

## Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input type="checkbox"/>	Endorsed: Some LMI Criteria Met <input checked="" type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
-------------------------	---------------------------------------------------------	---------------------------------------------------------------------	-------------------------------------------

### Program LMI Endorsement Criteria

	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Supply Gap:	<i>Comments:</i> There is projected to be <b>519 annual job openings</b> throughout Los Angeles and Orange counties for <i>emergency medical technicians</i> , which is <b>more than the 215 awards conferred by educational institutions</b> .	
CA Insight Living Wage: (Entry-Level, 25 <sup>th</sup> ) <sup>1</sup>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> <b>Entry-level hourly wages</b> for <i>emergency medical technicians</i> are <b>\$16.81</b> , which is significantly below the <b>OC living wage of \$20.63</b> .	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> The typical entry-level education for <i>emergency medical technicians</i> is a postsecondary nondegree award and <b>more 66% of workers in the field have completed some college or an associate degree as their highest level of education</b> .	

Emerging Occupation(s)		
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>
	<i>Comments:</i> N/A	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to one middle-skill occupation:

- *Emergency Medical Technicians (29-2042)*

Based on the available data, there appears to be a supply gap for *emergency medical technicians* in the region and typical education requirements for this occupation align with a community college education. However, typical entry-level wages are significantly below the California Insight living wage. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

<sup>1</sup> The living wage endorsement criteria in this report uses the California Insight Center’s living wage of \$20.63 for Orange County, last updated in September 2021, as currently employed by the Chancellor’s Office for the *Students Who Attained the Living Wage Strong Workforce Program* metric. However, this figure is outdated and does not reflect recent increases in the cost of living. The MIT Living Wage, updated on February 14, 2024, better accounts for existing economic conditions, with the current MIT Living Wage in Orange County being \$30.48, which is mentioned as a reference only throughout this labor market analysis brief.

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupation included in this report.

### Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Emergency Medical Technicians (29-2042)	LA: 292 OC: 227	LA: 85 OC: 130	OC: \$16.81	Postsecondary nondegree award	66%
<b>Total</b>	<b>519</b>	<b>215</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

#### Demand:

- The number of jobs related to *emergency medical technicians* is projected to increase 8% through 2027, equating to 519 annual job openings.
- Hourly entry-level wages for *emergency medical technicians* are \$16.81 in Orange County, which is significantly below the California Insight living wage of \$20.63.
- There were 877 online job postings for *emergency medical technicians* over the past 12 months. The highest number of postings were for emergency medical technicians – basic, emergency medical technicians, and clinical care partners.
- The typical entry-level education for *emergency medical technicians* is a postsecondary nondegree award.
- Approximately 66% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

#### Supply:

- There were 195 awards conferred by community colleges in Los Angeles and Orange Counties from 2019 to 2022.
- Non-community college institutions conferred an average of 20 awards from 2019 to 2021.
- Orange County community college students that exited emergency medical services programs in the 2020-21 academic year had a median annual wage of \$38,378 (\$18.45 per hour) after exiting the program and 36% attained the regional living wage (California Insight).
- Throughout Orange County, 53% of emergency medical services students that exited their program in 2019-20 reported that they are working in a job closely related to their field of study.

## Demand

### Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for *emergency medical technicians* from 2017 through 2027. Though there was a 7% decline across all occupations in Los Angeles and Orange counties from 2019 to 2020 due to the COVID-19 pandemic, employment for *emergency medical technicians* remained flat in Orange County during the same period but increased from 2020 to 2022.

In the three years preceding the pandemic, employment for this occupation increased, though at decreasing rates, each year from 2017 to 2019 in Orange County. Furthermore, employment for *emergency medical technicians* is projected to increase through 2027 at a higher rate relative to all occupations in Los Angeles and Orange counties.

**Exhibit 2: Annual Percent Change in Jobs for Emergency Medical Technicians, 2017-2027**

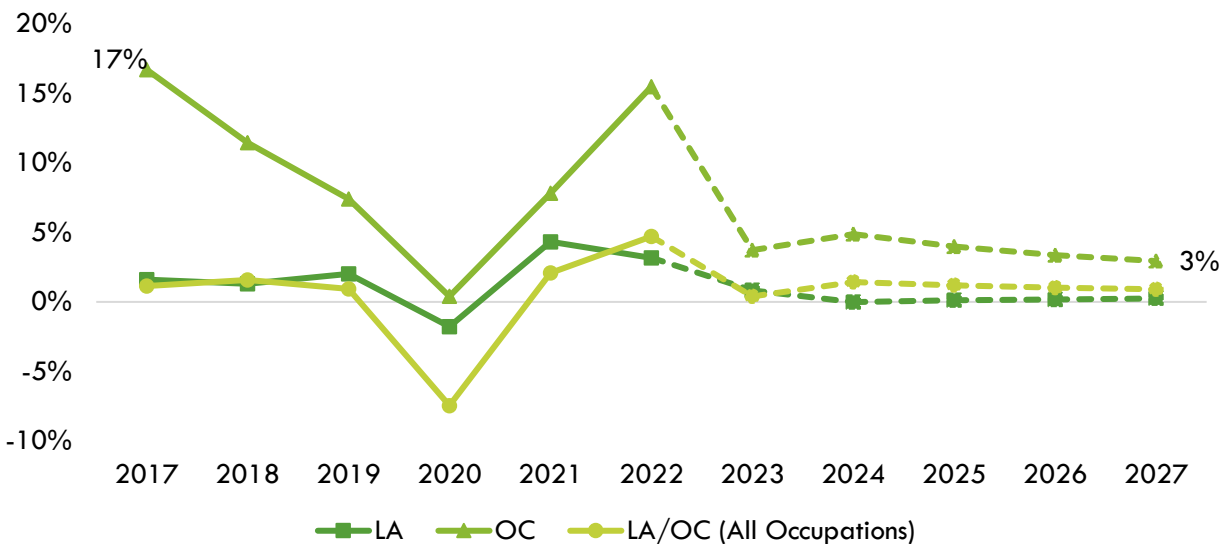


Exhibit 3 shows the five-year occupational demand projections for *emergency medical technicians*. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to increase by 8% through 2027. There is projected to be 519 jobs available annually.

**Exhibit 3: Occupational Demand in Los Angeles and Orange Counties<sup>2</sup>**

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	4,040	4,095	55	1%	292
Orange	1,963	2,362	399	20%	227
<b>Total</b>	<b>6,003</b>	<b>6,457</b>	<b>454</b>	<b>8%</b>	<b>519</b>

<sup>2</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

## Wages:

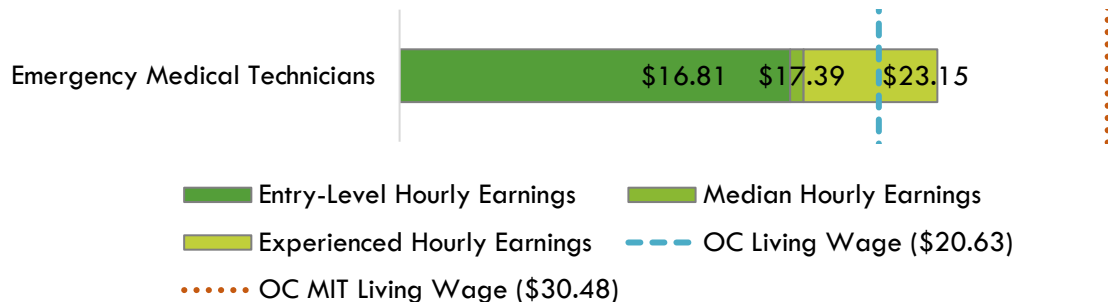
The labor market endorsement in this report considers the entry-level hourly wages for *emergency medical technicians* in Orange County as they relate to the county's living wage. Los Angeles County wages are included below in order to provide a complete analysis of the LA/OC region.

It is important to note that the living wage endorsement criteria in this report uses the California Insight Center's living wage of \$20.63 for Orange County, last updated in September 2021, as currently employed by the Chancellor's Office for the *Students Who Attained the Living Wage Strong Workforce Program* metric. However, this figure is outdated and does not reflect recent increases in the cost of living. The MIT Living Wage, updated on February 14, 2024, better accounts for existing economic conditions, with the current MIT Living Wage in Orange County being \$30.48. Both figures are notated in the exhibits below.

Wages for *emergency medical technicians* are low despite their roles as critical first responders. One reason for these low wages is 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>3</sup>

The typical entry-level hourly wage for *emergency medical technicians* is \$16.81 and median wages are \$17.39, both of which are significantly below the California Insight living wage for one adult (\$20.63 in Orange County). However, experienced-level wages of \$23.15 are above the California Insight living wage. Orange County's average wage of \$21.31 is below the average statewide wage of \$21.93 for this occupation. Exhibit 4 shows the wage range for *emergency medical technicians* in Orange County and how it compares to the regional living wage.

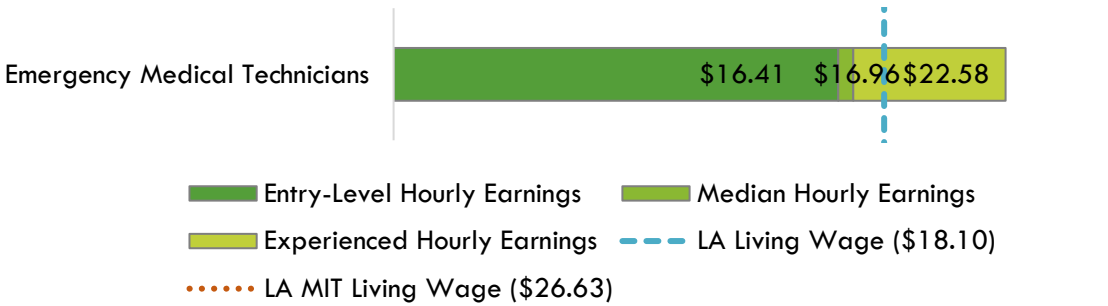
### Exhibit 4: Wages by Occupation in Orange County



The typical entry-level hourly wage for *emergency medical technicians* is \$16.41 and median wages are \$16.96, both of which are below the California Insight living wage for one adult (\$18.10 in Los Angeles County). However, experienced-level wages of \$22.58 are above the California Insight living wage. Los Angeles County's average wage of \$20.79 is below the average statewide wage of \$21.93 for this occupation. Exhibit 5 shows the wage range for *emergency medical technicians* in Los Angeles County and how it compares to the regional living wage.

<sup>3</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>.

## Exhibit 5: Wages by Occupation in Los Angeles County



### Job Postings:

**Important Online Job Postings Data Note:** Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more. Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.<sup>4</sup> For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast's database.

Additionally, there are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

There were 877 online job postings related to emergency medical technicians listed in the past 12 months, as shown in Exhibit 6.

### Exhibit 6: Number of Job Postings by Occupation (n=877)

Occupation	Job Postings	Percentage of Job Postings
Emergency Medical Technicians	877	100%

The top employers in the region, by number of job postings, are shown in Exhibit 7.

### Exhibit 7: Top Employers by Number of Job Postings (n= 877)

Employer	Job Postings	Percentage of Job Postings
AMR	445	51%
Northwell Health	40	5%
Global Medical Response	24	3%
Ahmc Healthcare	13	1%
West Coast Ambulance	12	1%
Prn Ambulance	10	1%
Lifeguard Air Ambulance	9	1%

<sup>4</sup> K. R. Chowdhary, Fundamentals of Artificial Intelligence (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

Employer	Job Postings	Percentage of Job Postings
Total Safety	9	1%
Lincare	8	1%
Huntington Health Services	6	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8.

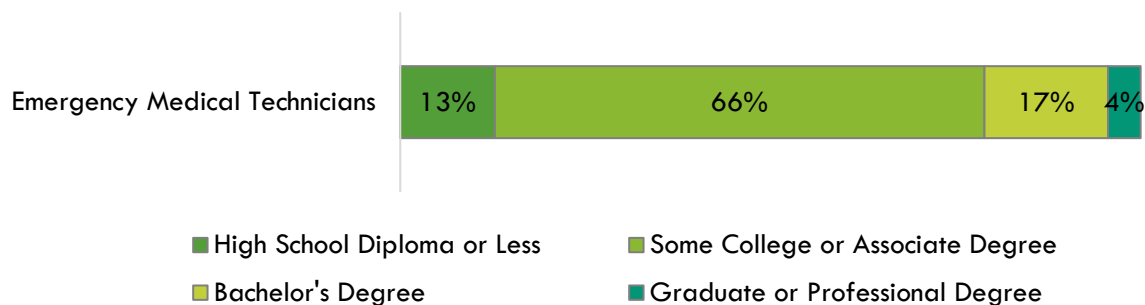
**Exhibit 8: Top Skills by Number of Job Postings (n=877)**

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Cardiopulmonary Resuscitation (CPR) (512)	Customer Service (541)	Microsoft Office (11)
Medical Assistance (470)	Communication (488)	Microsoft Excel (3)
Emergency Medical Services (417)	Good Driving Record (420)	Apple IOS (2)
Ambulances (411)	Quality Assurance (375)	Enterprise Application Software (2)
Billing (233)	Compassion (224)	Homeless Management Information System (2)
Splinting (233)	Operations (209)	Microsoft Outlook (2)
Critical Care (229)	Empathy (202)	Applicant Tracking Systems (1)
Health Assessment (198)	Cleanliness (166)	Google Maps (1)
Patient Treatment (198)	Professionalism (128)	Google Workspace (1)
Standard Operating Procedure (195)	Computer Literacy (53)	Learning Management Systems (1)

### Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a postsecondary nondegree award as the typical entry-level education for *emergency medical technicians*. However, the national-level educational attainment data indicates 66% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for *emergency medical technicians*.

**Exhibit 9: National-level Educational Attainment for Occupations**



Of the 78% of the cumulative job postings for *emergency medical technicians* that listed a minimum education requirement in Los Angeles/Orange County, 99% (676) requested a high school diploma or an associate degree and 1% (8) requested a bachelor's degree.

# Educational Supply

## Community College Supply:

Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP code: Emergency Medical Services (1250.00).

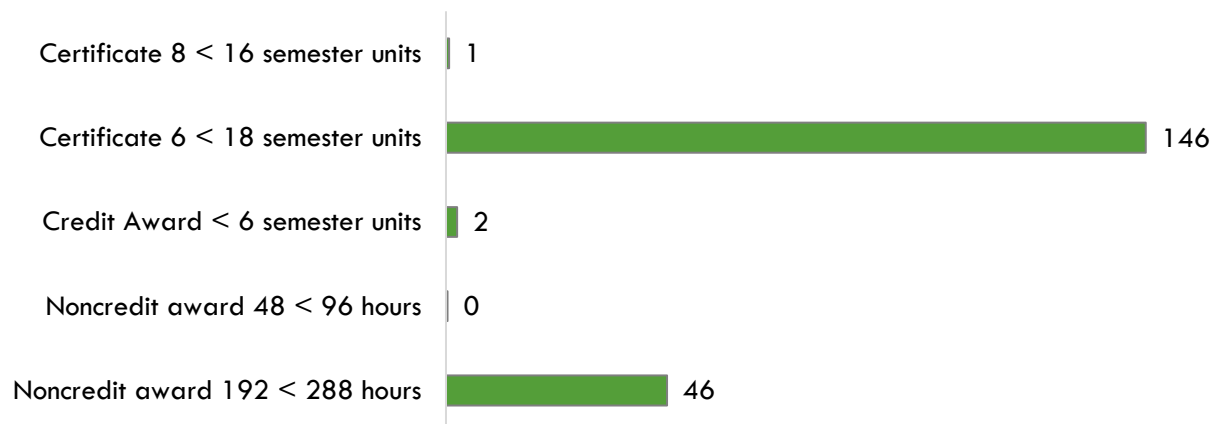
The colleges with the most completions in the region are Saddleback, Mt. San Antonio, and Orange Coast. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

### Exhibit 100: Regional Community College Awards (Certificates and Degrees), 2019-2022

TOP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
1250.00	Emergency Medical Services	East LA	3	36	8	16
		Glendale	0	1	1	1
		LA Harbor	0	1	0	0
		Long Beach	2	2	1	2
		Mt San Antonio	35	34	69	46
		West LA	0	0	2	1
		<b>LA Subtotal</b>	<b>40</b>	<b>74</b>	<b>81</b>	<b>65</b>
		Orange Coast	49	65	0	38
		Saddleback	150	74	52	92
		<b>OC Subtotal</b>	<b>199</b>	<b>139</b>	<b>52</b>	<b>130</b>
<b>Supply Total/Average</b>			<b>239</b>	<b>213</b>	<b>133</b>	<b>195</b>

Exhibit 11 shows the annual average community college awards by type from 2019-20 through 2021-22. The majority of the awards are for certificates between 6 and less than 18 semester units, followed by distantly by noncredit awards between 192 and less than 288 hours.

### Exhibit 111: Annual Average Community College Awards by Type, 2019-2022



## Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for emergency medical services programs in Rancho Santiago Community College District (RSCCD), the Orange County Region, and California. Of the 740 emergency medical services students in Orange County, 51% (374) attended a RSCCD college.

RSCCD students that exited emergency medical services programs in the 2020-21 academic year had higher median annual earnings (\$39,720 or \$19.10 per hour) compared to all emergency medical services students in Orange County (\$38,378 or \$18.45 per hour). A lower percentage of RSCCD emergency medical services students attained the living wage (33%) when compared to all emergency medical services students in Orange County (36%).

### Exhibit 122: Emergency Medical Services (1 250.00) Strong Workforce Program Metrics, 2020-21<sup>5</sup>

SWP Metric	RSCCD	OC Region	California
SWP Students	374	740	15,636
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	57%	60%	35%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	56%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	Insufficient Data	518
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	Insufficient Data	30	723
SWP Students with a Job Closely Related to Their Field of Study (2019-20)	Insufficient Data	53%	61%
Median Annual Earnings for SWP Exiting Students	\$39,720	\$38,378	\$40,544
Median Change in Earnings for SWP Exiting Students	28%	34%	34%
SWP Exiting Students Who Attained the Living Wage	33%	36%	57%

## Non-Community College Supply:

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering emergency medical services programs. Exhibit 13 displays the annual and two-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) code: Emergency Medical Technology/Technician (EMT Paramedic) (51.0904). The available data covers 2019 to 2021. During this period, non-community college institutions in the region conferred an average of 20 awards annually in related programs.

### Exhibit 133: Regional Non-Community College Awards, 2019-2021

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2-Year Award Average
51.0904	Emergency Medical Technology / Technician (EMT Paramedic)	University of Antelope Valley	28	11	20
<b>Supply Total/Average</b>			<b>28</b>	<b>11</b>	<b>20</b>

<sup>5</sup> All SWP metrics are for 2020-21 unless otherwise noted.

## Regional Demographics

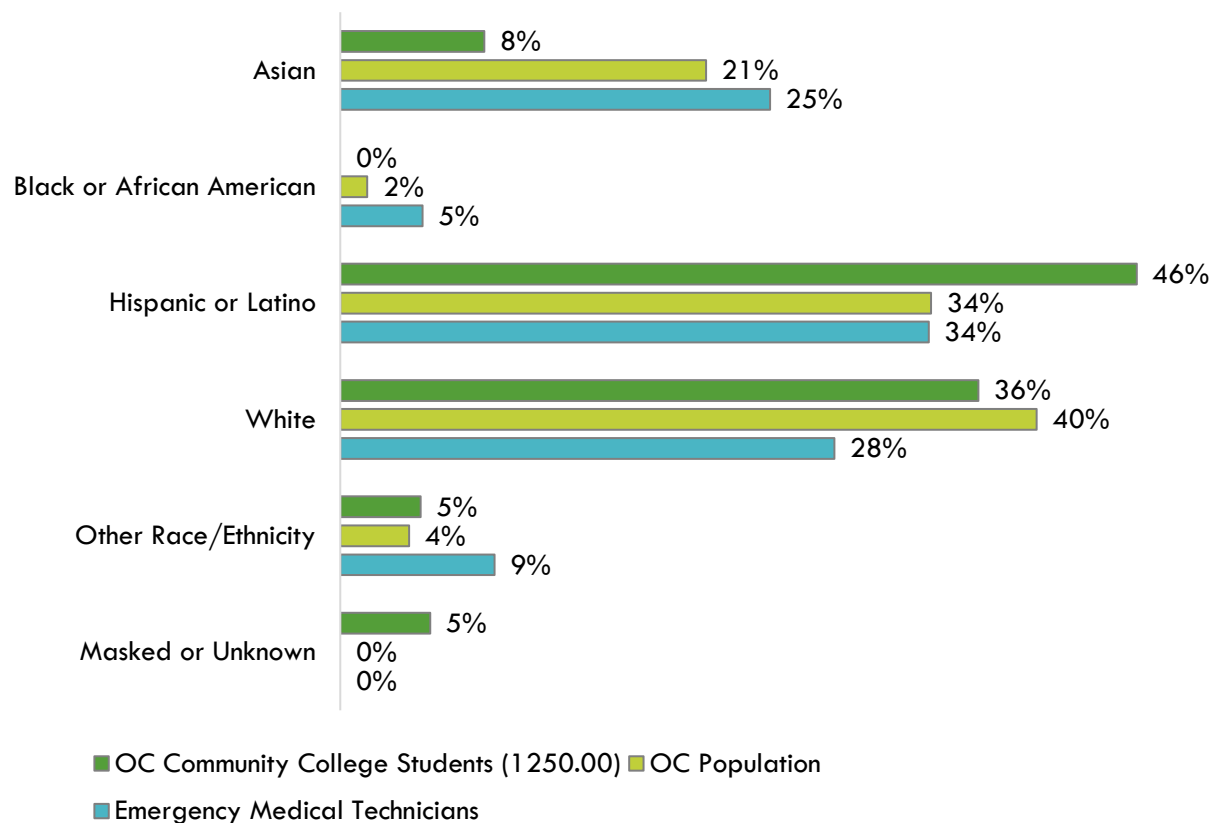
This section examines demographic data for Orange County community college students in emergency medical services programs compared to the OC population, along with occupational data, to identify potential diversity and equity issues addressable by community college programs.

### Ethnicity:

Exhibit 14 compares the ethnicity of Orange County community college students enrolled in emergency medical services compared to the overall Orange County population, and occupation-specific data for emergency medical technicians.

The plurality of community college emergency medical services students are Hispanic or Latino (46%), which is higher than the population and workers in the field (34% each). Conversely, the plurality of individuals in the population are white (40%), which is higher than community college emergency medical services students (36%) and significantly higher than workers in the field (28%). Furthermore, though 25% of workers in the field and 21% of the population are Asian, only 8% of community college emergency medical services students are Asian.

Exhibit 14: Program and County Demographics by Ethnicity

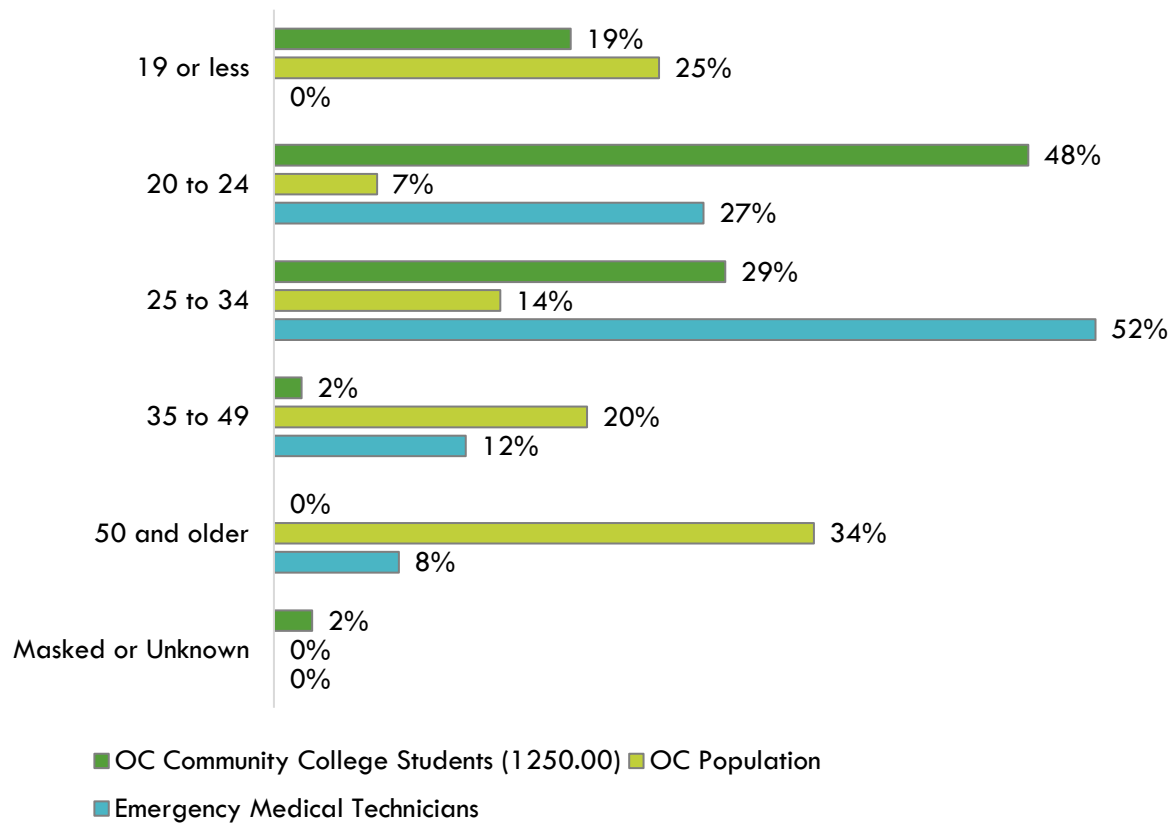


## Age:

Exhibit 15 compares the age of Orange County community college students enrolled in emergency medical services programs compared to the overall Orange County population, and occupation-specific data for *emergency medical technicians*. A slight majority of workers in the field are age 25 to 34 (52%), which is significantly higher than the community college emergency medical services students (29%) and the population (14%). Alternatively, almost half of community college emergency medical students are 20 to 24 (48%), which is significantly higher than workers in the field (27%) and the population (7%).

Furthermore, though 34% of the population and 8% of workers in the field are 50 and older, there are no community college emergency medical services students in this age range (0%). Alternatively, though 25% of the population and 19% of community college emergency medical services students are 19 or less, there are no workers in the field in this age range (0%).

Exhibit 145: Program and County Demographics by Age

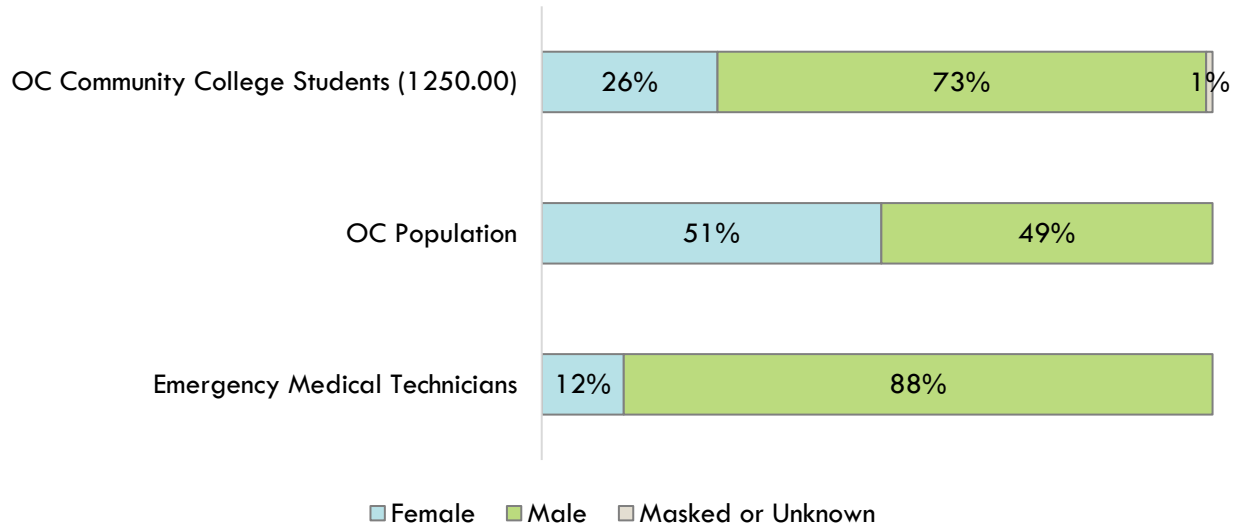


## Sex:

Exhibit 16 compares the sex of Orange County community college students enrolled in emergency medical services programs compared to the overall Orange County population and occupation-specific data for *emergency medical technicians*.

Though the population is nearly split evenly between women and men, only 26% of community college emergency medical services students and 12% of workers in the field are women.

**Exhibit 156: Program and County Demographics by Sex**



## Appendix A: Methodology

The OC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm 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).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. 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.

The OC 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 code data comes from the California Community Colleges Chancellor's Office MIS Data Mart ([datamart.cccco.edu](http://datamart.cccco.edu)) and CIP code data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://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.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; 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 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.

## Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	<p>Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see <a href="https://lightcast.io/">https://lightcast.io/</a></p>
Living Wage	<p>The living wage is derived from the Insight Center’s California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data, last updated in September 2021, assesses the cost of housing, food, child care, health care, transportation, and taxes. For more information, see: <a href="https://insightccd.org/family-needs-calculator/">https://insightccd.org/family-needs-calculator/</a></p> <p>The living wage for one adult in Orange County is \$20.63 per hour (\$42,910.40 annually). This figure is used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</p>
Typical Education and Training Requirements, and Educational Attainment	<p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see <a href="https://www.bls.gov/emp/documentation/education/tech.htm">https://www.bls.gov/emp/documentation/education/tech.htm</a></p>
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	<p>The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see <a href="https://www.onetonline.org/help/online/">https://www.onetonline.org/help/online/</a></p>
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: <a href="https://datamart.cccco.edu">https://datamart.cccco.edu</a></p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see <a href="https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions">https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</a></p>
Student Metrics and Demographics	<p>LaunchBoard, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: <a href="https://www.calpassplus.org/LaunchBoard/Home.aspx">https://www.calpassplus.org/LaunchBoard/Home.aspx</a></p>

Data Type	Source
Population and Occupation Demographics	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: <a href="https://www.census.gov/programs-surveys/acs">https://www.census.gov/programs-surveys/acs</a></p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: <a href="https://usa.ipums.org/usa/about.shtml">https://usa.ipums.org/usa/about.shtml</a></p>

For more information, please contact the Orange County Center of Excellence:

**Jesse Crete, Ed. D., Director**  
 crete\_jesse@rscdd.edu

**Jacob Poore, Assistant Director**  
 poore\_jacob@rscdd.edu

August 2024

