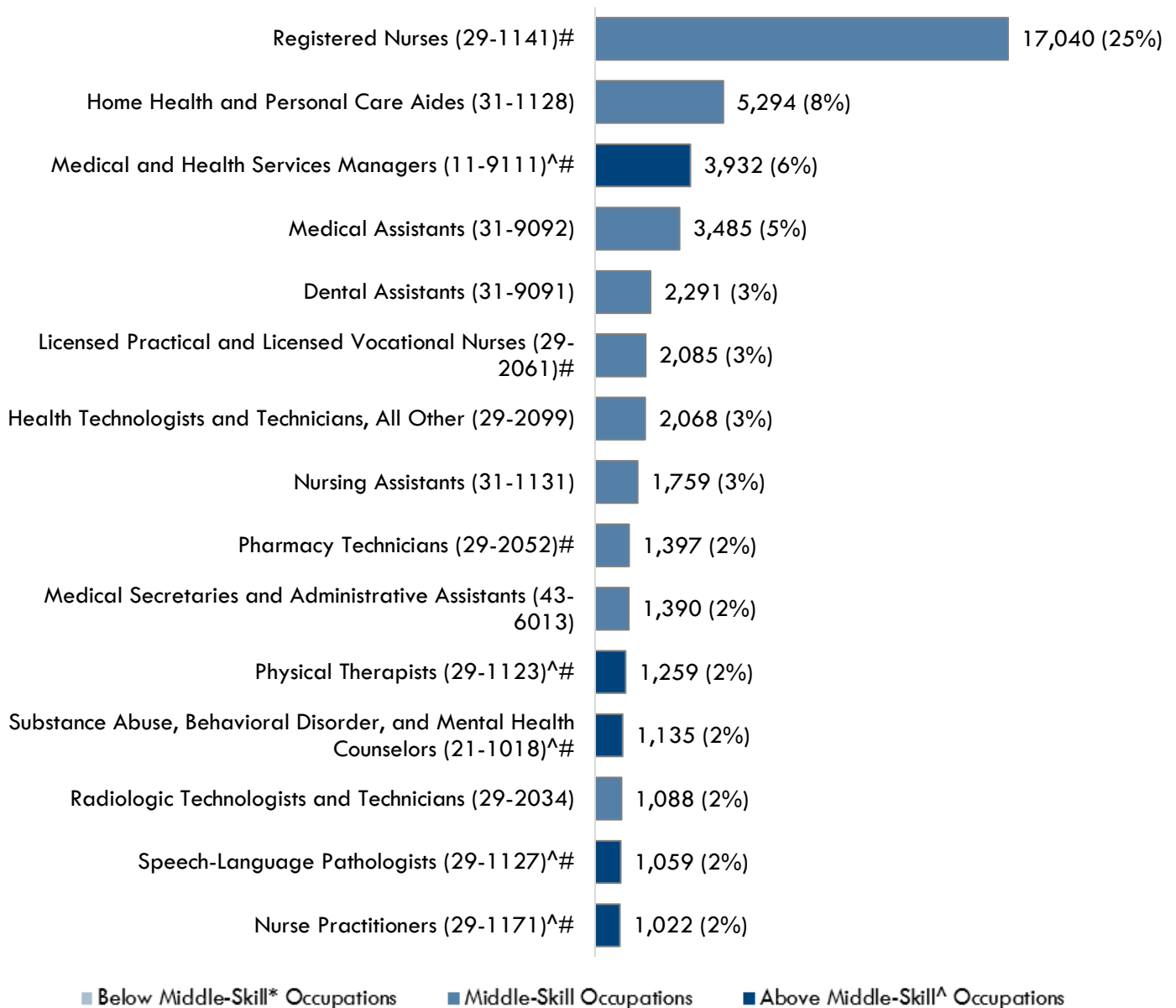


# JOB POSTINGS INFORMATION

## Job Postings in Orange County

Over the past 12 months (June 2023 – May 2024), there were 66,875 employer job postings within Orange County for all Health occupations. Exhibit 9 shows the 15 occupations with the highest number of job postings, which represents approximately 69% of all job postings within the sector. Most notably, *Registered Nurses (29-1141)#* make up a quarter of the job postings.

**Exhibit 9: Top 15 Health Occupations by Number of Job Postings**



## Top Employers

Orange County's Health employers are very diverse, as shown in Exhibit 10. Employers with postings for below middle-skill occupations, such as Aerotek, Kelly Services, and ManpowerGroup are staffing agencies, which typically provide a wide range of temporary job placements, often at lower skill levels. The University of California, Providence, and Hoag Health System appear in all three categories, offering a wide range of job opportunities for below middle-skill to above middle-skill occupations. Kaiser Permanente is listed in the middle-skill and above middle-skill categories, offering positions that require more advanced skills but not necessarily lower-skilled jobs.

**Exhibit 10: Top 10 Health Regional Employers with the Most Job Postings by Skill Level**

Below Middle-Skill*	Middle-Skill	Above Middle-Skill^
1. Aerotek	1. University of California	1. University of California
2. Kelly Services	2. Providence	2. Pacific Companies
3. University of California	3. Healthcare Employment Network	3. Providence
4. ManpowerGroup	4. Hoag Health System	4. Hoag Health System
5. Providence	5. Alta Hospitals SYS	5. Kaiser Permanente
6. Hoag Health System	6. Kaiser Permanente	6. LifeStance Health
7. Revereit	7. UC Irvine Health	7. ATX Learning
8. Intellectt	8. Sharp Healthcare	8. ProCare Therapy
9. Marquee Staffing	9. Prime Healthcare Services	9. CVS Health
10. Infant Hearing Screening Specialists	10. Fountain Valley Regional Hospital	10. CompHealth

## Top Job Titles

Below middle-skill job titles predominantly encompass roles requiring manual or entry-level technical skills such as Medical Device Assemblers, suggesting a focus on repetitive tasks or physical coordination. Middle-skill job titles consist of roles that require technical expertise but may not necessarily demand advanced degrees, including *Medical Assistants (31-9092)*, *Pharmacy Technicians (29-2052)^#*, and *Nursing Assistants (31-1131)*, reflecting a need for specialized knowledge and problem-solving abilities. Above middle-skill job titles incorporate professions with a higher degree of technical complexity and require advanced education or specialized training, such as *Physical Therapists (29-1123)^#*, *Psychologists (19-3039)^#*, and *Physician Assistants (29-1071)^#*, indicating a demand for advanced technical skills and analytical capabilities. Job titles by skill level are shown in Exhibit 11.

**Exhibit 11: Top 10 Health Job Titles in Orange County by Skill Level**

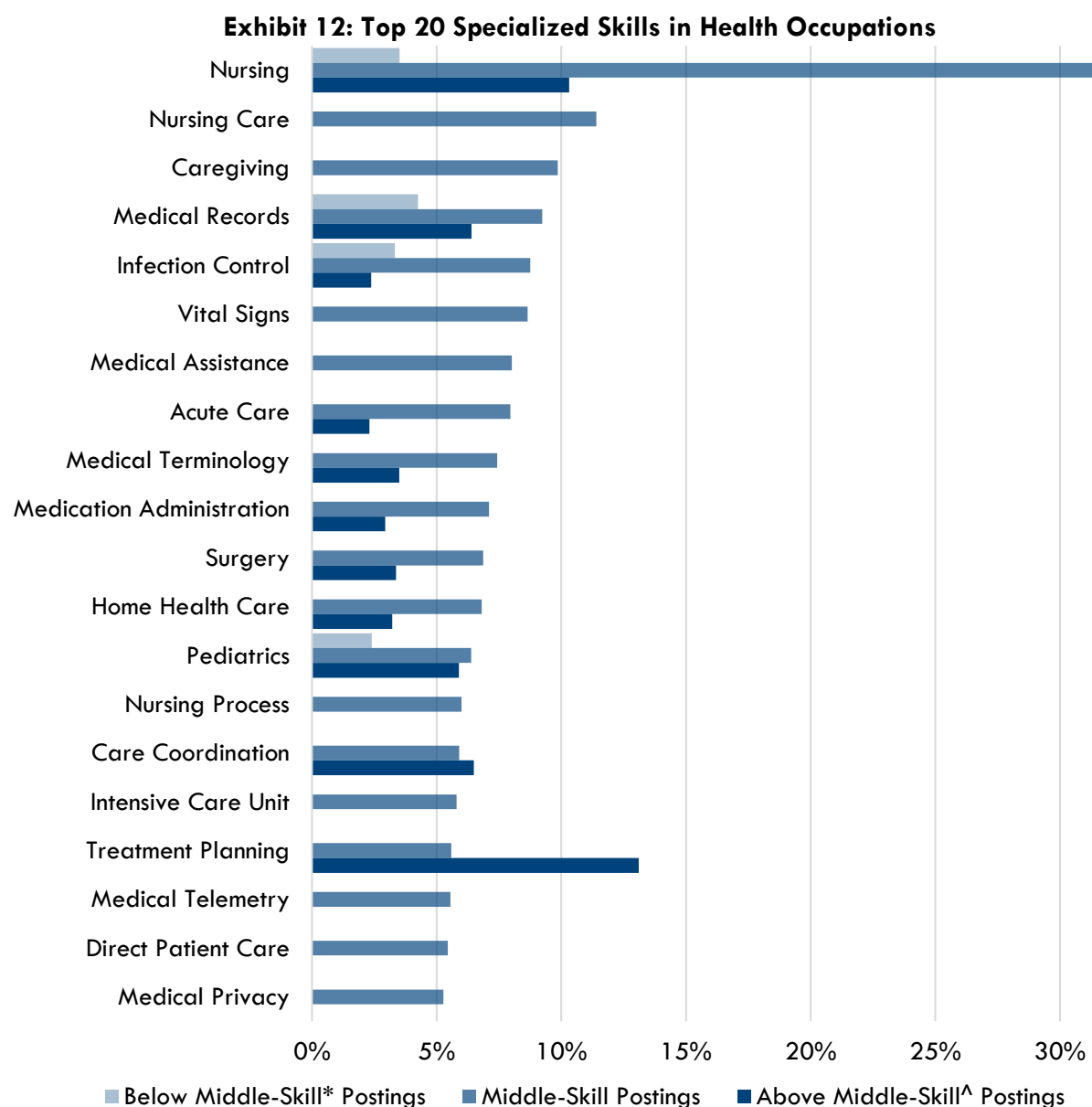
Below Middle-Skill *	Middle-Skill	Above Middle-Skill^
1. Medical Device Assemblers	1. Caregivers	1. Physical Therapists
2. Patient Transporters	2. Medical Assistants	2. Speech Language Pathologists
3. Medical Assemblers	3. Licensed Vocational Nurses	3. School Psychologists
4. Patient Escorts	4. Dental Assistants	4. Clinical Laboratory Scientists
5. Patient Transport Aides	5. Registered Nurses	5. Occupational Therapists
6. Assemblers	6. Pharmacy Technicians	6. Nurse Practitioners
7. Newborn Hearing Screeners	7. Home Health Registered Nurses	7. Patient Care Coordinators
8. Pharmacy Assistants	8. ICU Registered Nurses	8. Director of Nursing
9. Non-Licensed Hearing Aid Attendants	9. Telemetry Registered Nurses	9. Travel Physical Therapists
10. Cleanroom Assemblers	10. Certified Nursing Assistants	10. Family Practice Physicians

## Skills in Job Postings

There are three types of skills listed in job postings: specialized (“technical” or “hard”), common (“soft” or “human”), and computer skills.

### Top Specialized Skills

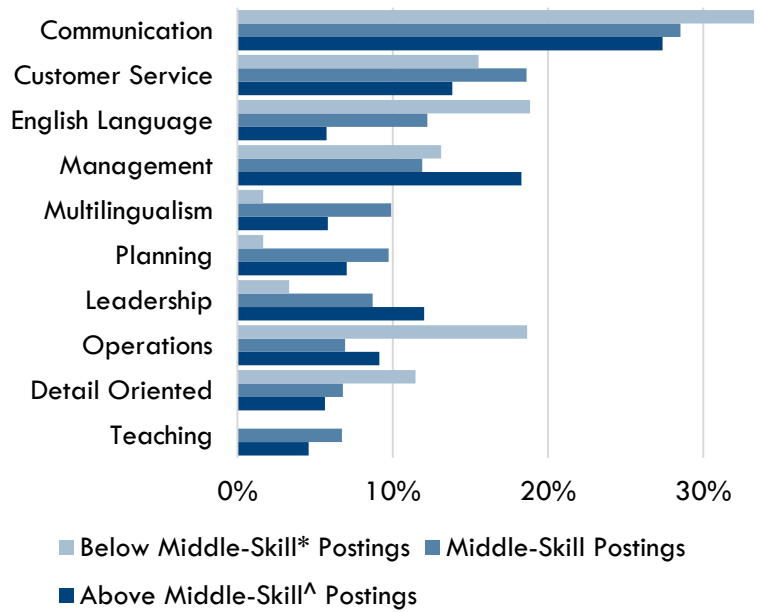
Among the 20 specialized skills listed, only four are common across all three occupational skill levels: nursing, medical records, infection control, and pediatrics. Skills such as treatment planning (13%) are predominant in above middle-skill postings, indicating their significance in jobs requiring advanced expertise, such as *Nurse Practitioners (29-1171)^#* and *Medical and Health Services Managers (11-9111)^#*. Conversely, skills like nursing/nursing care (42% combined) and caregiving (10%) are prevalent in middle-skill occupations, such as *Registered Nurses (29-1141)#* and *Medical Assistants (31-9092)*. Notably, the below middle-skill postings category shows limited data with only four skills: medical records (4%), nursing (4%), infection control (3%), and pediatrics (2%). The top 20 specialized skills in Health occupations are shown in Exhibit 12.



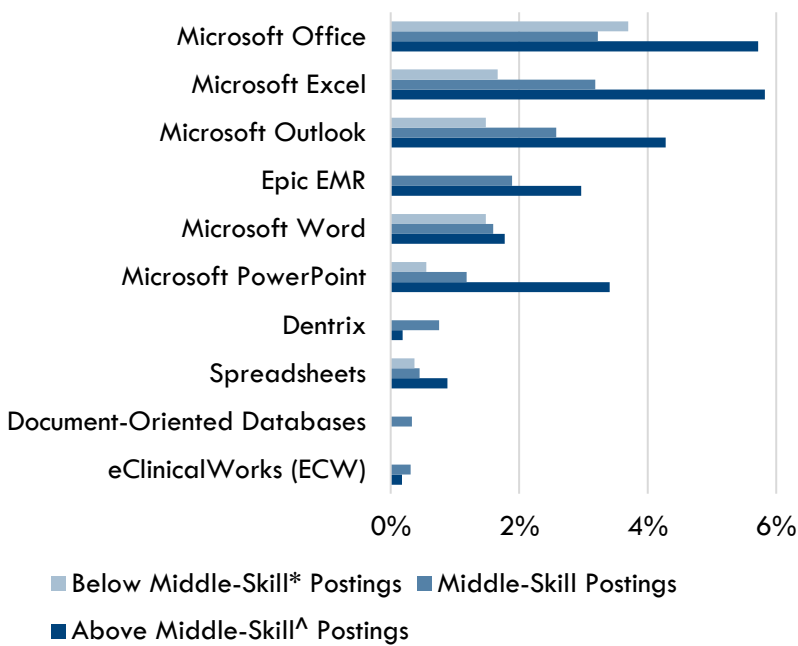
## Top Common Skills

Among the top 10 common skills listed in Exhibit 13 there is an emphasis on communication and customer service, which are consistently highly valued across all skill levels. Communication skills are the most frequently demanded, peaking at 33% in below middle-skill postings, 29% in middle-skill postings, and 27% in above middle-skill postings, highlighting their crucial role in effective healthcare delivery. Customer service follows closely, especially in middle-skill postings at 19%, below middle-skill postings at 16%, and above middle-skill postings at 14%, underscoring the importance of patient interaction and satisfaction. Above middle-skill postings rank communication (27%), management (18%), customer service (14%), then leadership (12%) as the most requested common skills. This trend suggests that higher-level health occupations require more oversight and organizational responsibilities.

**Exhibit 13: Top 10 Common Skills in Health Occupations**



**Exhibit 14: Top 10 Computer Skills in Health Occupations**



## Top Computer Skills

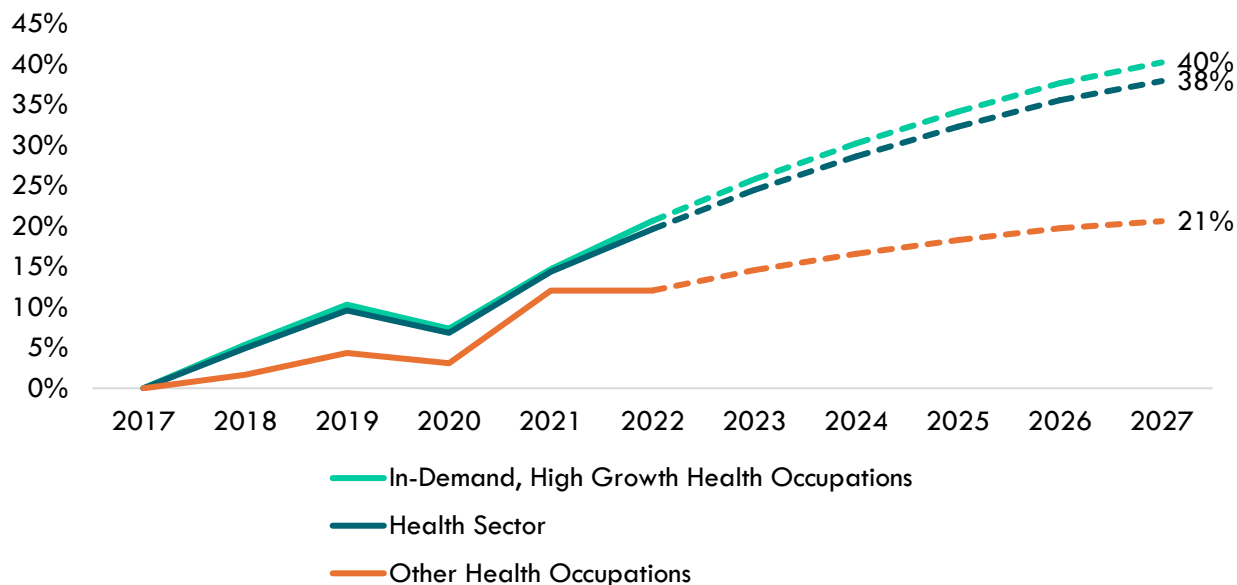
Computer skills are not requested nearly as often as the other skills categories within the Health sector. Microsoft Excel and Microsoft Office are most frequently mentioned for above middle-skill postings (6% each) and in middle-skill postings (3% each). Followed by Microsoft Outlook and Epic EMR which demonstrate a need for proficiency in various office software including electronic medical records. Below middle-skill postings show a reduced but still notable emphasis on Microsoft Office, which appears in 4% of postings, Microsoft Excel (2%), and Microsoft Outlook (1%) skills. The need for eClinicalWorks (ECW), Document-Oriented Databases, and Dentrix appears to not be applicable in these below middle-skill roles. The top 10 computer skills are shown in Exhibit 14.

# KEY OCCUPATIONS DRIVING EMPLOYMENT

There are 46 key Health occupations driving the sector’s employment, 45% of the sector’s total 101 occupations. These occupations have a combination of a significant number of jobs and annual openings that are projected to have high growth through 2027. Of the 46 occupations, 47% (22) are also considered a U.S. News & World Report 2024 Best Job.

These 46 key occupations account for 88% of the all Health jobs and are expected to drive employment with a projected 40% change from 2017 to 2027– slightly higher than the growth of all occupations in the Health sector and nearly double all other Health occupations, as shown in Exhibit 15.

**Exhibit 15: Health Employment Change, 2017-2027**



Key occupations driving employment in the Health Sector can be grouped into six broad categories:

**Administrative Support**

- *Medical and Health Services Managers (11-9111)^#*
- *Medical Records Specialists (29-2072)#*

- *Residential Advisors (39-9041)*
- *Medical Secretaries and Administrative Assistants (43-6013)*

- *Dietitians and Nutritionists (29-1031)^#*
- *Optometrists (29-1041)^#*

- *Opticians, Dispensing (29-2081)#*
- *Health Technologists and Technicians, All Other (29-2099)*

**Allied Health**

- *Occupational Therapists (29-1122)^#*
- *Physical Therapists (29-1123)^#*
- *Respiratory Therapists (29-1126)^#*
- *Speech-Language Pathologists (29-1127)^#*
- *Diagnostic Medical Sonographers (29-2032)#*
- *Radiologic Technologists and Technicians (29-2034)*
- *Emergency Medical Technicians (29-2042)*
- *Surgical Technologists (29-2055)*

- *Physical Therapist Assistants (31-2021)#*
- *Physical Therapist Aides (31-2022)*
- *Massage Therapists (31-9011)#*
- *Medical Assistants (31-9092)*
- *Medical Equipment Preparers (31-9093)*
- *Phlebotomists (31-9097)*
- *Healthcare Support Workers, All Other (31-9099)*
- *Medical Appliance Technicians (51-9082)*

<b>Mental, Behavioral, and Community Health</b>	<ul style="list-style-type: none"> <li>• <i>Clinical and Counseling Psychologists (19-3033)<sup>^</sup></i></li> <li>• <i>Psychologists, All Other (19-3039)<sup>^#</sup></i></li> <li>• <i>Rehabilitation Counselors (21-1015)<sup>^</sup></i></li> <li>• <i>Substance Abuse, Behavioral Disorder, and Mental Health Counselors (21-1018)<sup>^#</sup></i></li> <li>• <i>Healthcare Social Workers (21-1022)<sup>^</sup></i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Mental Health and Substance Abuse Social Workers (21-1023)<sup>^</sup></i></li> <li>• <i>Social Workers, All Other (21-1029)<sup>^#</sup></i></li> <li>• <i>Social and Human Service Assistants (21-1093)</i></li> <li>• <i>Community Health Workers (21-1094)<sup>#</sup></i></li> <li>• <i>Psychiatric Technicians (29-2053)</i></li> </ul>
<b>Nursing and Nursing Support</b>	<ul style="list-style-type: none"> <li>• <i>Registered Nurses (29-1141)</i></li> <li>• <i>Licensed Practical and Licensed Vocational Nurses (29-2061)</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Home Health and Personal Care Aides (31-1128)</i></li> <li>• <i>Nursing Assistants (31-1131)</i></li> </ul>
<b>Oral Health</b>	<ul style="list-style-type: none"> <li>• <i>Dentists, General (29-1021)<sup>#</sup></i></li> <li>• <i>Dental Hygienists (29-1292)<sup>#</sup></i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Dental Assistants (31-9091)</i></li> <li>• <i>Dental Laboratory Technicians (51-9081)</i></li> </ul>
<b>Primary Care and Research</b>	<ul style="list-style-type: none"> <li>• <i>Medical Scientists, Except Epidemiologists (19-1042)<sup>^</sup></i></li> <li>• <i>Physician Assistants (29-1071)<sup>^#</sup></i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Nurse Practitioners (29-1171)<sup>^#</sup></i></li> <li>• <i>Physicians, All Other (29-1229)<sup>^</sup></i></li> </ul>

These six key occupation groups accounted for 86% of the Health sector’s online job postings over the past 12 months, as shown in Exhibit 16. The Nursing and Nursing Support group alone accounted for 39% of Health online job postings.

**Exhibit 16: Number of Job Postings by Key Health Occupation Group**

<b>Key Occupation Group</b>	<b>Number of Postings</b>	<b>% of Total Health Postings</b>
Nursing and Nursing Support	26,359	39%
Allied Health	14,898	22%
Administrative Support	6,249	9%
Counseling, Mental and Behavioral Health, and Community Health	3,945	6%
Oral Health	3,323	5%
Primary Care and Research	3,045	5%
<b>Total</b>	<b>57,819</b>	<b>86%</b>



The skills requested by employers in online job postings for these occupations vary. When considering the top skills for each group, there is very little overlap. Nursing is the most frequently requested top skill, which is consistent with job postings across the entire Health sector. Nursing appears in four groups: Administrative Support, Mental, Behavioral, and Community Health, Nursing and Nursing Support, and Primary Care and Research. There are several unique top requested skills for each group. These skills are specific to the type of work required by workers in each group of occupations, demonstrating the degree of specialization required for various fields within the Health sector, as shown in Exhibit 17.

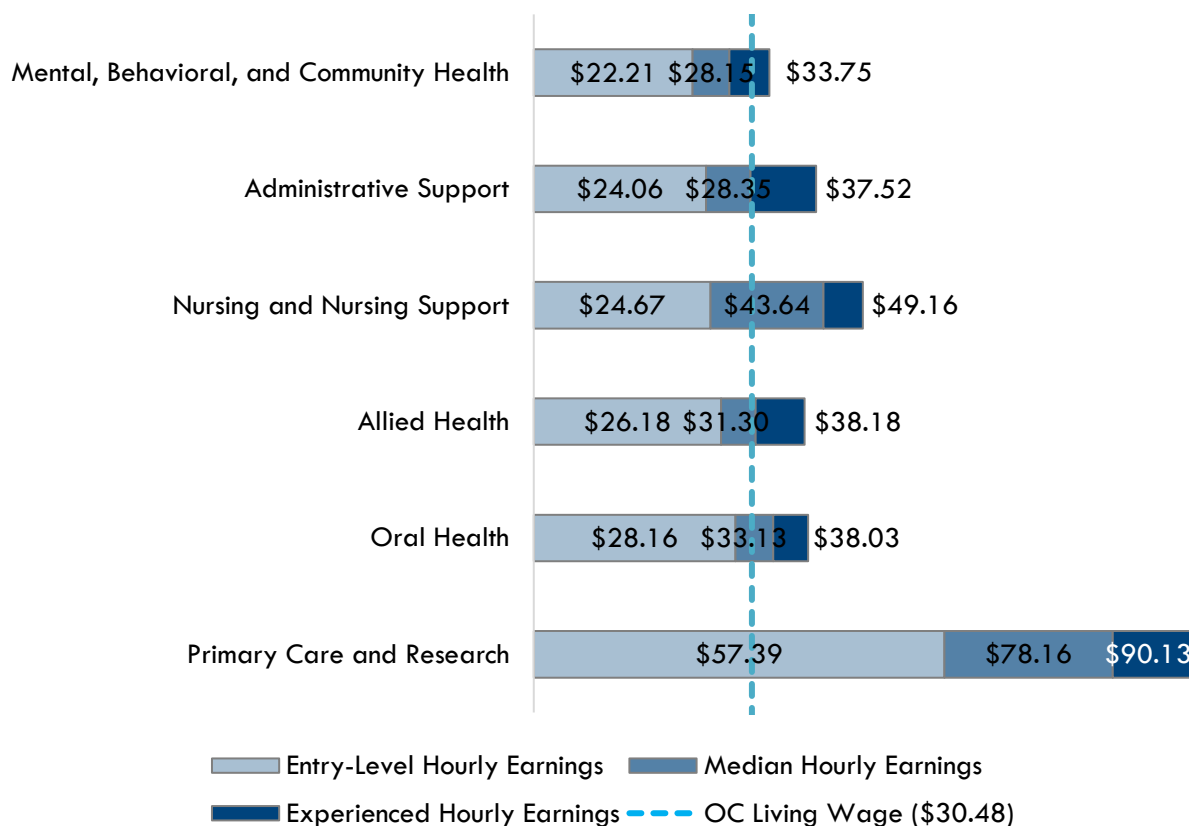
- Skills for the **Administrative Support** group highlight the need for business-related skills.
- **Allied Health** skills demonstrate the wide range of specializations in this group.
- **Mental, Behavioral, and Community Health** skills underscore the spectrum of conditions affecting mental health.
- **Nursing and Nursing Support** skills represent the different settings in which these workers operate.
- **Oral Health** skills focus on general dental and hygiene procedures.
- **Primary Care and Research** skills are related to general patient primary care and specialized laboratory and medical science.

**Exhibit 17: Health Key Occupations Skills Analysis**



While these in-demand, high growth occupations are essential to public health as well as individuals' physical and mental well-being, wages, weighted by 2022 jobs, differ significantly across each group. Mental, Behavioral, and Community Health occupations have the lowest entry-level wages (\$22.21) and Primary Care and Research have the highest (\$57.39), as shown in Exhibit 18.

**Exhibit 18: Wages by Key Health Occupation Group, Weighted by 2022 Jobs**



Wages also vary significantly within each group. For example, the Nursing and Nursing Support group includes *Home Health and Personal Care Aides (31-1128)* – which has the lowest entry-level wages (\$14.05) – as well as *Registered Nurses (29-1141)*<sup>#</sup>, which has the fifth highest wages (\$48.32) of all 46 key Health sector occupations driving employment.

Similarly, the Allied Health group includes *Massage Therapists (31-9011)*<sup>#</sup>, which has the second lowest entry-level wages (\$14.91) and *Occupational Therapists (29-1122)*<sup>#</sup>, which has the sixth-highest wages (\$46.37) of all 46 Health occupations driving employment.

The following sections highlight trends, specific occupations, and examine emerging topics and areas for each of the six groups of key occupations driving employment in the Health sector.

### Administrative Support

The Administrative Support group of occupations do not conduct medical procedures, but directly interface with patients and other staff to manage hospitals, electronic health records, and other patient information. The four occupations in this group are: *Medical and Health Services Managers (11-9111)*<sup>^#</sup>, *Residential Advisors (39-9041)*, *Medical Records Specialists (29-2072)*<sup>#</sup>, and *Medical Secretaries and Administrative Assistants (43-6013)*.

## Health Information Systems and Electronic Medical Records

In 2009, the American Recovery and Reinvestment Act (ARRA) established financial incentives for physicians and hospitals to promote the adoption of Certified Electronic Health Record Technology (CEHRT).<sup>9</sup> As of 2021, 96% of non-federal acute care hospitals and 78% of office-based physicians have adopted certified Electronic Health Records.<sup>10</sup> However, a 2023 survey from the American Health Information Management Association found that:

- 66% of health information professionals reported experiencing staffing shortages over the past two years for roles related to data quality and consumer health information;
- 83% of respondents said there was an increase or persistence in unfilled health information positions in the last year; and
- 75% of respondents said that upskilling the health information workforce is essential, particularly when considering the adoption of artificial intelligence and machine learning tools.<sup>11</sup>

These factors will continue to drive demand for health information, electronic health record, administrative support, and health management roles.

## Allied Health

The Allied Health group has the most occupations (22) of all six groups. The first attempt to define Allied Health was conducted in the 1970s, when the National Commission on Allied Health Education sought to create a concise definition, which resulted in Allied Health being broadly defined as “all health personnel working toward the common goal of providing the best possible service in patient care and health promotion.”<sup>12</sup>

In 1987, the American Medical Association’s Committee on Allied Health Education and Accreditation defined allied health positions as “a large cluster of health care related professions and personnel whose functions include assisting, facilitating, or complementing the work of physicians and other specialists in the health care system, and who choose to be identified as allied health personnel.”<sup>13</sup>

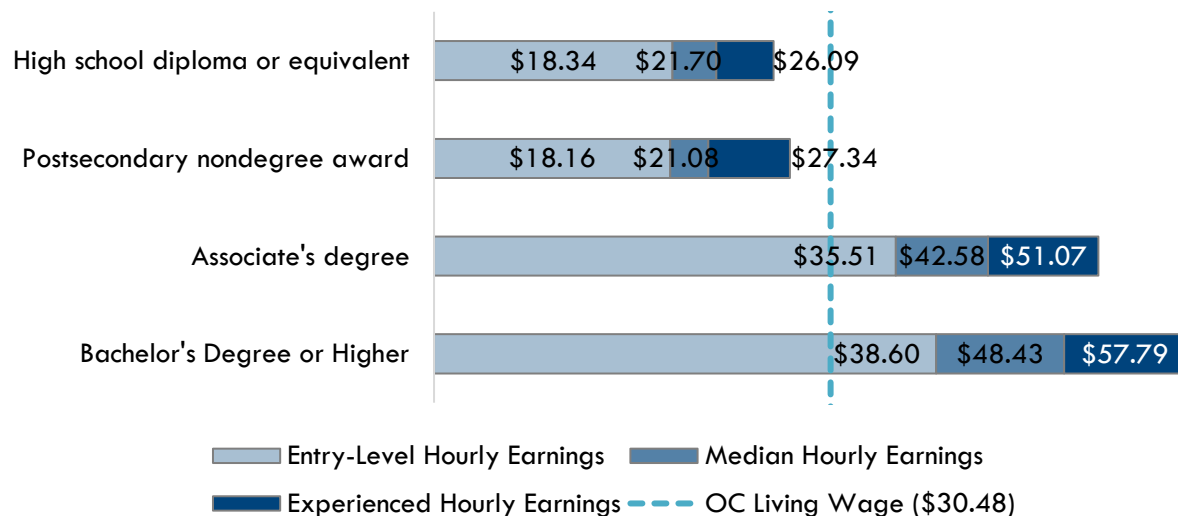
Today, Allied Health jobs are generally considered those within health that are not related to medicine or nursing.<sup>14</sup> The occupations in this group are:

- *Dietitians and Nutritionists (29-1031)^#*
- *Optometrists (29-1041)^#*
- *Occupational Therapists (29-1122)^#*
- *Physical Therapists (29-1123)^#*
- *Respiratory Therapists (29-1126)^#*
- *Speech-Language Pathologists (29-1127)^#*
- *Diagnostic Medical Sonographers (29-2032)^#*
- *Radiologic Technologists and Technicians (29-2034)*
- *Emergency Medical Technicians (29-2042)*
- *Surgical Technologists (29-2055)*
- *Opticians, Dispensing (29-2081)^#*
- *Health Technologists and Technicians, All Other (29-2099)*
- *Physical Therapist Assistants (31-2021)^#*
- *Physical Therapist Aides (31-2022)*
- *Massage Therapists (31-9011)^#*
- *Medical Assistants (31-9092)*
- *Medical Equipment Preparers (31-9093)*
- *Phlebotomists (31-9097)*
- *Healthcare Support Workers, All Other (31-9099)*
- *Medical Appliance Technicians (51-9082)*

## Low Wages for Allied Health Occupations

Wages, weighted by 2022 jobs, for these Allied Health occupations vary greatly, with *Massage Therapists (31-9011)*<sup>#</sup> having the lowest wages (\$14.91) and *Occupational Therapists (29-1122)*<sup>^</sup> having the highest (\$46.37). Notably, wages are correlated with typical education requirements. Occupations that typically require a high school diploma or postsecondary nondegree award (certificate) have significantly lower wages compared with those that typically require an associate degree or higher, as shown in Exhibit 19.

**Exhibit 19: Allied Health Wages by Typical Entry-Level Education, Weighted by 2022 Jobs**



The low wages for occupations that require less education are directly related to the low reimbursement rates from public and private insurance companies. A 2022 analysis from the Ambulance Association of Orange County showed that “Orange County’s regulated 9-1-1 rates have been set well below other local and state-wide ambulance charges. This has provided an artificial subsidy for commercial insurance carriers and contributed to the lower wages paid to Orange County EMTs by both private ambulance companies and public fire agencies.”<sup>15</sup>

Another reason for low wages could be the industry in which these workers are employed. National data from the Bureau of Labor Statistics shows that annual median wages for *Massage Therapists (31-9011)*<sup>#</sup> employed in the accommodation industry (like a hotel spa) are nearly \$27,000 lower than those employed in the offices of chiropractors industry.<sup>16</sup> Similarly, *Phlebotomists (31-9097)* employed in the other ambulatory healthcare services industry earn nearly \$10,000 less annually compared to those employed in outpatient care centers industries.<sup>17</sup>

Recent legislation, most notably, Senate Bill 525 (SB 525) Minimum Wages: Health Care Workers, will lead to higher wages for these workers over the next several years. Further examination of SB 525 is included in the Public Policy and Funding Opportunities section at the end of this report.

## Evolving Education Requirements for Allied Health

Notably, education requirements have been increasing for some Allied Health occupations, with more of them requiring bachelor’s and advanced degrees. For example, the American Association for Respiratory Care established that “all respiratory therapists entering practice in the year 2030 and thereafter have the minimum of a baccalaureate degree.”<sup>18</sup> To address this change, baccalaureate degree programs at nine California community colleges have been approved and the Chancellor’s Office includes Respiratory Care on its list of Programs Approved for Expedited Review, meaning Respiratory Degree baccalaureate

programs do not receive program duplication objections from CSU or UC.<sup>1920</sup> There is only one community college in Orange County (Orange Coast College) that currently offers a Respiratory Care program; Orange Coast has not yet submitted a baccalaureate degree program proposal.

There have been similar changes to education requirements (or attempts to change requirements) for other occupations such as *Occupational Therapists (29-1122)*<sup>^#</sup>, *Occupational Therapy Assistants* <sup>#</sup>, and *Physical Therapists*<sup>^#</sup>.<sup>21 22</sup>

## Mental, Behavioral, and Community Health

This group includes 10 occupations related to social work, substance abuse and mental health counseling, community health, and psychology. Notably, all but three occupations – *Social and Human Services Assistants (21-1093)*, *Community Health Workers (21-1094)*, and *Psychiatric Technicians (29-2053)* – are above middle-skill and typically require advanced education. The ten occupations in this group are:

- *Clinical and Counseling Psychologists (19-3033)*
- *Psychologists, All Other (19-3039)*
- *Rehabilitation Counselors (21-1015)*
- *Substance Abuse, Behavioral Disorder, and Mental Health Counselors (21-1018)*
- *Healthcare Social Workers (21-1022)*
- *Mental Health and Substance Abuse Social Workers (21-1023)*
- *Social Workers, All Other (21-1029)*
- *Social and Human Service Assistants (21-1093)*
- *Community Health Workers (21-1094)*
- *Psychiatric Technicians (29-2053)*

## Increased Demand for Mental Health Services

A 2021 study from the California Health Care Foundation found that there was limited access to treatment for behavioral health conditions and there were “increased levels of adverse mental health conditions, substance use, and suicidal ideation because of the COVID-19 pandemic.” Additionally, the study noted that there was an insufficient number of Mental, Behavioral, and Community Health professions to address the states growing need.<sup>23</sup>

In response, Governor Gavin Newsom announced and released the California Mental Health Movement in October 2023 to increase mental health treatment capacity statewide. This initiative aims to alleviate the state’s mental and behavioral health crisis by focusing on treatment and housing. The \$28 billion investment includes:

- \$10.9 billion for 24,800 beds and units, as well as 45,800 outpatient treatment slots
- \$5.1 billion to train and support over 65,000 health care workers over the next five years
- \$10.1 billion to increase behavioral health service access
- \$4.6 billion to support children’s mental health<sup>24</sup>

In addition to these efforts, Proposition 1 – approved by California’s voters in March 2024 – renamed the Mental Health Services Act to the Behavioral Health Services Act (BHSA) and increased the share of the BHSA tax the state receives for mental health programs. Proposition 1 also “requires the state to spend a dedicated amount of its MHSA money on increasing the number of mental health care workers and preventing mental illness and drug or alcohol addiction across communities.” These initiatives will likely lead to an increased demand for Mental, Behavioral, and Community Health workers.<sup>25</sup>

## Nursing and Nursing Support

The Nursing and Nursing Support group includes four direct patient care occupations: *Registered Nurses (29-1141)#*, *Home Health and Personal Care Aides (31-1128)*, *Licensed Practical and Licensed Vocational Nurses (29-2061)#* and *Nursing Assistants (31-1131)*.

### Evolving Education Preferences for Registered Nurses

In 2019, the American Association of Colleges of Nursing released a statement saying that it “strongly believes that registered nurses (RNs) should be, at minimum, prepared with the Bachelor of Science in Nursing or equivalent baccalaureate nursing degree.”<sup>26</sup> In a 2022 study, the US Health Resources and Services Administration (HRSA) found that for the first time, a bachelor’s degree was the most common degree for nurses seeking first-time licensure and that 45% of registered nurses entered the workforce with a bachelor’s degree.<sup>27</sup> Additionally, rankings from publications such as U.S. News & World Report include the percentage of registered nurses with a bachelor’s degree as a scoring metric.<sup>28</sup>

To address this growing preference for bachelor’s degrees, California Senate Bill 895 (SB 895) was introduced in January 2024 and “would require the office of the Chancellor of the California Community Colleges to develop a Baccalaureate Degree in Nursing Pilot Program that authorizes select community college districts to offer a Bachelor of Science in Nursing degree.”<sup>29</sup> As of the date of publication, it appears this legislation will go through. SB 895 is further discussed in the Public Policy and Funding Opportunities section at the end of this report.

### Home Health Aides and Care Worker Wages and Benefits

Orange County and California’s aging population is driving the large demand for *Home Health and Personal Care Aides (31-1128)*, which has the largest number of jobs and annual openings of all Health occupations. However, this occupation has the lowest wages of all 46 Health occupations driving employment. One reason for low wages is because pay is determined by Medicaid funding and Medicaid reimbursement rates, which are generally low when compared to actual care costs. Changes to these rates are determined by policy, which is often slow to respond.<sup>30</sup>

Historically, part-time work is a characteristic of some occupations in the Nursing and Nursing Support group. As of 2022, 54% of direct care workers (including *Home Health and Personal Care Aides [31-1128]* and *Nursing Assistants [31-1131]*) in California were employed part-time, which impacts workers ability to access employer-sponsored benefits such as health insurance. An April 2024 report from the Public Policy Institute of California (PPIC) notes that 40% of direct care workers received food assistance from CalFresh. These workers may choose to reduce their hours or continue as part-time workers to stay eligible for benefits, as increased wages could make them ineligible (otherwise known as the “benefits cliff” or the “cliff effect”).<sup>31 32</sup>

PPIC summarizes the problem by stating, “The fear of losing safety net benefits might be one reason for workers to work less than full time. Increasing wages through policy, market forces, or negotiation may generate similar concern. Overall, understanding the net impact on caregivers’ economic standing will be critical for expanding the care workforce.”<sup>33</sup>

For these reasons, attracting new *Home Health and Personal Care Aides (31-1128)* continues to be a challenge throughout the state.

## Oral Health

The Oral Health key occupational group includes four dental-related occupations: *Dentists, General (29-1021)^*, *Dental Hygienists (29-1292)#*, *Dental Assistants (31-9091)* and *Dental Laboratory Technicians (51-9081)*



## Labor Shortages for Dental Hygienists and Dental Assistants

According to the American Dental Hygienists' Association (ADHA), the COVID-19 pandemic created a “voluntary contraction of the U.S. dental hygiene workforce by about 3.75%.”<sup>34</sup> As a result of the pandemic, enrollment in dental hygiene and assisting programs declined in 2020-21 and 2021-22. Dental hygiene enrollment and graduates have rebounded, while enrollment declines for dental assisting programs appear to be consistent with a long-term downward trend, creating a shortage of qualified *Dental Assistants (31-9091)*.

Results from a national survey conducted by the American Dental Association show that dentists reported a shortage of applications for both *Dental Hygienists (29-1292)* and *Dental Assistants (31-9091)*. However, 43% of dentists reported a lack of qualified *Dental Assistants (31-9091)* but only 8% reported a lack of qualified *Dental Hygienists (29-1292)*.<sup>35</sup>

Due to these shortages, dentists are taking on higher workloads and performing additional duties typically completed by assistants and/or hygienists. Some dental offices are also expanding duties for other dental staff, which could lead to more burnout which could further exacerbate shortages.<sup>36</sup>

## Primary Care and Research

The four occupations in the Primary Care and Research group are all above middle-skill and require advanced degrees: *Medical Scientists, Except Epidemiologists (19-1042)*, *Physician Assistants (29-1071)*, *Nurse Practitioners (29-1171)*, and *Physicians, All Other (29-1229)*.

Projections for primary care physicians suggest that demand will continue to outpace supply, resulting in an ongoing workforce shortage, especially as demand for health care services grows with the ageing population.<sup>37</sup> To fill this gap, *Physician Assistants (29-1071)*<sup>^#</sup> and *Nurse Practitioners (29-1171)*<sup>^#</sup> are in high demand, as both occupations can help fill primary care supply gaps. One national estimate shows that supply for *Physician Assistants (29-1071)*<sup>^#</sup> is largely aligned with demand and retention is expected to remain high due to job satisfaction and cost-effectiveness for employers.<sup>38</sup> In California, Assembly Bill 890 (AB 890) was signed into law in 2020, paving the way for *Nurse Practitioners (29-1171)*<sup>^#</sup> to operate independently of physicians after meeting some of the most rigorous requirements in the country. These changes will help California address its primary care workforce shortage but will increase the number of training clinical hours required for independent *Nurse Practitioners (29-1171)*<sup>^#</sup>.<sup>39</sup>

## Additional Health Sector Trends

### Low Wages for Frontline Essential Health Workers

Despite their critical role, healthcare support workers such as *Home Health and Personal Care Aides (31-1128)*, *Emergency Medical Technicians (29-2042)*, *Phlebotomists (31-9097)*, *Physical Therapist Aides (31-2022)* have historically earned exceptionally low wages.

The COVID-19 Pandemic put a spot-light on the issue of low pay for millions of frontline essential health workers. The Brookings Institute noted that these workers are “essential but undervalued” and found that the “size of the low-wage health workforce exceeds the size of most other occupational groups of essential workers.”<sup>40</sup> Additionally, workers in these occupations are disproportionately people of color. As part of its brief, Brookings recommended that state and federal governments should raise the minimum wage to at least \$15 per hour and increase Medicaid funding to help raise wages because pay for several health occupations is tied to that funding.<sup>41</sup>

In California, SB 525 – which will increase the minimum wage for health workers to \$25 per hour overall the next several years – was signed into law in October 2023. The UC Berkeley Labor Center estimates that over 400,000 workers in California will see a \$6,400 increase in earnings in the first year, a 19% increase compared to wage growth without the law. SB 525 “will not only increase health care workers’

wages and reduce their reliance on public safety net programs, it will also help address worker shortages, turnover, and morale...” which could, in turn, improve patient care.<sup>42</sup>

### Aging Population Impacts on Health Workforce

California is experiencing a demographic shift, with the over-65 population projected to account for almost 20% of the state’s population in 2030. The over-65 population will also be more ethnically diverse, “portending a need for culturally sensitive and professional caregivers.”<sup>43</sup> PPIC estimates that more than one million seniors will require assistance with self-care and the demand for nursing care will increase by 2030.<sup>44</sup>

Due to these changing demographics, PPIC notes that “the biggest demand for workers will occur in allied health professions, such as physician’s assistants, medical assistants, and home health aides” and that “California policymakers can most effectively address the state’s health workforce needs through the community college system and programs that increase access and funding for postsecondary education.”<sup>45</sup> Some of the occupations that will be needed to care for this aging population have low wages and would benefit from the enacting of SB 525, as previously mentioned. Higher wages will be especially important as the Health sector needs to attract a qualified workforce to meet increased demand for services.

# HEALTH SUPPLY

Orange County’s educational institutions provide programs tailored to equip students with skills suited for different levels of occupations within the Health sector. The following visuals outline the number of awards conferred by both community colleges and non-community colleges, program observations from COCI<sup>46</sup>, as well as the regional programs and institutions that have conferred the most awards.



**2,304**

community college awards



**5,252**

non-community college awards



**7,556**

total awards conferred

## COCI Observations

- There are 123 unique Health programs, the 6th most of any sector, offered by Orange County community colleges.
- 40% of programs are for Associate (and transfer) degrees, followed closely by Certificates of Achievement (36%); 20% of programs are for noncredit awards.
- Santa Ana is the only college that offers a baccalaureate degree in this sector (Occupational Studies)
- Orange Coast offers the most Health programs (29), followed by Cypress (23), and Saddleback (18).
- The plurality of Health programs are listed under the 1306.00 Nutrition, Foods, and Culinary Arts TOP code (13%), followed by 1230.10 Registered Nursing (9%).

## Top Program Awards

### Community College:

Registered Nursing: 385  
 Medical Assisting: 279  
 Health Occupations: 239  
 Human Services: 133  
 Certified Nurse Assistant: 116

### Non-Community College:

Registered Nursing/Registered Nurse: 1,753  
 Medical/Clinical Assistant: 619  
 Licensed Practical/Vocational Nurse Training: 519  
 Public Health, Other: 490  
 Social Work: 347

## Most Awards

### Community College

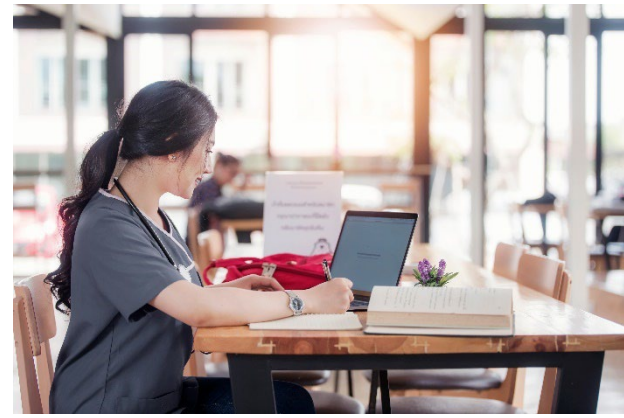
Saddleback: 686  
 Santa Ana: 516  
 Cypress: 335  
 Orange Coast: 241  
 Golden West: 170

### Non-Community College:

West Coast University-Orange County: 1,052  
 American Career College-Anaheim: 691  
 California State University, Fullerton: 538  
 University of California-Irvine: 490  
 Stanbridge University: 389

## Community College Student Outcomes

Orange County community college students account for 11% of all Health community college students in California. The visuals below show the Strong Workforce Program (SWP) metrics for the Health sector in Orange County.<sup>47</sup>



**16,589**

SWP Students  
(2021-22)



**1,511**

SWP Students Who  
Earned a Degree or  
Certificate or Attained  
Apprenticeship Journey  
Status (2021-22)



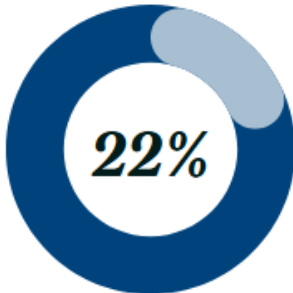
**1,033**

SWP Students Who  
Transferred to a Four-  
Year Postsecondary  
Institution (2019-20)

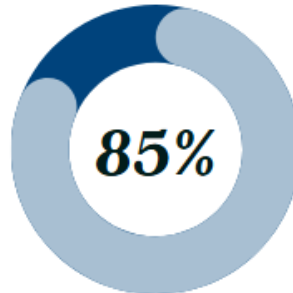


**\$37,338**

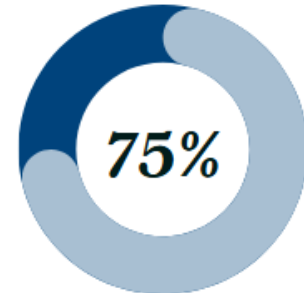
Median Annual Earnings  
for SWP Exiting Students  
(2020-21)



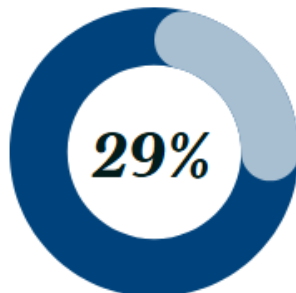
SWP Students Who Earned  
9 or More Career Education  
Units in the District in a  
single Year (2021-22)



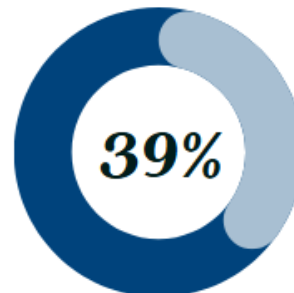
SWP Students Who  
Completed a Noncredit CTE  
or Workforce Preparation  
Course (2021-22)



SWP Students with a Job  
Closely Related to Their  
Field of Study (2019-20)



Median Change (Gain) in  
Earnings for SWP Exiting  
Students (2020-21)



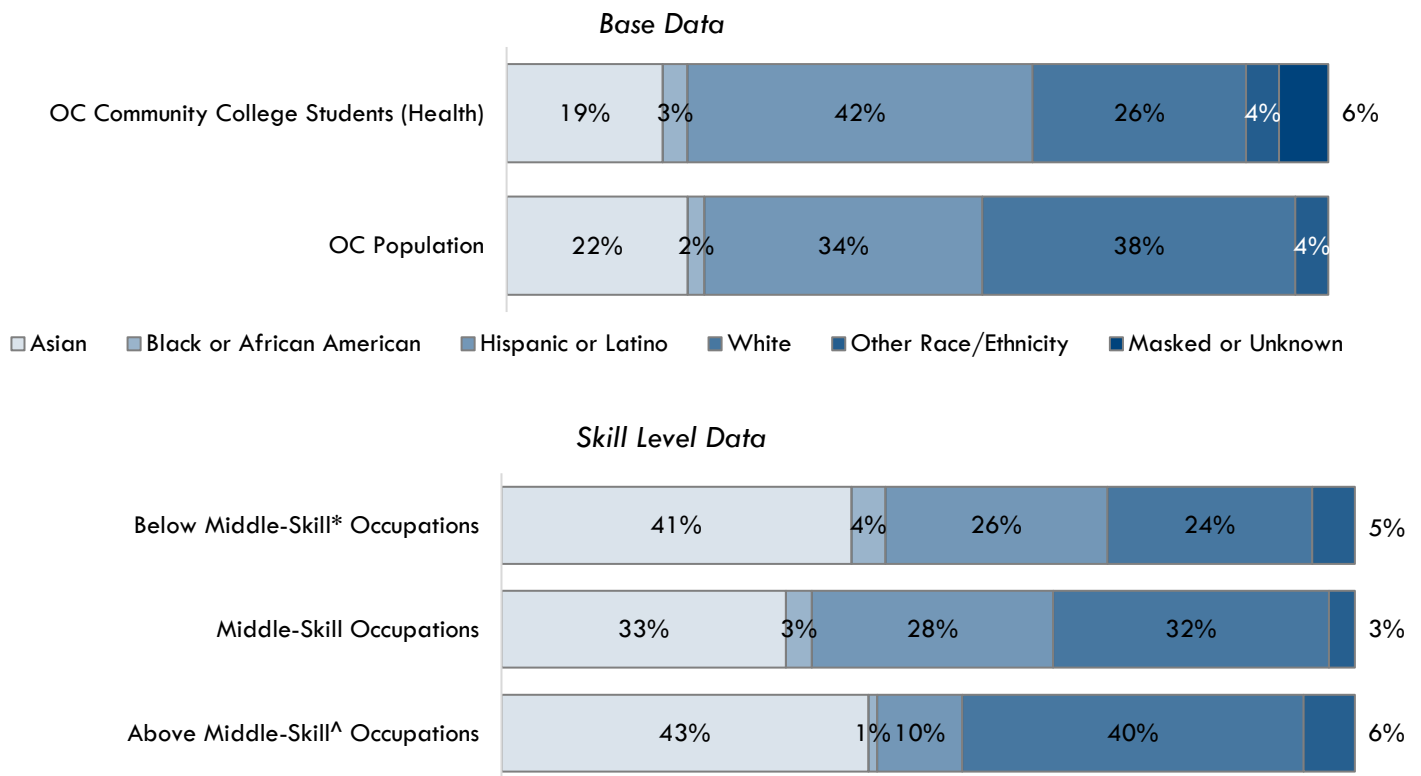
SWP Exiting Students  
Who Attained the  
Living Wage (2020-21)

# DEMOGRAPHICS

## Ethnicity

Exhibit 20 shows the ethnicity of Orange County community college students enrolled in Health programs compared to the overall Orange County population and the three skill-level occupational groups. Notably, 42% of Health students are Hispanic or Latino, which is higher than the population (34%), and significantly higher than workers in above middle-skill occupations (10%). Conversely, 43% of workers in these above middle-skill occupations are Asian, which is higher than the population (22%), and more than double community college Health students (19%).

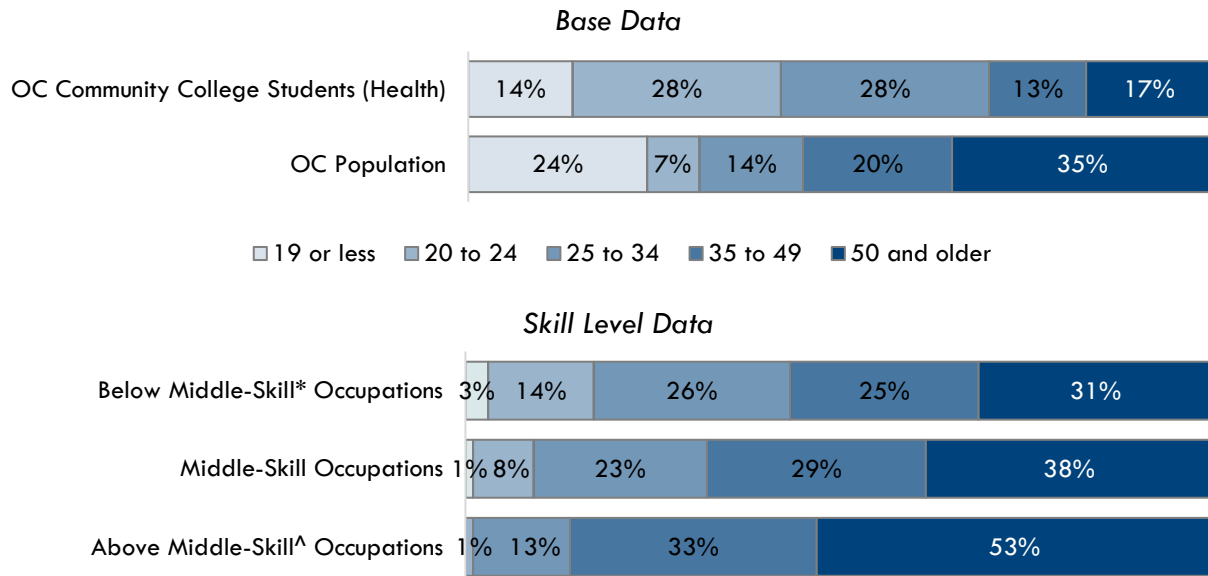
**Exhibit 20: Health Sector Demographics by Ethnicity**



## Age Group

Exhibit 21 shows the age of Orange County community college students enrolled in Health programs compared to the overall Orange County population and the three skill-level occupational groups. More than four-fifths (86%) of workers in the above middle-skill occupations are 35 and older, which is higher than the population (55%) and community college Health students (30%). Most middle-skill (38%) and below middle-skill (31%) workers are 50 and older.

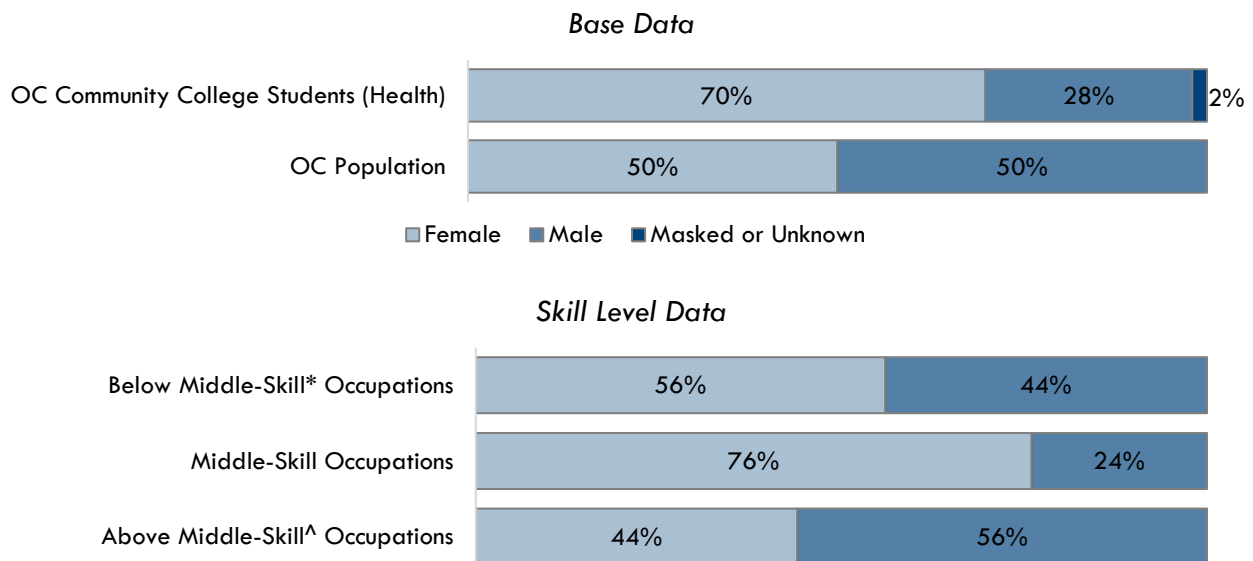
**Exhibit 21: Health Sector Demographics by Age Group**



## Sex

Exhibit 22 shows the sex of Orange County community college students enrolled in Health programs compared to the overall Orange County population and the three skill-level occupational groups. Though the population is split evenly, 70% of Health students and between 44% to 76% of workers in these occupations are women.

**Exhibit 22: Health Sector Demographics by Sex**





## PUBLIC POLICY AND FUNDING OPPORTUNITIES

Within the past few years, significant policy initiatives have been introduced and/or passed through federal and state legislatures, aiming to tackle workforce shortages that have strained the healthcare system's capacity to meet demand for care.

Currently, at the federal level, the pending Building America's Health Care Workforce Act (H.R.468), introduced in January 2023, would provide a two-year extension of "flexibilities" offered during the COVID-19 emergency period.<sup>48</sup> These flexibilities include the waiver of certain nurse aide training and certification requirements that, typically, if not met, would prohibit Medicare skilled nursing facilities (SNFs) and Medicaid nursing facilities (NFs) from hiring nurse aides for more than four months.<sup>49</sup> Another pending federal bill, the Healthcare Workforce Resilience Act (H.R.6205) – introduced in November 2023<sup>50</sup>, aims to tackle the sector's workforce shortages by allocating 40,000 already-existing unused visas to be designated for non-U.S. born nurses and physicians to secure permanent residency.<sup>51</sup>

In California, recent state legislative actions have also sought to address workforce needs within the Health sector, including measures like Senate Bill 525 (SB 525) Minimum Wages: Health Care Workers<sup>52</sup> and Assembly Bill 890 (AB 890) Nurse Practitioners: Scope of Practice: Practice Without Standardized Procedures<sup>53</sup>. SB 525, enacted in October 2023, increases health care workers minimum wage to \$25 per hour – over the next few years – specifically for low-wage earners employed at eligible healthcare facilities regardless of workers' positions within the organization.<sup>54</sup>

AB 890, signed into law in September 2020, established two new nurse practitioner (NP) categories: 103 NP and 104 NP, both of which work within the population scopes of their certification, however, unlike 104 NP who may work independently, 103 NP works in group settings with a minimum of one surgeon or physician.<sup>55</sup> To become a 103 NP, applicants must already be a certified NP, hold national certification, and have completed a transition to practice with at least three years of full-time practice, or 4,600 hours, five years from the date of applying.<sup>56</sup> 104 NP applicants must have worked in good-standing as an 103 NP for three years. Considering AB 890 became effective January 2023, certifications for 104 NP would only become available beginning 2026.<sup>57</sup>

Another state initiative aiming to alleviate health sector workforce shortages is Senate Bill 895 (SB 895) Community Colleges: Baccalaureate Degree in Nursing Pilot Program<sup>58</sup>. This bill, which was introduced in January 2024 and is currently pending with the state legislature<sup>59</sup>, aims to tackle the state's nurse shortage by creating a pilot program where a maximum of 15 community college districts would be able to offer a bachelor's of science in nursing degree so long as they already offer a nationally accredited associate degree in nursing.<sup>60</sup> As of the time of publication of this report, SB 895 is widely anticipated to be passed into law.

In addition, some federal and state financial initiatives are available within the Health sector. While not an exhaustive list, the following provides a sample of available sector-specific funding opportunities:

- Nurse Education, Practice, Quality and Retention (NEPQR) – Workforce Expansion Program (WEP): This program aims to address nursing workforce needs in rural and underserved areas by increasing the number of nurses in these spaces, with a focus in acute and long-term care facilities.<sup>61</sup>
- Technology-enabled Collaborative Learning Program (TCLP): This program seeks "to improve retention of health care providers and increase access to health care services... [and program] recipients will evaluate, develop, and, as appropriate, expand the use of technology-enabled collaborative learning and capacity building models."<sup>62</sup>

# APPENDIX A: METHODOLOGY

## Traditional Labor Market Data Methodology

The COE analyzed traditional labor market demand information, which includes job counts, projections, wages, typical education requirements, for the Health sector. Traditional labor market demand data was sourced from Lightcast (Datarun 2023.4), a labor market analytics firm that aggregates data from public statistical agencies including the Bureau of Labor Statistics, Census Bureau, and the California Employment Development Department. Living wage data was sourced from the Insight Center California Family Needs Calculator.<sup>63</sup> The traditional labor market demand data analyzed in this report includes:

- **2022 Jobs:** the number of jobs by industry and occupation in 2022.
- **2027 Jobs:** the projected number of jobs by industry and occupation in 2027. Projections are based on the assumption that past trends will continue into the future, including the assumption that the economy, during the projection period, will be at approximately full employment. Projections do not consider potential recessions or labor shocks, such as natural disasters or pandemics, and are intended to capture structural change in the economy over time.
- **Change:** the projected change in the number of jobs, expressed as an actual number and a percentage.
- **Average Annual Openings (Demand):** the projected number of annual job openings. This figure is the sum of job growth and replacement jobs. Job growth is the result of job creation while replacement jobs are the result of retirements and workers leaving the filled, creating the need to hire a replacement.
- **Hourly Wages:**
  - **Entry-level (25<sup>th</sup> percentile):** the typical entry-level wages for an occupation; 25% of workers earn less than this amount and 75% earn more.
  - **Median:** the median wages for an occupation; 50% of workers earn less than this amount and 50% earn more.
  - **Experienced (75<sup>th</sup> percentile):** the typical experienced-level wages for an occupation; 75% of workers earn less than this amount and 25% earn more.
- **Typical Entry-Level Education:** represents the typical education level needed to enter an occupation.
- **Educational Attainment:** the percentage of workers employed in an occupation by their highest level of education attained.

Demographic data for the Orange County population comes from the Census Bureau's American Community Survey (5-Year Estimates, 2018-2022). Demographic data for occupations was sourced via IPUMS USA and student demographic data was sourced from the LaunchBoard Community College Pipeline (2020-21 Academic Year).<sup>64,65</sup>

The COE also analyzed labor market supply data that is calculated using the number of awards conferred in related training programs at community college and non-community college institutions over the past three years of available data. Community college data is sourced from the California Community College Chancellor's Office Data Mart<sup>66</sup> and includes the years 2020-2023; non-community college data is sourced from the Integrated Postsecondary Education Data System and includes the years 2019-2022.<sup>67</sup>

## Job Postings Analysis Methodology

In addition to traditional labor market information, the COE analyzed real-time labor market information using online job postings data sourced from Lightcast (Datarun 2024.1). The job postings data in this report covers the last 12 months of available data (June 2023 – May 2024). This data is derived from online job postings that are parsed and classified into industry and occupational groups using natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. Online job postings do not equate to labor market demand or replace traditional labor market data. They should only be considered a supplement to traditional LMI.

## APPENDIX B: SECTOR OCCUPATIONS

SOC	Occupation	SOC	Occupation
29-2092	Hearing Aid Specialists*##	11-9111	Medical and Health Services Managers^##
31-1132	Orderlies*	19-1041	Epidemiologists^#
31-9095	Pharmacy Aides*	19-1042	Medical Scientists, Except Epidemiologists^
39-9041	Residential Advisors*	19-3033	Clinical and Counseling Psychologists^
51-9082	Medical Appliance Technicians*	19-3034	School Psychologists^#
21-1093	Social and Human Service Assistants	19-3039	Psychologists, All Other^#
21-1094	Community Health Workers#	21-1015	Rehabilitation Counselors^
29-1124	Radiation Therapists	21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors^##
29-1126	Respiratory Therapists#	21-1022	Healthcare Social Workers^
29-1141	Registered Nurses#	21-1023	Mental Health and Substance Abuse Social Workers^
29-1292	Dental Hygienists#	21-1029	Social Workers, All Other^#
29-2031	Cardiovascular Technologists and Technicians	21-1091	Health Education Specialists^#
29-2032	Diagnostic Medical Sonographers#	29-1011	Chiropractors^
29-2033	Nuclear Medicine Technologists	29-1021	Dentists, General^#
29-2034	Radiologic Technologists and Technicians	29-1022	Oral and Maxillofacial Surgeons^#
29-2035	Magnetic Resonance Imaging Technologists	29-1023	Orthodontists^#
29-2036	Medical Dosimetrists	29-1024	Prosthodontists^
29-2042	Emergency Medical Technicians	29-1029	Dentists, All Other Specialists^
29-2043	Paramedics	29-1031	Dietitians and Nutritionists^#
29-2051	Dietetic Technicians	29-1041	Optometrists^#
29-2052	Pharmacy Technicians#	29-1051	Pharmacists^#
29-2053	Psychiatric Technicians	29-1071	Physician Assistants^#
29-2055	Surgical Technologists	29-1081	Podiatrists^#
29-2057	Ophthalmic Medical Technicians#	29-1122	Occupational Therapists^#
29-2061	Licensed Practical and Licensed Vocational Nurses#	29-1123	Physical Therapists^#
29-2072	Medical Records Specialists#	29-1125	Recreational Therapists^
29-2081	Opticians, Dispensing#	29-1127	Speech-Language Pathologists^#
29-2099	Health Technologists and Technicians, All Other	29-1128	Exercise Physiologists^
29-9021	Health Information Technologists and Medical Registrars	29-1151	Nurse Anesthetists^#
29-9093	Surgical Assistants	29-1161	Nurse Midwives^#
29-9099	Healthcare Practitioners and Technical Workers, All Other	29-1171	Nurse Practitioners^#
31-1128	Home Health and Personal Care Aides	29-1181	Audiologists^#
31-1131	Nursing Assistants	29-1211	Anesthesiologists^#
31-1133	Psychiatric Aides	29-1212	Cardiologists^
31-2011	Occupational Therapy Assistants#	29-1213	Dermatologists^
31-2012	Occupational Therapy Aides	29-1214	Emergency Medicine Physicians^
31-2021	Physical Therapist Assistants#	29-1215	Family Medicine Physicians^
31-2022	Physical Therapist Aides	29-1216	General Internal Medicine Physicians^
31-9011	Massage Therapists#	29-1217	Neurologists^
31-9091	Dental Assistants	29-1218	Obstetricians and Gynecologists^#
31-9092	Medical Assistants	29-1221	Pediatricians, General^#
31-9093	Medical Equipment Preparers	29-1222	Physicians, Pathologists^
31-9094	Medical Transcriptionists	29-1223	Psychiatrists^#
31-9097	Phlebotomists	29-1224	Radiologists^
31-9099	Healthcare Support Workers, All Other	29-1229	Physicians, All Other^
43-6013	Medical Secretaries and Administrative Assistants	29-1241	Ophthalmologists, Except Pediatric^
51-9081	Dental Laboratory Technicians	29-1242	Orthopedic Surgeons, Except Pediatric^
		29-1243	Pediatric Surgeons^
		29-1249	Surgeons, All Other^
		29-1291	Acupuncturists^
		29-1299	Healthcare Diagnosing or Treating Practitioners, All Other^
		29-2091	Orthotists and Prosthetists^#
		29-9091	Athletic Trainers^
		29-9092	Genetic Counselors^#

■ Below Middle-Skill\* Occupations

■ Middle-Skill Occupations

■ Above Middle-Skill^ Occupations

## APPENDIX C: TOP CODES

TOP Code	Program Name	TOP Code	Program Name
0514.20	Medical Office Technology	1225.00	Radiologic Technology
0835.20	Fitness Trainer*	1226.00	Radiation Therapy Technician
1201.00	Health Occupations, General	1227.00	Diagnostic Medical Sonography
1202.00	Hospital and Health Care Administration	1228.00	Athletic Training and Sports Medicine
1205.00	Medical Laboratory Technology	1230.00	Nursing
1205.10	Phlebotomy	1230.10	Registered Nursing
1206.00	Physicians Assistant	1230.20	Licensed Vocational Nursing
1208.00	Medical Assisting	1230.30	Certified Nurse Assistant
1208.10	Clinical Medical Assisting	1230.80	Home Health Aide
1208.20	Administrative Medical Assisting	1239.00	Psychiatric Technician
1208.30	Health Facility Unit Coordinator	1240.00	Dental Occupations
1209.00	Hospital Central Service Technician	1240.10	Dental Assistant
1210.00	Respiratory Care-Therapy	1240.20	Dental Hygienist
1211.00	Polysomnography	1240.30	Dental Laboratory Technician
1212.00	Electro-Neurodiagnostic Technology	1250.00	Emergency Medical Services
1213.00	Cardiovascular Technician	1251.00	Paramedic
1214.00	Orthopedic Assistant	1261.00	Community Health Care Worker
1215.00	Electrocardiography	1262.00	Massage Therapy*
1217.00	Surgical Technician	1299.00	Other Health Occupations
1218.00	Occupational Therapy Technology	1306.00	Nutrition, Foods, and Culinary Arts
1219.00	Optical Technology	1306.20	Dietetic Services and Management
1220.00	Speech-Language Pathology and Audiology	1306.60	Dietetic Technology
1221.00	Pharmacy Technology	1309.00	Gerontology
1222.00	Physical Therapist Assistant	2104.00	Human Services*
1223.00	Health Information Technology	2104.40	Alcohol and Controlled Substances
1223.10	Health Information Coding	2104.50	Disability Services*
1224.00	School Health Clerk		

*Note: Four (4) programs above are denoted with an asterisk (\*). These four TOP codes were added to the Health Sector Profile because they crosswalk to Health Sector occupations. In the last Community College Chancellor's Office [TOP code inventory](#), Fitness Trainer (TOP 0835.20), Human Services (TOP 2104.00), and Disability Services (TOP 2104.50) are classified as "Unassigned", while Massage Therapy (TOP 1262.00) is classified as Business and Entrepreneurship, which is where these occupations can be found in the Orange County Labor Market Overview published November 2023.*

## APPENDIX D: END NOTES

- <sup>1</sup> "OC Sector Profile Supplemental Appendices: Health," Orange County Center of Excellence for Labor Market Research, last modified July 24, 2024, <https://coeccc.net/orange-county/2024/07/oc-sector-profile-supplemental-appendices-health/>.
- <sup>2</sup> "Orange County Labor Market Overview," Orange County Center of Excellence for Labor Market Research, last modified November 16, 2023, <https://coeccc.net/orange-county/2023/11/orange-county-labor-market-overview/>.
- <sup>3</sup> "100 Best Jobs of 2024," U.S. News & World Report, accessed May 7, 2024, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.
- <sup>4</sup> "2023 Health Care Workforce Scan Executive Summary," American Hospital Association, accessed June 7, 2024, [https://a-us.storyblok.com/f/1014904/beaa6285a1/2023\\_aha\\_health\\_care\\_workforce\\_scan\\_executive\\_summary.pdf](https://a-us.storyblok.com/f/1014904/beaa6285a1/2023_aha_health_care_workforce_scan_executive_summary.pdf)
- <sup>5</sup> "2024 Healthcare Workforce Trends You Can't Afford to Ignore," Becker's Hospital Review, accessed June 7, 2024, <https://www.beckershospitalreview.com/2024-healthcare-workforce-trends-you-can-t-afford-to-ignore>
- <sup>6</sup> Orange County Health Care Agency. *Orange County Health Profile*. 2023.
- <sup>7</sup> California Employment Development Department. *Occupational Projections for Orange County*. 2023.
- <sup>8</sup> MIT Living Wage for Orange County, CA, accessed February 14, 2024, <https://livingwage.mit.edu/counties/06059>.
- <sup>9</sup> "2016 Medicare Electronic Health Record (EHR) Incentive Program Payment Adjustment Fact Sheet for Critical Access Hospitals," Centers for Medicare & Medicaid Services | CMS, accessed July 10, 2024, <https://www.cms.gov/newsroom/fact-sheets/2016-medicare-electronic-health-record-ehr-incentive-program-payment-adjustment-fact-sheet-critical>.
- <sup>10</sup> "National Trends in Hospital and Physician Adoption of Electronic Health Records," Office of the National Coordinator for Health Information Technology (ONC), accessed July 10, 2024, <https://www.healthit.gov/data/quickstats/national-trends-hospital-and-physician-adoption-electronic-health-records>.
- <sup>11</sup> "Health Information Workforce Shortages Persist As AI Shows Promise: AHIMA Survey Reveals," AHIMA, accessed July 10, 2024, <https://www.ahima.org/news-publications/press-room-press-releases/2023-press-releases/health-information-workforce-shortages-persist-as-ai-shows-promise-ahima-survey-reveals/>.
- <sup>12</sup> Institute of Medicine (US) Committee to Study the Role of Allied Health Personnel, "What Does "Allied Health" Mean?," National Center for Biotechnology Information, accessed July 10, 2024, <https://www.ncbi.nlm.nih.gov/books/NBK218850/>.
- <sup>13</sup> *Ibid.*
- <sup>14</sup> Ingrid Monteiro, "What is Allied Health? (With 5 Types of Professionals)," Indeed Career Guide, last modified August 8, 2023, <https://www.indeed.com/career-advice/finding-a-job/what-is-allied-health>.
- <sup>15</sup> Ambulance Association of Orange County, "Introduction to EMS Reimbursement," OC Health Care Agency, accessed July 10, 2024, <https://www.ochealthinfo.com/sites/hca/files/2022-04/Attachment%20%236%20AAOC%20Rate%20Increase%20Presentation%202022.pdf>.
- <sup>16</sup> "Occupational Outlook Handbook: Massage Therapists," Bureau of Labor Statistics, last modified April 17, 2024, <https://www.bls.gov/ooh/healthcare/massage-therapists.htm>.
- <sup>17</sup> Occupational Outlook Handbook: Phlebotomists," Bureau of Labor Statistics, last modified April 17, 2024, <https://www.bls.gov/ooh/healthcare/phlebotomists.htm>.
- <sup>18</sup> "Issue Paper: Entry to Respiratory Therapy Practice 2030," American Association for Respiratory Care - AARC, accessed July 10, 2024, <https://www.aarc.org/wp-content/uploads/2019/09/issue-paper-entry-to-respiratory-therapy-practice-2030.pdf>.
- <sup>19</sup> "Baccalaureate Degree Program," California Community Colleges, accessed July 10, 2024, <https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Educational-Services-and->

---

[Support/What-we-do/Curriculum-and-Instruction-Unit/Curriculum/Baccalaureate-Degree-Program.](#)

- <sup>20</sup> "Baccalaureate Degree Program Application Certification of Statutory Compliance and Readiness," California Community Colleges, last modified June 26, 2024, <https://www.cccco.edu/-/media/CCCCO-Website/docs/bdp/2024-bdp-application-a11y.pdf?la=en&hash=736E2C3E83830846801D0ECFC81AA87C09551919>.
- <sup>21</sup> "Accreditor Mulls Increasing Education Requirements for Occupational Therapists," Inside Higher Ed | Higher Education News, Events and Jobs, last modified January 2, 2018, <https://www.insidehighered.com/news/2018/01/02/accreditor-mulls-increasing-education-requirements-occupational-therapists>.
- <sup>22</sup> "Meeting California's Demand for Allied Health Workers," California Competes, last modified February 2021, <https://californiacompetes.org/wp-content/uploads/2022/12/CA-Competes-Allied-Health-Final.pdf>.
- <sup>23</sup> "Medi-Cal Behavioral Health Services: Demand Exceeds Supply Despite Expansions," California Health Care Foundation, last modified September 13, 2021, <https://www.chcf.org/publication/medi-cal-behavioral-health-services-demand-exceeds-supply-despite-expansions/>.
- <sup>24</sup> "California for All: California's Mental Health Movement," Governor of California, last modified October 2023, <https://www.gov.ca.gov/wp-content/uploads/2023/10/Mental-Health-Glossy-Plan-10.11.23-530-PM.pdf>.
- <sup>25</sup> "Proposition 1 [Ballot]," Legislative Analyst's Office, last modified March 5, 2024, <https://lao.ca.gov/BallotAnalysis/Proposition?number=1&year=2024>.
- <sup>26</sup> "Academic Progression in Nursing: Moving Together Toward a Highly Educated Nursing Workforce," American Association of Colleges of Nursing, accessed July 10, 2024, <https://www.aacnursing.org/Portals/42/News/Position-Statements/Academic-Progression.pdf>.
- <sup>27</sup> "Nursing Education and Training: Data from the 2022 NSSRN," Bureau of Health Workforce National Center for Health Workforce Analysis, last modified March 2024, <https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/nssrn-education-training-report.pdf>.
- <sup>28</sup> "Methodology: U.S. News & World Report Best Children's Hospitals 2023-24," RTI International, last modified June 15, 2023, [https://health.usnews.com/media/best-hospitals/BCH\\_Methodology\\_2023-2024.pdf](https://health.usnews.com/media/best-hospitals/BCH_Methodology_2023-2024.pdf).
- <sup>29</sup> "California Senate Bill 895," LegiScan, accessed July 5, 2024, <https://legiscan.com/CA/bill/SB895/2023>.
- <sup>30</sup> "Direct Care Worker Pay and Benefits Are Low Despite High Demand for Services," Center for American Progress, last modified December 8, 2023, <https://www.americanprogress.org/article/direct-care-worker-pay-and-benefits-are-low-despite-high-demand-for-services/>.
- <sup>31</sup> "California's Care Workforce," Public Policy Institute of California, last modified May 22, 2024, <https://www.ppic.org/publication/californias-care-workforce/>.
- <sup>32</sup> "The Home Care Workforce Crisis: An Industry Report and Call to Action," Home Care Association of America Care Association of America, accessed July 10, 2024, <https://www.hcaoa.org/uploads/1/3/3/0/133041104/workforce-report-and-call-to-action-final-03272023.pdf>.
- <sup>33</sup> *Ibid.*
- <sup>34</sup> "Employment Patterns of Dental Hygienists in the United States During the COVID-19 Pandemic: An Update," Journal of Dental Hygiene, last modified February 1, 2022, <https://jdh.adha.org/content/96/1/27>.
- <sup>35</sup> "Dental Workforce Shortages: Data to Navigate Today's Labor Market," American Dental Association, accessed July 10, 2024, <https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/dental-workforce-shortages-labor-market>.
- <sup>36</sup> "Dental Assisting Trends We Saw in 2023," Dental Assisting National Board, last modified December 11, 2023, <https://www.danb.org/news-blog/detail/blog/dental-assisting-trends-we-saw-in-2023>.



- 
- <sup>37</sup> "2017 Update: The Complexities of Physician Supply and Demand: Projections from 2015 to 2030," IHS Markit, accessed July 10, 2024, <https://www.luminafoundation.org/wp-content/uploads/2017/08/aamc-projections-update-2017.pdf>.
- <sup>38</sup> Roderick S. Hooker et al., "Forecasting the Physician Assistant/associate Workforce: 2020–2035," National Center for Biotechnology Information, accessed July 10, 2024, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8966786/>.
- <sup>39</sup> Ana B. Ibarra, "Nurse Practitioner Requirements Are Changing, Allowing Them to Practice Without Physician Supervision," CalMatters, last modified November 15, 2022, <https://calmatters.org/health/2022/11/nurse-practitioner-requirements/>.
- <sup>40</sup> Molly Kinder, "Essential but Undervalued: Millions of Health Care Workers Aren't Getting the Pay or Respect They Deserve in the COVID-19 Pandemic," Brookings, last modified March 9, 2022, <https://www.brookings.edu/articles/essential-but-undervalued-millions-of-health-care-workers-arent-getting-the-pay-or-respect-they-deserve-in-the-covid-19-pandemic/>.
- <sup>41</sup> *Ibid.*
- <sup>42</sup> Laurel Lucia, Enrique Lopezlira, and Ken Jacobs, "California Health Care Minimum Wage: New Estimates for Impacts on Workers, Patients, and the State Budget," UC Berkeley Labor Center, last modified April 3, 2024, <https://laborcenter.berkeley.edu/ca-health-care-minimum-wage-new-estimates-feb2024/>.
- <sup>43</sup> Elizabeth Aguilera, "Coming Wave of Seniors Will Strain a Caregiver Network Already Stretched Thin," CalMatters, last modified June 23, 2020, <https://calmatters.org/health/2019/05/wave-of-seniors-will-strain-california-caregiver-network-even-more/>.
- <sup>44</sup> Hans Johnson and Laurel Beck, "Planning for California's Growing Senior Population," Public Policy Institute of California, last modified April 22, 2024, <https://www.ppic.org/publication/planning-for-californias-growing-senior-population/>.
- <sup>45</sup> *Ibid.*
- <sup>46</sup> California Community College Chancellor's Office, n.d. <https://coci2.ccctechcenter.org/programs>.
- <sup>47</sup> All SWP metrics are for 2021-2022 unless otherwise noted.
- <sup>48</sup> Congressional Research Service, "Summary: H.R.468 – 118<sup>th</sup> Congress (2023-2024)," Congress.gov, accessed July 5, 2024, <https://www.congress.gov/bill/118th-congress/house-bill/468>.
- <sup>49</sup> *Ibid.*
- <sup>50</sup> "H.R.6205," Congress.gov, accessed July 5, 2024, <https://www.congress.gov/bill/118th-congress/house-bill/6205/all-actions?s=1&r=16>.
- <sup>51</sup> "Schneider Introduces Healthcare Workforce Resilience Act to Alleviate Healthcare Sector Workforce Challenges," Congressman Brad Schneider: Representing the 10<sup>th</sup> District of Illinois, November 2, 2023, <https://schneider.house.gov/media/press-releases/schneider-introduces-healthcare-workforce-resilience-act-alleviate-healthcare>.
- <sup>52</sup> "SB-525 Minimum wages: health care workers," California Legislative Information, November 16, 2023, [https://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=202320240SB525](https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB525).
- <sup>53</sup> "California Assembly Bill 890 (Prior Session Legislation)," LegiScan, accessed July 15, 2023, <https://legiscan.com/CA/text/AB890/id/2210587>.
- <sup>54</sup> Laurel Lucia, Enrique Lopezlira, and Ken Jacobs, "California health care minimum wage: New estimates for impacts on workers, patients, and the state budget," UC Berkeley Labor Center, February 20, 2024, <https://laborcenter.berkeley.edu/ca-health-care-minimum-wage-new-estimates-feb2024/>.
- <sup>55</sup> "Assembly Bill 890 (Wood, Chapter 265, Statutes of 2020)," California Board of Registered Nursing, accessed July 15, 2024, <https://www.rn.ca.gov/practice/ab890.shtml>.
- <sup>56</sup> *Ibid.*
- <sup>57</sup> "California Assembly Bill (AB)-890 and Two New Nurse Practitioner Categories," Cohen Healthcare Law Group, accessed July 15, 2024, <https://cohenhealthcarelaw.com/2023/03/california-assembly-bill-ab-890-and-two-new-nurse-practitioner-categories/>.
- <sup>58</sup> "California Senate Bill 895," LegiScan, accessed July 5, 2024, <https://legiscan.com/CA/bill/SB895/2023>.
- <sup>59</sup> "California Senate Bill 895," LegiScan, accessed July 5, 2024, <https://legiscan.com/CA/bill/SB895/2023>.

- 
- <sup>60</sup> "Senator Richard D. Roth Unveils Transformative Legislation to Address California's Nursing Shortage Through California Community College," *Community College League of California*, February 7, 2024, <https://ccleague.org/about-us/press-releases-statements/transformative-legislation-address-california%E2%80%99s-nursing-shortage>.
- <sup>61</sup> "Nurse Education, Practice, Quality and Retention (NEPQR) – Workforce Expansion Program (WEP)," *Health Resources & Services Administration*, accessed July 5, 2024, <https://www.hrsa.gov/grants/find-funding/HRSA-24-098>.
- <sup>62</sup> "Technology-enabled Collaborative Learning Program," *Health Resources & Services Administration*, accessed July 5, 2024, <https://www.hrsa.gov/grants/find-funding/HRSA-24-121>.
- <sup>63</sup> "Family Needs Calculator," Insight Center, last modified May 20, 2021, <https://insightccd.org/family-needs-calculator/>.
- <sup>64</sup> "Cal-PASS Plus - Community-College-Pipeline," Cal-PASS Plus, n.d.<https://www.calpassplus.org/LaunchBoard/Community-College-Pipeline.aspx>.
- <sup>65</sup> Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rodgers, and Megan Schouweiler. IPUMS USA: Version 15.0 [American Community Survey 2017-2021 5-Year Sample]. Minneapolis, MN: IPUMS, 2024. <https://doi.org/10.18128/D010.V15.0>
- <sup>66</sup> California Community Colleges Chancellor's Office - Data Mart, n.d. <https://datamart.cccco.edu/>.
- <sup>67</sup> "The Integrated Postsecondary Education Data System," National Center for Education Statistics (NCES), n.d. <https://nces.ed.gov/ipeds/>.



### Important Disclaimers

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

The OC COE would like to acknowledge and thank Juan Madrigal for his work and contributions to this report.

Prepared by the Orange County Center of Excellence for Labor Market Research:

Jesse Crete, Ed. D, Director

Jacob Poore, Assistant Director

Diego Mosquera, Research Analyst



FOR LABOR MARKET RESEARCH

**ORANGE COUNTY**

**ORANGE COUNTY  
REGIONAL CONSORTIUM**

**WORKFORCE  
DEVELOPMENT ALLIANCE**



**California  
Community  
Colleges**