

HEALTH



Orange County Sector Analysis Project

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

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Orange County Community Colleges

HEALTH

Demand and Supply Analysis: Orange County 2021

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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 college/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.

2021 ORANGE COUNTY SECTOR ANALYSIS PROJECT DATA REFRESH

The Orange County Sector Analysis Project was originally completed in 2019. In addition to the normal annual refresh of labor market information, the COVID-19 pandemic and subsequent economic recession occurred after the first publication. Furthermore, since 2019, the Bureau of Labor Statistics (BLS) updated the Standard Occupational Classification (SOC) system, which resulted in the removal, modification, or addition of occupations and their definitions. The Integrated Postsecondary Data Education System (IPEDS) also updated the Classification of Instructional Programs (CIP) classification system, which removed, modified, or added new CIP codes. The changes in these federal data systems required the Centers of Excellence to create an updated TOP-CIP-SOC crosswalk and determine skill classifications for new SOC codes. Moreover, the living wage for a single adult in Orange County increased from \$17.39 per hour to \$20.63 per hour.

To address these changes, and to provide the most recent labor market data available, the Orange County Center of Excellence for Labor Market Research (COE) pulled and analyzed current labor market information in November 2021 and applied the same methodology that was used in 2019 to update the data included in this brief. Due to these updates, two occupations from the 2019 report are no longer included in this updated brief and five occupations from the 2019 brief are included in this update but have new SOC codes. There are four new occupations in this brief that were not included in the 2019 version. The occupations that were removed, changed, or added, as well as detailed explanations of these differences for each occupation, are summarized in Appendix B

INTRODUCTION

This sector brief is a product of the Orange County Sector Analysis Project. It provides information about the Health sector in Orange County, one of Orange County's six priority sectors; it compares labor market demand with educational program supply for middle-skill jobs and provides qualitative information from experts in the field. Orange County community colleges could use the information in this report for strategic planning and discussions about program development, career pathways work, sector strategies, noncredit-to-credit pipelines, apprenticeship programs, and work-based learning opportunities.

All of the Orange County Sector Analysis Project briefs began with quantitative labor market demand and supply analysis; however, they also include qualitative information derived from the project's focus group discussions. Between July and August 2019, the COE hosted a total of 12 sector-specific focus groups with regional stakeholders, including faculty and deans, as well as regional and state directors for employer engagement. One of these focus groups was specific to the Health sector. The objectives of the focus groups were to identify labor market supply gaps (supply gaps) in middle-skill jobs; understand where programs exist or do not exist to fill in the supply gaps; and discuss how Orange County's community colleges could close the supply gaps. Focus group participants reviewed the demand and supply analysis prior to meeting and provided intelligence regarding how they are working to close supply gaps as well as the challenges they encounter in their programs; this valuable information could not be captured via traditional labor market research methods. The COE recorded then analyzed these discussions which resulted in the "Focus Group Insights" sections throughout this brief, supplementing traditional, quantitative labor market data with important, qualitative information.

Middle-Skill Jobs and Living Wage Introduction

In this brief, middle-skill jobs include: all occupations that require an educational requirement of some college, associate degree or apprenticeship; all occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or all occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training.

In this brief, top middle-skill jobs are defined as jobs that have both the most labor market demand (annual job openings) and entry-level wages at or above the California Family Needs Calculator¹ (commonly known as a "living wage"). The living wage is the hourly wage that a single adult needs to earn in order to meet basic needs in Orange County, and is currently

¹ <https://insightccd.org/family-needs-calculator/>

\$20.63 per hour. The living wage is defined by the California Family Needs Calculator, which calculates the income necessary to cover costs including housing, food, transportation, health care, and other basic necessities.

Entry-level wage is defined as the 25th percentile hourly wage, which means that 25% of all workers in that occupation earn equal to or below this amount. Percentile wages represent the distribution of wages for each occupation. Generally, workers with minimal education and experience can expect to earn wages near the 10th percentile. With the additional education and training students receive in community college programs, they are more likely to earn wages at the 25th percentile, rather than the 10th percentile. Generally, with even more education and experience, students could expect to progress and earn the median wage, which is defined as the 50th percentile hourly wage.

Demand Introduction

For the purpose of this report, labor market demand is determined by the number of annual job openings employers expect to fill due to job growth and employee turnover between 2020 and 2025. Job growth is when an employer experiences increased demand for products and hires new employees to increase production, while employee turnover is when an employer hires replacement workers for employees who leave the workforce or change occupations.

Supply Introduction

Supply is determined by the average annual-number of related awards (e.g., certificates, degrees) generated between 2017 and 2020 by the region's community colleges and other educational institutions (e.g., private providers) for the purpose of this report. However, it should be noted that a student may earn more than one award; therefore, supply may be overestimated for certain occupations.

Whether or not there is a supply gap is determined by the difference between the demand and supply. The methodology regarding how these numbers are calculated is described in Appendix A.

FOCUS GROUP INSIGHTS

The Health sector focus group included three faculty members and three administrators from six of the 10 institutions – nine community colleges and one noncredit school – that offered Health programs in Orange County between 2015 and 2017. The Regional Director for Employer Engagement also attended the focus group.

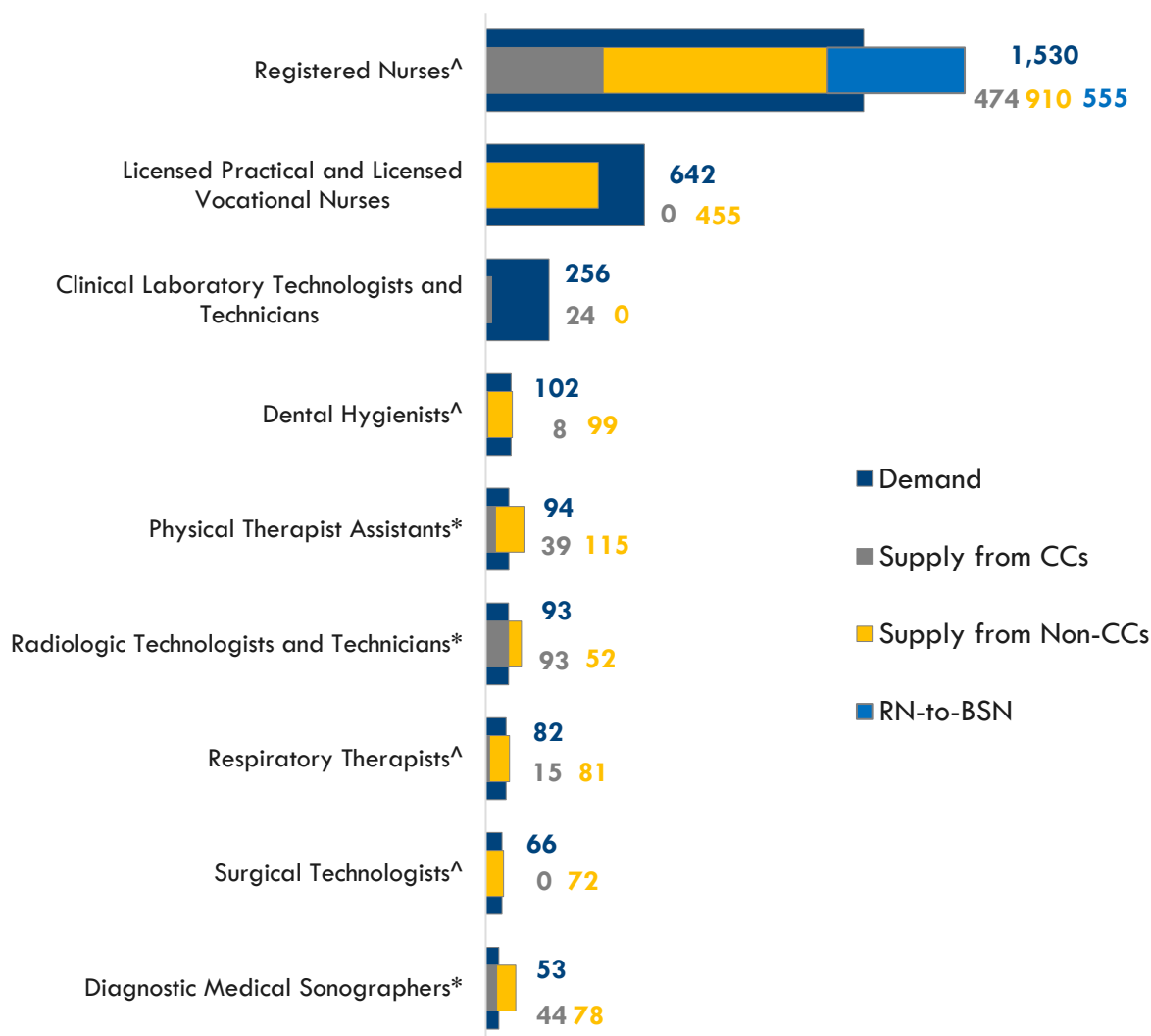
Focus group participants identified several data limitations, challenges in expanding programs, and other issues that were common across multiple sectors. The cross-sector, common themes are expanded on and explained in further detail in the standalone Orange County Sector Analysis Project Executive Summary report. Focus group participants also reported on limitations and challenges that were unique to the Health sector. This sector-specific information is highlighted throughout this report in the Focus Group Insights and the Focus Group Insights – The Big Picture sections.

HEALTH TOP MIDDLE-SKILL JOBS

This section compares Orange County's labor market demand for the top middle-skill jobs in Health with program supply from the region's community colleges and non-community college providers (Exhibit 1). It is important to note that a third category, Registered Nurse to Bachelors of Science in Nursing (RN-to-BSN), has been added to the Registered Nurses occupation because some institutions, such as University of Phoenix and Brandman University, provide programs for those who already are a registered nurse and have an associate's degree in nursing to earn their Bachelors of Science in Nursing; therefore, these programs are not training new nurses and are not creating additional supply.

As seen in Exhibit 2, the entry-level wages² for these top middle-skill jobs are higher than the \$20.63 per hour living wage. Descriptions for each occupational title can be found in Appendix C. Detailed supply and demand data analyzed for each occupation, including supply numbers by institutions is included in Appendix D

Exhibit 2: Health Top Middle-Skill Jobs in Orange County: Labor Market Demand vs. Program Supply



(Please note: * indicates that the occupation has an oversupply of labor, ^ indicates that the occupations demand has been met, and N/A indicates that no community college program reported awards for this occupation or no community college program is available for this occupation.)

² In this report, entry-level wage is defined as the 25th percentile hourly wage, which means that 25% of all workers in the field earn equal to or below this amount. Generally, workers with less experience earn lower wages.

FOCUS GROUP INSIGHTS

Registered Nurses and RN-to-BSN Programs

Focus group participants pointed out that the supply number for Registered Nurses is misleading because it overstates the number of *new* nurses that are being trained. The regional director for employment engagement explained that there are pre-licensure nursing programs, such as those provided by the community colleges, which are for students who do not currently hold a nursing license, and RN-to-BSN programs, which are for those who already are a registered nurse and have an associate's degree in nursing to earn their Bachelors of Science in Nursing. The institution with the highest number of awards for registered nurses, University of Phoenix, offers an RN-to-BSN program only; Brandman University also only offers an RN-to-BSN program.

Other institutions, such as California State University Fullerton, offer both types of programs. Due to the way IPEDS collects awards data, the COE cannot determine how many awards were conferred for pre-licensure programs versus RN-to-BSN programs at institutions that offer both programs (non-community college supply information is generated from CIP data which comes from the Integrated Postsecondary Education Data System [nces.ed.gov/ipeds/use-the-data], also known as IPEDS). Therefore, the data presented in Exhibit 1 overstates the supply for registered nurses by an undeterminable amount of at least 555 awards because it is double-counting current registered nurses.

Recently created programs, such as Vanguard University's new pre-licensure program, were not included in the supply figures in 2019 because their awards were conferred after the years 2015 through 2017 which were analyzed in that report. However, Vanguard did not confer any awards between 2017 and 2020 and is not included in the supply of this updated brief.

Focus group participants suggested that an alternative method of measuring supply for registered nurses is by using pass rates for the NCLEX-RN exam from the California Board of Registered Nursing.³ From 2015 to 2017, an annual average of 1,755 individuals that attended an educational institution in Orange County passed the NCLEX-RN exam. Additionally, some institutions listed by the Board of Registered Nursing are missing from the supply figures in this report.

Missing Supply Data

Focus group participants noted that awards for the University of San Francisco's Orange County Campus, Western Governors University, University of California-Irvine, and Vanguard University were not reported in the supply figures. There are a variety of reasons for why these institutions are not included in the data. The University of San Francisco offers a pre-licensure Master of Science in Nursing (MSN) at its Orange County campus, which is beyond the scope of this report. Since Western Governors University is based in Utah, all awards, regardless of student location, are reported to IPEDS from the Utah campus; therefore, Western Governors University is not included in the supply figures in this report and the COE cannot determine the number of awards conferred to students in California. It is worth noting that Western Governors University is not currently accepting new applications for their pre-licensure nursing program "due to high demand and a limited number of clinical sites in Southern California."⁴ Though University of California-Irvine and Vanguard University have students that passed the NCLEX RN exam, they do not use the Registered Nursing CIP code (51.3801) when reporting to IPEDS, so the COE cannot determine the number of awards conferred by these institutions.

The Regional Director for Employer Engagement stated that the supply numbers in this report also do not include data from Regional Occupational Programs (ROP) and local adult schools such as Huntington Beach Adult School, North Orange ROP, and Santa Ana Adult School. These institutions have training programs for Dental Assistants, Medical Assistants, and Personal Care Aides. Since these institutions did not report awards to IPEDS, they are not included in the supply figures in this report; therefore, the supply numbers for those occupations are likely understated.

"We are missing the ROPs. At the high school level, they are really providing that hands-on training for medical assistants. [Students] graduate as real medical assistants."
— Regional Director for Employer Engagement

³ <https://www.rn.ca.gov/education/passrates.shtml>

⁴ <https://www.wgu.edu/online-nursing-health-degrees/rn-prelicensure-nursing-bachelors-program.html>

TOP Code Miscoding

Focus group participants from the noncredit school, North Orange Continuing Education, noted that they are showing supply for the occupation, Physical Therapist Assistant (an average of 21 annual awards). However, they do not have a program corresponding to this occupation. They determined that this was a TOP code misalignment issue and would look into the matter locally. The removal of these awards does not alter the supply gap determination since the demand of 155 annual job openings for Physical Therapist Assistant is going unmet.

Other Related Occupations

Faculty members reported that some occupations for which they have programs were missing from this report. Some examples include Dietetic Technicians, Medical and Clinical Laboratory Technicians, and Morticians. There is a separate reason, however each is methodologically-based, why these three occupations are not specifically examined in this report. The first occupation mentioned, Dietetic Technicians, had less than 50 annual job openings and therefore, it did not meet the threshold to be included in the analysis, as defined in the methodology in Appendix A.

The second occupation, Medical and Clinical Laboratory Technicians was left out due to a change in how the Bureau of Labor Statistics (BLS) aggregates similar occupations. The Medical and Clinical Laboratory Technicians occupation (formerly SOC code 29-2012) was grouped into the broader Clinical Laboratory Technologists and Technicians (SOC Code 29-2018) occupation in 2017. Therefore, data for Medical and Clinical Laboratory Technician and Medical and Clinical Laboratory Technologists (formerly SOC code 29-2011), are included in the broader Clinical Laboratory Technologists and Technicians (SOC code 29-2018) occupation displayed in Exhibit 1.⁵

Finally, while the third occupation, Morticians is related to health programs, it is not included in this sector because it falls into a different sector based on the related TOP code, in this case, Business and Entrepreneurship. Even though these occupations are not specifically included in this report, the skills students learn in Health programs overall can be applied to several occupations and make students more employable across sectors.

Emerging Areas – Health IT and Nursing Informatics

Focus group participants identified emerging areas that are not fully captured in traditional labor market information such as Health Information Technology (HIT) and Nursing Informatics jobs and some of the career paths for these positions. According to the focus group participants, Nursing Informatics positions may be filled with nurses that have come from within the hospital or other frontline staff who cannot physically perform their role anymore due to physical limitations. These workers can then be re-trained in another area such as healthcare informatics. HIT and Nursing Informatics are emerging areas. Additionally, while HIT workers are currently trained at the associate degree level, the Regional Director for Employer Engagement pointed out that the American Health Information Management Association (AHIMA), has been pushing to move education requirements to the bachelor's degree level. Furthermore, Nursing Informatics is primarily taught at the master's degree level and is considered above middle-skill.

Exhibit 2. Health Top Middle-Skill Jobs in Orange County: Entry-Level and Median Wages

SOC Code	SOC (Occupational) Title	Demand (Annual Openings)	Entry-Level Wage (25 th Percentile)	Median Wage
29-1141	Registered Nurses	1,530	\$42.91	\$52.37
29-2061	Licensed Practical and Licensed Vocational Nurses	642	\$26.00	\$30.44
29-2018	Clinical Laboratory Technologists and Technicians	256	\$21.82	\$29.53
29-1292	Dental Hygienists	102	\$45.83	\$54.71
31-2021	Physical Therapist Assistants	94	\$34.14	\$37.93

⁵ https://www.bls.gov/oes/changes_2017.htm

Demand and Supply Analysis: Orange County 2021

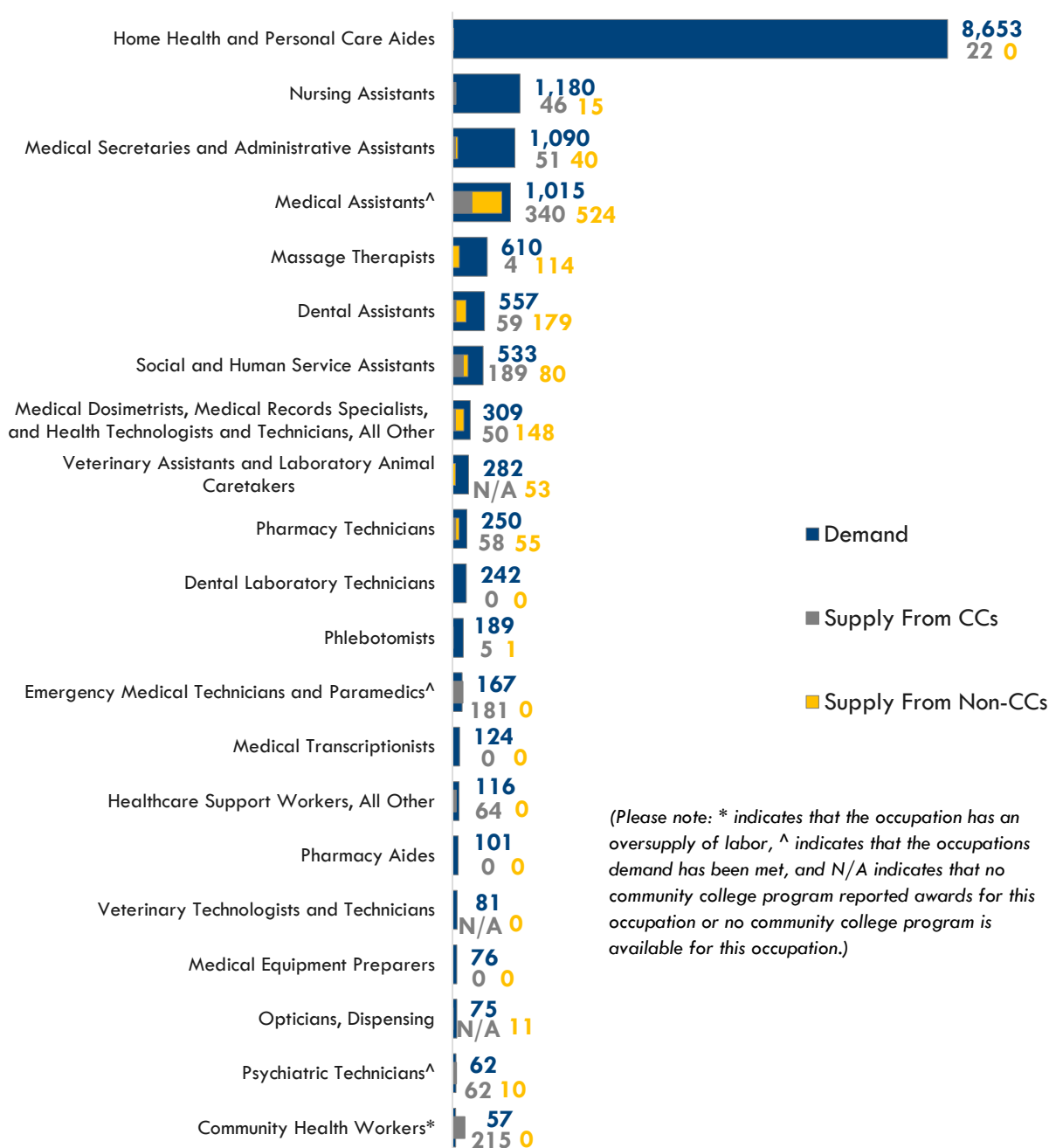
SOC Code	SOC (Occupational) Title	Demand (Annual Openings)	Entry-Level Wage (25 th Percentile)	Median Wage
29-2034	Radiologic Technologists and Technicians	93	\$34.48	\$43.01
29-1126	Respiratory Therapists	82	\$32.31	\$37.54
29-2055	Surgical Technologists	66	\$22.28	\$27.60
29-2032	Diagnostic Medical Sonographers	53	\$42.21	\$48.41

HEALTH MIDDLE-SKILL JOBS WITH ENTRY-LEVEL WAGES BELOW CALIFORNIA FAMILY NEEDS CALCULATOR

While it is important to understand which top middle-skill jobs have opportunities for increased program supply, it is also important to consider middle-skill occupations that have entry-level wages below the regional living wage but median wages above it. Since wages generally increase with additional experience and training, students could potentially earn self-sustaining wages with additional apprenticeship or work-based learning opportunities.

As seen in Exhibit 3, middle-skill Health jobs with entry-level wages below the regional living wage have a significant number of annual job openings (labor market demand).

Exhibit 3: Health Middle-Skill Jobs in Orange County with Entry-Level Wages Below the Regional Living Wage



While these occupations have entry-level wages below the \$20.63 per hour California Family Needs Calculator, occupations such as Medical Secretaries and Administrative Assistants; Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other; Pharmacy Technicians; Health Technologists and Technicians, All Other; Phlebotomists; Medical Records and Health Information Technicians; Dental Laboratory Technicians; Phlebotomists; Emergency Medical Technicians and Paramedics; Medical Transcriptionists; Opticians, Dispensing; Medical Equipment Preparers; and Community Health Workers have median wages higher than the regional living wage as denoted via the gray shading in Exhibit 4.

Exhibit 4. Health Middle-Skill Jobs with Entry-Level Earnings Below the California Family Needs Calculator in Orange County: Entry-Level and Median Wages

SOC Code	SOC (Occupational) Title	Demand (Annual Openings)	Entry-Level Wage (25 th Percentile)	Median Wage
31-1128	Home Health and Personal Care Aides	8,653	\$13.12	\$13.90
31-1131	Nursing Assistants	1,180	\$15.94	\$18.33
43-6013	Medical Secretaries and Administrative Assistants	1,090	\$17.79	\$21.78
31-9092	Medical Assistants	1,015	\$15.32	\$18.11
31-9011	Massage Therapists	610	\$13.18	\$16.26
31-9091	Dental Assistants	557	\$16.51	\$20.01
21-1093	Social and Human Service Assistants	533	\$14.33	\$18.27
29-2098	Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	309	\$17.90	\$22.86
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	282	\$13.82	\$15.68
29-2052	Pharmacy Technicians	250	\$18.04	\$21.87
51-9081	Dental Laboratory Technicians	242	\$15.53	\$20.36
31-9097	Phlebotomists	189	\$19.75	\$22.95
29-2041	Emergency Medical Technicians and Paramedics	167	\$17.97	\$22.99
31-9094	Medical Transcriptionists	124	\$18.76	\$20.87
31-9099	Healthcare Support Workers, All Other	116	\$19.84	\$22.88
31-9095	Pharmacy Aides	101	\$14.63	\$19.40
29-2056	Veterinary Technologists and Technicians	81	\$20.47	\$25.52
31-9093	Medical Equipment Preparers	76	\$18.59	\$22.79
29-2081	Opticians, Dispensing	75	\$19.40	\$23.98
29-2053	Psychiatric Technicians	62	\$16.64	\$20.37
21-1094	Community Health Workers	57	\$17.87	\$21.67

FOCUS GROUP INSIGHTS

Misalignment Between Titles and Duties

This sector brief uses occupational titles from the Standard Occupational Classification (SOC) system in the demand and supply exhibits, as identified and defined in Appendix B. Focus group participants noted that while the occupational title may match the job title used by employers, there is often a misalignment between the typical duties described in the occupational definition and in employers' job descriptions. For example, focus group participants said that Medical Secretaries typically answer the phones for patient inquiries and help the charge nurse. The Regional Director for Employer Engagement emphasized that Medical Secretaries are not typically involved with billing and coding, even though those duties are listed in the occupational definition. Regardless of whether or not the job title and occupational title align, actual job duties often differ from organization to organization and frequently do not align with the broad occupational definitions.

High Demand, Low Wages

Focus group participants acknowledged that there is high demand for several occupations, but many of them have low entry-level wages. Even though these occupations have low wages, focus group participants agreed that they are good pathway occupations that could help students gain experience for future advancement.

Additionally, the Regional Director for Employer Engagement stated that, in addition to education and experience, wages in the Health sector are also sometimes determined by the type of employer. Generally, Medical Assistants employed at a doctor's office will make less than at other places of employment, such as hospitals.

Licenses and Certifications

Focus group participants noted that several occupations analyzed in this report, such as Registered Nurse, Nursing Assistants, Pharmacy Technicians, and Dental Assistants require state licensure. However, there is no state licensure requirement for Medical Assistants. Faculty members pointed out that students tend to complete programs that have state licensure requirements because they need to graduate from a Board-approved educational program in order to sit for the exam. Since students do not need a license or certification to work as a Medical Assistant, completion rates tend to be lower for those programs.

"For medical assistant, a state certification isn't required yet. While it is good to have [an award], [students] don't need it to get employed, so they don't complete the medical assisting program, they just take a job. I think most of our [student] fallout is from that.
— North Orange Continuing Education Faculty Member

FOCUS GROUP INSIGHTS – THE BIG PICTURE

Focus group participants addressed other issues and challenges that cannot be captured by traditional labor market information and provided insight on the tactics colleges and employers are currently using to address supply gaps in the Health sector.

How Community Colleges are Filling Supply Gaps

Focus group participants acknowledged the large supply gaps for occupations like Nursing Assistants and Home Health Aides. To address these supply gaps, some colleges have already created new programs or are planning to create new programs in these areas. Saddleback, Santa Ana, and Santiago Canyon have created or plan to create a Certified Nursing Assistant (CNA) program. Saddleback and North Orange Continuing Education are also creating Personal Care Aide programs. In addition to those programs, Saddleback has also created Medical Scribe and Phlebotomy programs.

How Employers are Filling Supply Gaps

According to focus group participants, employers are using several methods to address supply gaps. Faculty members noted that hospitals usually train current nurses to become specialty nurses such as Operating Room Nurses, Neonatal Intensive Care Unit Nurses, and Critical Care Nurses. Acute care hospitals are training their current nurses for specialty areas using online modules provided by professional training organizations or hospital developed programs. Faculty members also noted that Kaiser Permanente is opening its own medical imaging technology college to create a worker pipeline for Radiologic Technologists that can operate machinery for x-rays, ultrasounds, CT/CAT scans, and MRIs.

Challenges in Expanding Programs

Focus group participants identified several challenges to expanding programs in the Health sector. Many of these challenges, including the lack of dedicated lab space, difficulty hiring faculty and staff, and high costs for equipment, cut across all sectors. However, some unique challenges for the Health sector are the increased competition from online programs and clinical displacement. While there is a supply gap for many of the top middle-skill jobs, increasing program supply will require increasing clinical placements for students. However, securing clinical placements is difficult because there are limited number of slots in the region. Therefore, the region may not have the capacity to meet those needs.

KEY FINDINGS: HEALTH

Based on the demand and supply data, as well as the focus group insights analyzed in this brief, the COE identified the following key research findings and recommendations:

Demand and Supply

18,687

annual job openings
(labor market demand)

5,690

average annual program awards
(labor market supply)

12,997

supply gap (number of
awards needed to close the gap)

Focus Group Key Findings and Recommendations

Key Finding	Recommendation
<p>1. Securing clinical placements is difficult because positions are limited: There are a limited number of clinical sites in the region and Orange County community colleges are competing with non-community college institutions to secure placements for their students.</p>	<p>1. To increase clinical placement for Orange County community college students, the region could hire a regional clinical placement coordinator that works with all Orange County community colleges and employers to help place students. If hiring a regional position is not feasible, regional funding could be used to support this work occurring on a local level at the colleges. Placements can help students earn valuable hands-on experience and connections that can be useful when searching for a full-time position.</p>
<p>2. Several Health occupations are in high demand but pay low wages: Even though there is a significant need for occupations such as Nursing Assistants and Home Health Aides, entry-level wages for these occupations are below the living-wage for one adult in Orange County.</p>	<p>2. To help students move into occupations with higher wages, colleges could consider creating noncredit programs for high-demand, low wage occupations and create a noncredit-to-credit pipeline so students have a pathway to obtain additional education and experience that will help them earn better wages and advance their careers. Additionally, to help students better understand wage expectations and career progression, the Regional Employer Engagement Team could work with faculty members and administrators to define common career paths and job titles within occupations. This information can then be shared with counselors so that students can learn about their career options and how their earnings potential changes with additional education and experience.</p>

Key Finding	Recommendation
<p>3. Supply data for Health occupations is incomplete: The number of awards conferred by some non-community college institutions, such as Western Governors University and Regional Occupational Programs (ROP) are not included in the supply figures. Additionally, the supply numbers do not account for the differences between pre-licensure nursing programs and Registered Nurse to Bachelor's of Science in Nursing (RN-to-BSN) programs. Without a complete picture of training providers and programs, the supply numbers may be understated for certain occupations.</p>	<p>3. To better understand and quantify the supply of qualified students from programs at all educational institutions in Orange County, the COE should work with the Regional Employer Engagement Team to identify existing Health programs in order to generate a complete list of training providers for Health occupations.</p>
<p>4. Knowledge, Skills, and Abilities (KSAs) for the sector have not been validated by employers: The OC Sector Analysis Project brief examines job gaps, but does not explore the specific KSAs taught at the colleges and compare them to the labor market's demand for Advanced Transportation and Logistics KSAs.</p>	<p>4. To determine if the region's community colleges are training for the right KSAs, the Regional Employer Engagement Team should convene employers in a "regional advisory group" where employers can review program KSAs, provide feedback, and validate the KSAs' current relevance and demand in the labor market.</p>

APPENDIX A: METHODOLOGY AND HEALTH DATA DEFINITIONS

The Centers of Excellence for Labor Market Research (COE) prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Emsi, a software program that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

The California Community Colleges (CCC) define “sectors” by TOP codes. To determine what occupations should be analyzed in this brief, the COE first reviewed the TOP codes associated with the sector and then matched them with the SOC codes. According to the CCC, the following six-digit TOP codes define the Health sector:

TOP6 Program Name	TOP6 Code
Administrative Medical Assisting	1208.20
Alcohol and Controlled Substances	2104.40
Athletic Training and Sports Medicine	1228.00
Cardiovascular Technician	1213.00
Certified Nurse Assistant	1230.30
Clinical Medical Assisting	1208.10
Community Health Care Worker	1261.00
Dental Assistant	1240.10
Dental Hygienist	1240.20
Dental Laboratory Technician	1240.30
Dental Occupations	1240.00
Diagnostic Medical Sonography	1227.00
Dietetic Services and Management	1306.20
Dietetic Technology	1306.60
Electrocardiography	1215.00
Electro-Neurodiagnostic Technology	1212.00
Emergency Medical Services	1250.00
Gerontology	1309.00
Health Facility Unit Coordinator	1208.30
Health Information Coding	1223.10
Health Information Technology	1223.00
Health Occupations, General	1201.00
Home Health Aide	1230.80
Hospital and Health Care Administration	1202.00
Hospital Central Service Technician	1209.00
Licensed Vocational Nursing	1230.20
Medical Assisting	1208.00
Medical Laboratory Technology	1205.00
Medical Office Technology	0514.20
Nursing	1230.00
Nutrition, Foods, and Culinary Arts	1306.00
Occupational Therapy Technology	1218.00
Optical Technology	1219.00
Orthopedic Assistant	1214.00
Other Health Occupations	1299.00

TOP6 Program Name	TOP6 Code
Paramedic	1251.00
Pharmacy Technology	1221.00
Phlebotomy	1205.10
Physical Therapist Assistant	1222.00
Physicians Assistant	1206.00
Polysomnography	1211.00
Psychiatric Technician	1239.00
Radiation Therapy Technician	1226.00
Radiologic Technology	1225.00
Registered Nursing	1230.10
Respiratory Care-Therapy	1210.00
School Health Clerk	1224.00
Speech-Language Pathology and Audiology	1220.00
Surgical Technician	1217.00

Using a TOP-SOC crosswalk, the COE then identified middle-skill jobs for which programs within these TOP codes train. The COE examined more than 850 occupational codes from the Standard Occupational Classification (SOC)⁶ system and identified approximately 300 occupational codes as middle-skill jobs.

Middle-skill jobs include:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

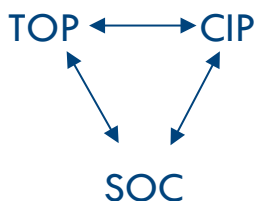
For this study, the COE analyzed occupations with a labor market demand of at least 50 annual job openings. (For comparison, the average and median demand for an occupation in Orange County is 307 and 63 annual job openings, respectively.)⁷ The number of annual job openings estimates employment change and turnover for an occupation each year between 2020 and 2025. Annual job openings include:

- Job Growth: An employer experiences increased demand for products and hires new employees to increase production. If job growth is zero or negative, then any and all openings are due to replacement needs.
- Replacement Needs: An employer hires replacement workers for employees who leave the workforce or change occupations. Replacement rates are derived from national 10-year, occupation-specific percentages published by the U.S. BLS's Employment Projections program.

⁶ SOC is a federal statistical standard used by EDD, BLS and other federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data.

⁷ Emsi Data set 2021.3. QCEW Employees + Non-QCEW + Self-Employed. 2020-2025

The COE then cross-referenced the SOC codes with CIP and TOP codes to compare labor market demand with program supply. The following diagram illustrates this process:



The COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a “supply table” with this information, which is the source of the program supply data for this report. TOP data comes from the California Community Colleges Chancellor’s Office MIS Data Mart (datamart.cccco.edu) and CIP data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California community college system do not use TOP codes in their reporting systems.

Because a TOP/CIP code may train for more than one occupation, simply aggregating all supply from all related codes may overestimate supply for an occupation. Therefore, the COE de-duplicated TOP codes that trained for more than one occupation to avoid counting the program supply more than once. Doing so provides a more accurate representation of the supply gaps in the region by occupation. This information can be seen in the demand and supply tables in Appendix D of this study.

Qualitative Methodology

An integral aspect of the Orange County Sector Analysis Project was the qualitative data collected during the project’s focus groups. In May 2019, the COE created an advisory group comprised of the Orange County Regional Consortium Director as well as five CTE deans and directors that represented the four community college districts in Orange County. The advisory group created a process and timeline for inviting faculty and administrators to participate in focus groups to better understand where programs exist or do not exist to fill supply gaps and discuss how Orange County’s community colleges could close the supply gaps for the county’s eight priority and emerging sectors.

To create the invite list of faculty and administrators, Regional Directors for Employer Engagement and career education deans at each college were asked to identify faculty and administrators that could represent their respective colleges in the sector-specific focus groups. Once this list was compiled, the career education deans invited faculty and administrators to express their interest in participating in a focus group via email. The email introduced the COE, provided an overview of the Orange County Sector Analysis Project, described the goals of the focus groups, and informed faculty that they would be compensated for their participation, and that lunch would be provided for all participants. All those that stated their interest were then connected with the COE who managed the focus groups scheduling and details.

In order to be as inclusive as possible, 12 focus groups were scheduled for the eight sectors – four sectors had one focus group each and four sectors had two focus groups each, during a three-week period from July to August 2019. All focus groups participants received a confirmation email before the event that included the focus group agenda, their sector-specific draft brief, and a pre-assignment with questions based off of the information contained in the draft sector briefs. Focus group participants were instructed to complete and bring the pre-assignment to the convening so that they were prepared to discuss the data, the challenges they face in their programs, and strategies to close supply gaps. Each focus group was recorded, with permission of the participants, by the COE solely for transcription purposes.

The COE conducted no more than two focus group sessions per day. During the focus groups the Orange County Sector Analysis Project was explained and then the information contained in the draft sector briefs was presented in detail. Participants were encouraged to ask questions and engage in dialogue throughout the entire focus group session. The COE

took notes of each discussion as well as recorded the sessions, with permission of the participants and solely for transcription purposes.

Following the conclusion of the focus groups, the COE compiled the audio files, transcripts, notes, and pre-assignments to conduct a qualitative analysis of the themes for each focus group and to identify commonalities across multiple focus groups. The findings from this analysis have been highlighted throughout this report in the “Focus Group Insight” sections.

APPENDIX B: OCCUPATIONAL DIFFERENCES BETWEEN 2019 AND 2021 VERSIONS

Removed Occupations

The following occupations were included in the 2019 version of this brief but were not included in the 2021 version because they were not projected to have at least 50 annual job openings between 2020 and 2025, were assigned to a different sector in 2019, or were classified as below or above middle-skill in 2021:

- Occupational Therapy Assistants (31-2011)
- First-Line Supervisors of Protective Service Workers, All Other (31-9099)

SOC Code Changes

The following occupations were included in the 2019 version of this brief but are listed under a new SOC code in this brief due to BLS's update of the SOC system:

- Dental Hygienists (29-2021)
 - This occupation was updated by BLS to Dental Hygienists (29-1292)
- Medical Records and Health Information Technicians (29-2071)
 - This occupation was updated by BLS to Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other (29-2098)
- Health Technologists and Technicians, All Other (29-2099)
 - This occupation was updated by BLS to Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other (29-2098)
- Home Health Aides (31-1011)
 - This occupation was updated by BLS to Home Health and Personal Care Aides (31-1128)
- Nursing Assistants (31-1014)
 - This occupation was updated by BLS to Nursing Assistants (31-1131)

New Occupations

The following occupations were not included in the 2019 brief because they either did not meet the annual job openings criteria in 2019, were classified as below or above middle-skill in 2019, or a new SOC code was created by BLS:

- Diagnostic Medical Sonographers (29-2032)
- Psychiatric Technicians (29-2053)
- Pharmacy Aides (31-9095)
- Veterinary Assistants and Laboratory Animal Caretakers (31-9096)

APPENDIX C: DEFINITIONS FOR HEALTH MIDDLE-SKILL JOBS

The following definitions and sample job titles for each occupation are derived from O*NET, the nation's primary source of occupational information. The O*NET database contains hundreds of standardized and occupation-specific descriptors on nearly 1,000 occupations. O*NET is developed and sponsored by the U.S. Department of Labor⁸

Clinical Laboratory Technologists and Technicians (SOC 29-2018): Perform routine or complex medical laboratory tests for diagnosis, treatment, and prevention of disease.

- Microbiology Technologist
- Cytogenetic Technologist
- Cytotechnologist
- Histology Technician
- Specimen Processor

Community Health Workers (SOC 21-1094): Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health. May provide information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs. Sample job titles include:

- Community Health Promoter
- Community Health Outreach Worker
- Community Health Program Coordinator/Representative
- HIV Counseling and Testing Services Specialist

Dental Assistants (SOC 31-9091): Assist dentist, set up equipment, prepare patient for treatment, and keep records. Sample job titles include:

- Surgical Dental Assistant
- Orthodontic Assistant/Technician
- Certified/Registered Dental Assistant (CDA or RDA)
- Oral Surgery Assistant
- Expanded Function Dental Assistant
- Expanded Duty Dental Assistant

Dental Hygienists (SOC 29-1292): Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop x rays, or apply fluoride or sealants. Sample job titles include:

- Registered Dental Hygienist (RDH)
- Implant Coordinator
- Pediatric Dental Hygienist
- Oral Hygienist
- Dental Nurse

Dental Laboratory Technicians (SOC 51-9081): Construct and repair full or partial dentures or dental appliances. Sample job titles include:

- Dental Ceramist
- Dental Technician
- Crown and Bridge Dental
- Porcelain Technician/Finisher
- Orthodontic Laboratory Technician

Diagnostic Medical Sonographers (SOC 29-2032): Produce ultrasonic recordings of internal organs for use by physicians. Includes vascular technologists. Sample job titles include:

- Cardiac Sonographer
- Diagnostic Medical Sonographer
- Medical Sonographer
- Registered Diagnostic Medical Sonographer (RDMS)
- Ultrasonographer
- Ultrasound Technician

⁸ <https://www.onetonline.org/>

Emergency Medical Technicians and Paramedics (SOC 29-2041): Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities. Sample job titles include:

- Paramedic
- Flight Paramedic
- Multi Care Technician
- Emergency Medical Technician/Dispatcher
- Emergency Medical Technician/Driver
- First Responder

Healthcare Support Workers, All Other (SOC 31-9099): All healthcare support workers not listed separately. Sample job titles include:

- Speech-Language Pathology Assistants (31-9099.01): Assist speech-language pathologists in the assessment and treatment of speech, language, voice, and fluency disorders. Implement speech and language programs or activities as planned and directed by speech-language pathologists. Monitor the use of alternative communication devices and systems.
- Endoscopy Technicians (31-9099.02): Maintain a sterile field to provide support for physicians and nurses during endoscopy procedures. Prepare and maintain instruments and equipment. May obtain specimens.

Home Health and Personal Care Aides (SOC 31-1128): Produce ultrasonic recordings of internal organs for use by physicians. Includes vascular technologists. Sample job titles include:

- Caregiver
- Certified Home Health Aide (CHHA)
- Certified Nurse Aide (CAN) Home Attendant
- Home Health Aide (HHA)
- In-Home Caregiver

Licensed Practical and Licensed Vocational Nurses (SOC 29-2061): Care for ill, injured, or convalescing patients or persons with disabilities in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required. Sample job titles include:

- Triage Licensed Practical Nurse
- Pediatric Licensed Practical Nurse
- Private Duty Nurse
- Office Nurse
- Clinic Nurse
- Charge Nurse

Massage Therapists (SOC 31-9011): Perform therapeutic massages of soft tissues and joints. May assist in the assessment of range of motion and muscle strength or propose client therapy plans. Sample job titles include:

- Medical/Registered/Clinical/Licensed Massage Therapist
- Licensed Massage Practitioner (LMP)
- Certified Massage Therapist
- Bodywork Therapist

Medical Assistants (SOC 31-9092): Perform administrative and certain clinical duties under the direction of a physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding information for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Sample job titles include:

- Chiropractor Assistant
- Certified Medical Assistant
- Clinical Assistant
- Registered Medical Assistant
- Medical Office Assistant
- Doctor's Assistant

Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other (SOC 20-2098): All Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians not listed separately. "All Other" titles represent occupations with a wide range of characteristics which do not fit into one of the detailed O*NET-SOC occupations. O*NET data is not available for this type of title.

Medical Equipment Preparers (SOC 31-9093): Prepare, sterilize, install, or clean laboratory or healthcare equipment. May perform routine laboratory tasks and operate or inspect equipment. Sample job titles include:

- Sterilization Technician
- Sterile Processing and Distribution Technician
- Medical Supply Technician
- Certified Registered Central Service Technician
- Central Sterile Supply Technician (CSS Technician)
- Instrument Technician

Medical Secretaries and Administrative Assistants (SOC 43-6013): Perform secretarial duties using specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties may include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence. Sample job titles include:

- Unit Clerk
- Medical Receptionist
- Medical Office Specialist
- Front Office Coordinator
- Unit Secretary

Medical Transcriptionists (SOC 31-9094): Transcribe medical reports recorded by physicians and other healthcare practitioners using various electronic devices, covering office visits, emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. Transcribe dictated reports and translate abbreviations into fully understandable form. Edit as necessary and return reports in either printed or electronic form for review and signature, or correction. Sample job titles include:

- Transcriptionist
- Radiology Transcriptionist
- Pathology Transcriptionist
- Medical Transcriber
- Radiology Transcriptionist/Radiology Clerk

Nursing Assistants (SOC 31-1131): Provide basic patient care under direction of nursing staff. Perform duties such as feed, bathe, dress, groom, or move patients, or change linens. May transfer or transport patients. Includes nursing care attendants, nursing aides, and nursing attendants. Sample job titles include:

- Certified or Licensed Nursing Assistant (CNA or LNA)
- Patient Care Technician (PCT)
- State Tested Nursing Assistant (STNA)
- Patient Care Assistant (PCA)
- Geriatric Nursing Assistant (GNA)
- Certified Nurse Aide (CNA)

Opticians, Dispensing (SOC 29-2081): Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with inserting, removing, and caring for contact lenses. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames. Verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Includes contact lens opticians. Sample job titles include:

- Optical Technician
- Licensed Dispensing Optician
- Optometric Assistant
- Optometric Technician

Pharmacy Aides (SOC 31-9095): Record drugs delivered to the pharmacy, store incoming merchandise, and inform the supervisor of stock needs. May operate cash register and accept prescriptions for filling. Sample job titles include:

- Certified Pharmacy Assistant
- Drug Purchaser
- Pharmacy Aide
- Pharmacy Assistant
- Pharmacy Assistant
- Pharmacy Clerk

Pharmacy Technicians (SOC 29-2052): Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications according to prescription orders. Sample job titles include:

- Certified Pharmacy Technician (CPhT)
- Senior Pharmacy Technician
- Lead Pharmacy Technician
- Accredited Pharmacy Technician

Phlebotomists (SOC 31-9097): Draw blood for tests, transfusions, donations, or research. May explain the procedure to patients and assist in the recovery of patients with adverse reactions. Sample job titles include:

- Registered Phlebotomist
- Phlebotomy Program Coordinator
- Phlebotomist, Medical Lab Assistant
- Phlebotomy Technician
- Patient Service Technician

Physical Therapist Assistants (SOC 31-2021): Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with State laws, assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally requires formal training. Sample job titles include:

- Physical Therapy Assistant (PTA)
- Physical Therapy Technician
- Physical Therapist Assistant and Nurse Aide
- Per Diem Physical Therapist Assistant (Per Diem PTA)
- Certified Physical Therapist Assistant (CPTA)
- Licensed Physical Therapist Assistant

Psychiatric Technicians (SOC 29-2053): Care for individuals with mental or emotional conditions or disabilities, following the instructions of physicians or other health practitioners. Monitor patients' physical and emotional well-being and report to medical staff. May participate in rehabilitation and treatment programs, help with personal hygiene, and administer oral or injectable medications. Sample job titles include:

- Behavioral Health Technician
- Health Care Technician
- Mental Health Assistant
- Mental Health Specialist
- Psychiatric Technician
- Residential Aide

Radiologic Technologists and Technicians (SOC 29-2034): Take x rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other scanning modalities. Sample job titles include:

- CAT Scan Technologist
- X-Ray Technologist
- Radiological Technologist
- Staff Radiographer
- Radiographer, Mammographer
- Mammography Technologist

Registered Nurses (SOC 29-1141): Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Includes Clinical Nurse Specialists. Sample job titles include:

- Clinical Nurse Specialist
- Staff Nurse
- Intensive Care Unit Nurse
- Critical Care Registered Nurse
- Pediatric/Psychiatric Clinical Nurse Specialist

Respiratory Therapists (SOC 29-1126): Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment. Sample job titles include:

- Respiratory Care Practitioner
- Registered Respiratory Therapist
- Certified Respiratory Therapist
- Staff Therapist
- Cardiopulmonary Technician and EEG Tech (Cardiopulmonary Technician and Electroencephalogram Technician)

Social and Human Service Assistants (SOC 21-1093): Assist in providing client services in a wide variety of fields, such as psychology, rehabilitation, or social work, including support for families. May assist clients in identifying and obtaining available benefits and social and community services. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or dependent care. Sample job titles include:

- Social Work Assistant
- Residential Assistant
- Family Support Worker
- Community Coordinator
- Outreach Specialist
- Addictions Counselor Assistant

Surgical Technologists (SOC 29-2055): Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments. Sample job titles include:

- Operating Room Technician/Technologist
- Certified Surgical Technologist (CST)
- Operating Room Surgical Technician
- Certified Surgical Tech/First Assistant
- Surgical Scrub Technician/Technologist
- Certified Surgical Technician

Veterinary Assistants and Laboratory Animal Caretakers (SOC 31-9096): Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment. May provide routine postoperative care, administer medication orally or topically, or prepare samples for laboratory examination under the supervision of veterinary or laboratory animal technologists or technicians, veterinarians, or scientists. Sample jobs titles include:

- Animal Care Provider
- Certified Veterinary Assistant
- Kennel Veterinary Assistant
- Animal Caregiver
- Emergency Veterinary Assistant
- Research Animal Attendant

Veterinary Technologists and Technicians (SOC 29-2056): Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals. Prepare vaccines and serums for prevention of diseases. Prepare tissue samples, take blood samples, and execute laboratory tests, such as urinalysis and blood counts. Clean and sterilize instruments and materials and maintain equipment and machines. May assist a veterinarian during surgery. Sample job titles include:

- Veterinary Laboratory Technician
- Veterinary Nurse
- Certified Veterinary Technician (CVT)
- Registered Veterinary Technician (RVT)
- Veterinary Assistant
- Licensed Veterinary Technician (LVT)

APPENDIX D: HEALTH DEMAND AND SUPPLY DATA

The following tables compare labor market demand and program supply by occupation. Because a TOP/CIP code may train for more than one occupation, simply aggregating all supply from all related codes may overestimate supply for that occupation. Therefore, the COE de-duplicated TOP codes that train for more than one occupation to avoid counting program supply more than once. This de-duplication process is denoted by the “Accounted for Above” statements in the tables on the following pages.

Additionally, the COE reviewed program data from the LaunchBoard⁹ and the statewide COE Supply Table¹⁰ and identified conflicting information. For certain occupations, LaunchBoard indicates that a college has a program for that occupation, but the COE Supply Table does not show program data for that college, and vice versa. These discrepancies are marked with the following:

+The COE Supply Table indicates that this college supplies awards for this TOP code, but this college is not listed in the LaunchBoard

*LaunchBoard indicates that this college/school supplies awards for this TOP code, but this college is not listed in COE Supply Table

The demand and supply tables in the following pages have three categories:

1. **Supply Gap** – If Average Annual Openings exceed Average Annual Awards by more than 25 percent, then the cell is shaded in light green.
2. **Supply Met** – If Average Annual Openings is within 25 percent +/- of Average Annual Awards, then the cell is shaded in light blue.
3. **Oversupply** – If Average Annual Openings exceed the Average Annual Awards by more than 25 percent, then the cell is shaded in red.

⁹ calpassplus.org/LaunchBoard/Home.aspx

¹⁰ <https://coeccc.net/our-resources/supply-and-demand/>

DEMAND AND SUPPLY DATA FOR TOP HEALTH MIDDLE-SKILL JOBS IN ORANGE COUNTY

* RN-to-BSN program

OCCUPATIONAL TITLE	AVERAGE ANNUAL OPENINGS (2020-2025)	SUPPLY GAP/ SUPPLY MET/ OVERSUPPLY	AVERAGE ANNUAL AWARDS (2017-2020)	TOP6 TITLE	TOP6 OR CIP	COLLEGE	COLLEGE SUPPLY (3-YR AVG)
Registered Nurses	1,530	Supply Met	1,939	Registered Nursing	1230.10	Cypress	93
						Golden West	83
						Saddleback	204
						Santa Ana	94
				Registered Nursing/Registered Nurse	CIP 51.3801	Brandman University*	6
						California State University-Fullerton*	335
						Career Networks Institute	112
						Concordia University-Irvine	104
						Pacific College	34
						Stanbridge University	54
						University of Phoenix-California*	214
						West Coast University-Orange County	606
Licensed Practical and Licensed Vocational Nurses	642	Supply Gap	455	Licensed Practical/Vocational Nurse Training	51.3901	American Career College-Anaheim	119
						California Career Institute	90
						Career Networks Institute	11
						Pacific College	92
						Platt College-Anaheim	0
						Stanbridge University	143
				Licensed Vocational Nursing	1230.20	No Programs	0
Clinical Laboratory Technologists and Technicians	256	Supply Gap	24	Medical Laboratory Technology	1205.00	Saddleback	24
Dental Hygienists	102	Supply Met	107	Dental Hygienist	1240.20	Cypress	8
				Dental Hygiene/Hygienist	CIP 51.0602	Concorde Career College-Garden Grove	31
						West Coast University-Orange County	68
Physical Therapist Assistants	94	Oversupply	154	Physical Therapist Assistant	1222.00	North Orange Adult	39
				Physical Therapy Technician/Assistant	CIP 51.0806	American Career College-Anaheim	36

Demand and Supply Analysis: Orange County 2021

OCCUPATIONAL TITLE	AVERAGE ANNUAL OPENINGS (2020-2025)	SUPPLY GAP/ SUPPLY MET/ OVERSUPPLY	AVERAGE ANNUAL AWARDS (2017-2020)	TOP6 TITLE	TOP6 OR CIP	COLLEGE	COLLEGE SUPPLY (3-YR AVG)
						Concorde Career College-Garden Grove	27
						Stanbridge University	52
Radiologic Technologists and Technicians	93	Oversupply	145	Radiologic Technology	1225.00	Cypress	71
				Radiologic Technology/Science - Radiographer	51.0911	Orange Coast	22
Respiratory Therapists	82	Supply Met	96	Respiratory Care/Therapy	1210.00	Modern Technology School	52
				Respiratory Care Therapy/Therapist	CIP 51.0908	Orange Coast	15
						American Career College-Anaheim	40
						Concorde Career College-Garden Grove	41
				Surgical Technician	1217.00	Platt College-Anaheim	0
						No Programs	0
						American Career College-Anaheim	37
Diagnostic Medical Sonographers	53	Oversupply	122	Surgical Technology/Technologist	CIP 51.0909	Career Networks Institute	26
						North-West College-Anaheim	9
				Diagnostic Medical Sonography	1227.00	Cypress	26
						Orange Coast	18
						Modern Technology School	23
						North-West College-Anaheim	20
						Platt College-Anaheim	35

DEMAND AND SUPPLY DATA FOR HEALTH MIDDLE-SKILL JOBS WITH ENTRY-LEVEL WAGES BELOW CALIFORNIA FAMILY NEEDS CALCULATOR IN ORANGE COUNTY

OCCUPATIONAL TITLE	AVERAGE ANNUAL OPENINGS (2020-2025)	SUPPLY GAP/ SUPPLY MET/ OVERSUPPLY	AVERAGE ANNUAL AWARDS (2017-2020)	TOP6 TITLE	TOP6 OR CIP	COLLEGE	COLLEGE SUPPLY (3-YR AVG)
Home Health and Personal Care Aides	8,653	Supply Gap	22	Gerontology	1309.00	Coastline	11
						Cypress	6
						Saddleback	5
				Home Health Aide	1230.80	No Programs	0
				Home Health Aide/Home Attendant	51.2602	No Programs	0
Nursing Assistants	1,180	Supply Gap	61	Certified Nurse Assistant	1230.30	Santiago Canyon	46
				Nursing Assistant/Aide and Patient Care Assistant/Aide	51.3902	California Career Institute	12
						Platt College-Anaheim	3
Medical Secretaries and Administrative Assistants	1,090	Supply Gap	40	Medical Office Assistant/Specialist	CIP 51.0710	Concorde Career College-Garden Grove	13
						Platt College-Anaheim	5
				Medical Insurance Specialist/Medical Biller	CIP 51.0713	North-West College-Anaheim	22
				Medical Administrative/Executive Assistant and Medical Secretary	CIP 51.0716	North-West College-Anaheim	0
				Medical Assisting	1208.00	North Orange Adult	Already accounted for
						Orange Coast	Already accounted for
						Saddleback	Already accounted for
						Santa Ana	Already accounted for
				Administrative Medical Assisting	1208.20	Saddleback	15
						Santiago Canyon	35
				Health Information Coding	1223.10	Saddleback	1
				Medical Office Technology	0514.20	No Programs	0
Medical Assistants	1,015	Supply Met	864	Medical Assisting	1208.00	North Orange Adult	118

OCCUPATIONAL TITLE	AVERAGE ANNUAL OPENINGS (2020-2025)	SUPPLY GAP/ SUPPLY MET/ OVERSUPPLY	AVERAGE ANNUAL AWARDS (2017-2020)	TOP6 TITLE	TOP6 OR CIP	COLLEGE	COLLEGE SUPPLY (3-YR AVG)
						Orange Coast	23
						Saddleback	30
						Santa Ana	149
				Clinical Medical Assisting	1208.10	Saddleback	20
				Medical/Clinical Assistant	CIP 51.0801	American Career College-Anaheim	181
						California Career Institute	23
						Career Networks Institute	16
						Concorde Career College-Garden Grove	89
						InterCoast Colleges-Santa Ana	3
						Modern Technology School	6
						North-West College-Anaheim	66
						Platt College-Anaheim	7
						South Coast College	13
						United Education Institute-Anaheim	120
Massage Therapists	610	Supply Gap	118	Massage Therapy	1262.00	Fullerton	4
				Massage Therapy/Therapeutic Massage	CIP 51.3501	Advance Beauty College	3
						American Institute of Massage Therapy	47
						Career Networks Institute	1
						Coastline Beauty College	1
						North-West College-Anaheim	1
						Santa Ana Beauty College	61
Dental Assistants	557	Supply Gap	238	Dental Assistant	1240.10	Cypress	25
				Dental Assisting/Assistant	CIP 51.0601	Orange Coast	34
						American Career College-Anaheim	45
						Concorde Career College-Garden Grove	77
						InterCoast Colleges-Santa Ana	0
Social and Human Service Assistants	533	Supply Gap	263	Family Studies	1308.00	United Education Institute-Anaheim	57
						Saddleback	1

Demand and Supply Analysis: Orange County 2021

OCCUPATIONAL TITLE	AVERAGE ANNUAL OPENINGS (2020-2025)	SUPPLY GAP/ SUPPLY MET/ OVERSUPPLY	AVERAGE ANNUAL AWARDS (2017-2020)	TOP6 TITLE	TOP6 OR CIP	COLLEGE	COLLEGE SUPPLY (3-YR AVG)
				Human Services	2104.00	Coastline	20
						Cypress	26
						Orange Coast	1
						Saddleback	22
						Santa Ana	58
				Alcohol and Controlled Substances	2104.40	Cypress	20
						Saddleback	35
				Substance Abuse/Addiction Counseling	CIP 51.1501	InterCoast Colleges-Santa Ana	80
				Disability Services	2104.50	North Orange Adult	6
				Community Health Care Worker	1261.00	No Programs	0
				Family and Consumer Sciences, General	1301.00	No Programs	0
				Parenting and Family Education	1305.60	No Programs	0
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	309	Supply Gap	198	Foster and Kinship Care	1305.70	No Programs	0
				Respiratory Care/Therapy	1210.00	Already accounted for	0
				Respiratory Care Therapy/Therapist	CIP 51.0908	Already accounted for	0
						Already accounted for	0
						Already accounted for	0
				Polysomnography	1211.00	Orange Coast	2
				Electro-Neurodiagnostic Technology	1212.00	Orange Coast	14
				Health Information Technology	1223.00	Cypress	19
						Saddleback	14
				Health Information/Medical Records Technology/Technician	CIP 51.0707	American Career College-Anaheim	7
				Health Information Coding	1223.10	Saddleback	1
				Radiologic Technology	1225.00	Already accounted for	0
				Radiologic Technology/Science - Radiographer	CIP 51.0911	Already accounted for	0
				Medical Insurance Coding Specialist/Coder	51.0713	American Career College-Anaheim	89

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OCCUPATIONAL TITLE	AVERAGE ANNUAL OPENINGS (2020-2025)	SUPPLY GAP/ SUPPLY MET/ OVERSUPPLY	AVERAGE ANNUAL AWARDS (2017-2020)	TOP6 TITLE	TOP6 OR CIP	COLLEGE	COLLEGE SUPPLY (3-YR AVG)
						InterCoast Colleges-Santa Ana	2
						Trident University International	1
						United Education Institute-Anaheim	49
Veterinary Assistants and Laboratory Animal Caretakers	282	Supply Gap	53	Veterinary/Animal Health Technology/Technician and Veterinary Assistant	CIP 51.0808	Platt College-Anaheim	15
						Stanbridge University	38
				Veterinary Technician (Licensed)	0102.10	No Programs	0
Pharmacy Technicians	250	Supply Gap	113	Pharmacy Technology	1221.00	North Orange Adult	4
				Pharmacy Technician/Assistant	CIP 51.0805	Santa Ana	54
						American Career College-Anaheim	43
						Career Networks Institute	2
						InterCoast Colleges-Santa Ana	0
						North-West College-Anaheim	10
						Platt College-Anaheim	0
Dental Laboratory Technicians	242	Supply Gap	0	Dental Laboratory Technician	1240.30	No Programs	0
				Dental Laboratory Technology/Technician	CIP 51.0603	No Programs	0
Phlebotomists	189	Supply Gap	6	Phlebotomy	1205.10	Saddleback	5
				Phlebotomy Technician/Phlebotomist	CIP 51.1009	Modern Technology School	1
Emergency Medical Technicians and Paramedics	167	Supply Met	181	Emergency Medical Services	1250.00	Orange Coast	36
						Saddleback	97
				Paramedic	1250.10	Saddleback	48
Medical Transcriptionists	124	Supply Gap	0	No Programs	1250.10	No Programs	0
Healthcare Support Workers, All Other	116	Supply Gap	64	Medical Assisting	1208.00	Already accounted for	0
				Medical Insurance Specialist/Medical Biller	CIP 51.0713	Already accounted for	0
				Administrative Medical Assisting	1208.20	Already accounted for	0
				Speech/Language Pathology and Audiology	1220.00	Orange Coast	17
						Santa Ana	23
				Health Information Coding	1223.10	Already accounted for	0
				Radiologic Technology	1225.00	Already accounted for	0

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OCCUPATIONAL TITLE	AVERAGE ANNUAL OPENINGS (2020-2025)	SUPPLY GAP/ SUPPLY MET/ OVERSUPPLY	AVERAGE ANNUAL AWARDS (2017-2020)	TOP6 TITLE	TOP6 OR CIP	COLLEGE	COLLEGE SUPPLY (3-YR AVG)
				Other Health Occupations	1299.00	Orange Coast	16
						Santiago Canyon	8
Pharmacy Aides	101	Supply Gap	0	No Programs	1299.00	No Programs	0
Veterinary Technologists and Technicians	81	Supply Gap	0	Veterinary Technician (Licensed)	0102.10	No Programs	0
				Veterinary/Animal Health Technology/Technician and Veterinary Assistant	CIP 51.0808	Already accounted for	0
Medical Equipment Preparers	76	Supply Gap	0	No Programs	CIP 51.0808	No Programs	0
				Sterile Processing Technology/Technician	CIP 51.1012	No Programs	0
Opticians, Dispensing	75	Supply Gap	11	No Programs	CIP 51.1012	No Programs	0
				Opticianry/Ophthalmic Dispensing Optician	CIP 51.1801	American Career College-Anaheim	11
Psychiatric Technicians	62	Supply Met	72	Psychiatric Technician	1239.00	Cypress	62
				Psychiatric/Mental Health Services Technician	CIP 51.1502	InterCoast Colleges-Santa Ana	10
Community Health Workers	57	Oversupply	215	Health and Wellness, General	CIP 51.1001	University of Phoenix-California	0
				Health Occupations, General*	1201.00	Cypress	3
						Orange Coast	4
						Saddleback	208
				Community Health Care Worker	1261.00	Already accounted for	0
				Human Services	2104.00	Already accounted for	0
				Alcohol and Controlled Substances	2104.40	Already accounted for	0
				Substance Abuse/Addiction Counseling	CIP 51.1501	Already accounted for	0
				Disability Services	2104.50	Already accounted for	0