

Labor Market Analysis for: 1251.00 Paramedic

Inland Empire/Desert Center of Excellence, August 2024

Prepared by: Chris Cruzcosa, ccruzcosa@iegocollaborative.org



Summary

Program LMI Endorsement	All LMI Criteria Met	Some LMI Criteria Met (Proceed with Caution)	LMI Criteria NOT Met
	✓	<input type="checkbox"/>	<input type="checkbox"/>

Program LMI Endorsement Criteria		
Supply Gap	Yes ✓	No <input type="checkbox"/>
	<i>Comments:</i> While educational institutions awarded an average of 374 awards annually over the past 3 years, only 194 paramedic jobs are projected per year (2022-2027) in the Inland Empire/Desert region. This suggests a potential oversupply of trained individuals. However, two factors challenge this apparent oversupply. One factor is multiple certifications per student; another is a data outlier (one college skewing the average). Excluding the outlier, the average falls to 63 awards annually. Employer demand strengthens this point, with 840 unique job postings identified – suggesting there is a possible under-supply of trained individuals.	
Living Wage	Yes ✓	No <input type="checkbox"/>
	<i>Comments:</i> All (100%) of annual job openings for this occupation have entry-level hourly wages above the IE/D living wage of 13.74.¹ (Hourly entry-level wages at the 25th percentile hourly wage are projected as \$24.56 in IE/D.)	
Education	Yes ✓	No <input type="checkbox"/>
	<i>Comments:</i> Most job postings for target occupations require a high school or equivalent education (99%). See exhibits 8 and 9 for more details.	

The Inland Empire/Desert (IE/D) Center of Excellence for Labor Market Research (IE/D COE) reviewed the following occupations to prepare this report:

- Middle-Skill (typically require training/education above a HS diploma but less than a bachelor’s degree)
 - Paramedics (29-2043)
 - Emergency Medical Technicians (29-2042)

Summary of findings

Demand

- The number of jobs related to the middle-skill occupations – Paramedics, Emergency Medical Technicians - is projected to increase 8% through 2027, with 194 annual job openings (new and replacement jobs).
- Hourly entry-level wages for all occupations are above living wage at the 25th percentile hourly wage, projected as between \$16.05 - \$24.56 in IE/D.
- There were 840 online job postings from 45 employers over the past 12 months with the highest postings for paramedics.
- Most job postings for target occupations require high school or equivalent education (99%), followed by associate degree (1%), and bachelor’s degree (0%).

Supply

- On average, there were 374 annual awards conferred by educational institutions over the last 3 years in related fields: 373 from community colleges and 1 from other institutions (e.g., 4-year universities, private schools). However, see Exhibits 11a and Exhibit 11b for a longer review of an outlier in the data related to one college – which, if removed, would reduce the total average significantly.
- IE/D community college students that exited these programs in the 2021-22 academic year earned a median annual wage of \$58,130 (\$27.95 per hour).
- 77% of students that exited their program in 2021-22 reported that they are working in a job closely related to their field of study.
- Community college programs play an important role diversifying the talent pipeline in these occupations. The plurality of IE/D professionals in emergency services occupations are White (46%), “early career” or “mid-career”

¹ While the [UW self-sufficiency standard](#) is currently used by the CO and other COEs, the self-sufficiency standard was last updated by UW in 2021, does not account for significant increases in the cost of living in the Inland Empire the last three years, and is below the State of California minimum wage of \$16.00. For these reasons, the COE will provide an alternative living wage calculation from MIT in the analysis below as an additional reference point. MIT estimates, the living wage for an adult with no kids living in 2024 is \$26.30 in Riverside County and \$25.17 in San Bernadino County.

age categories (74%), and male (66%). Most community college students in related programs are Hispanic/Latino (53%), “pre-college/career” age category (55%), and male (75%).

Introduction

California Community College Paramedic (TOP 1251.00) programs prepare students for employment with training specific to the certification standards for EMT-P (Paramedic) (Taxonomy of Programs, 2023). The knowledge, skills, and abilities trained by paramedic programs lead to employment in occupations related to emergency services.

Job Demand

In 2022, there were 2,469 jobs in occupations related to emergency services in the IE/D region. Regional employment for this occupation group is projected to increase by 8% through 2027 with 194 job openings projected annually. Exhibit 1 displays the job count, five-year projected job growth, and job openings in the region.

Exhibit 1. Five-year projections for occupations related to emergency services IE/D Region 2022-2027

Occupation	SOC	2022 Jobs	2027 Jobs	2022 - 2027 % Change	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)
Emergency Medical Technicians	29-2042	1,661	1,767	6%	699	140
Paramedics	29-2043	808	883	9%	270	54
Total		2,469	2,650	8%	969	194

SOURCE: LIGHTCAST 2024.1

Job Postings

The following analysis for occupations related to emergency services using online job posting data.

Important note: The data produced in this section were generated by leveraging online job posting data sourced from Lightcast, which is the labor market analytics software tool COEs use to produce these briefs. The job posting data is collected from scraping online job boards such as LinkedIn, Indeed, Glassdoor and many others. The process Lightcast uses to assemble this data does have some limitations due to methods that recruitment professionals sometimes use (e.g., posting one job to fill multiple positions). For example, the number of jobs posted is not necessarily the same as the number of job vacancies.² While not perfect, Lightcast leverages machine learning and other AI technologies to enrich, deduplicate and aggregate this information to make it a meaningful dataset.

Exhibit 2 displays the number of job ads posted for occupations related to emergency services over the last 12 months and the median posting duration. Over the previous 12 months, there were 840 unique job postings for occupations related to emergency services in the region from 45 employers.

Exhibit 2. Job ads and posting duration, IE/D Region, Jun 2023 – May 2024

Job Title	Job Ads	Median Posting Duration
Emergency Medical Technicians	459	27 days
Paramedics	381	31 days
Total	840	

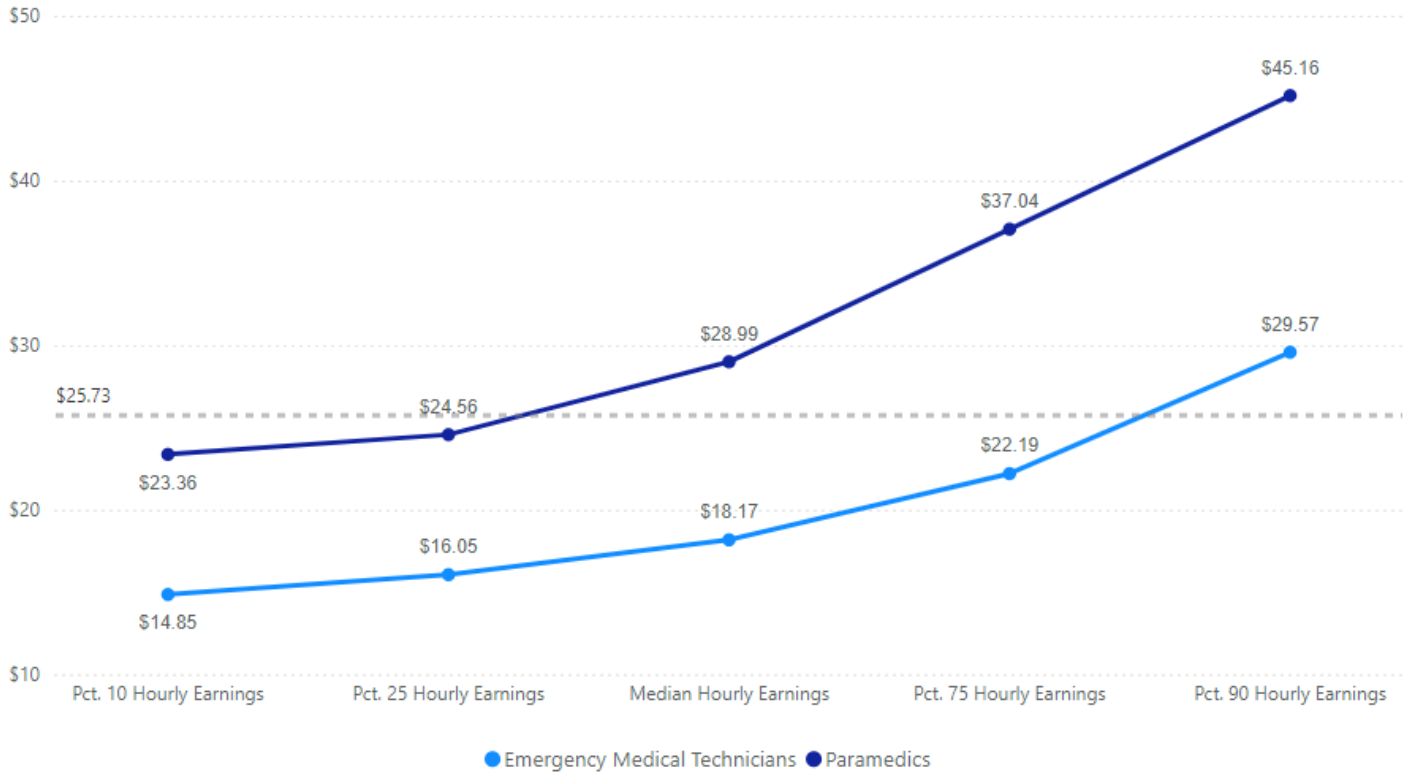
SOURCE: LIGHTCAST 2024.1

² "Job Posting Analytics (JPA) Methodology." Lightcast Knowledge Base, <https://kb.lightcast.io/en/articles/6957446-job-posting-analytics-jpa-methodology>

Earnings

Exhibit 3 displays the hourly earnings for occupations related to emergency services and includes comparison of hourly earnings as compared to the MIT IE/D living wage of \$25.73.³

Exhibit 3. Hourly earnings by percentile for occupations related to emergency services, IE/D Region, 2022



SOURCE: LIGHTCAST 2024.1

All entry-level earnings (that is, the earnings of the lowest paid 25% of employees in the IE/D) were above the UW Self-Sufficiency Standard for the IE/D⁴. However, the occupation researched was below the MIT living wage for an adult with no children (\$25.73).

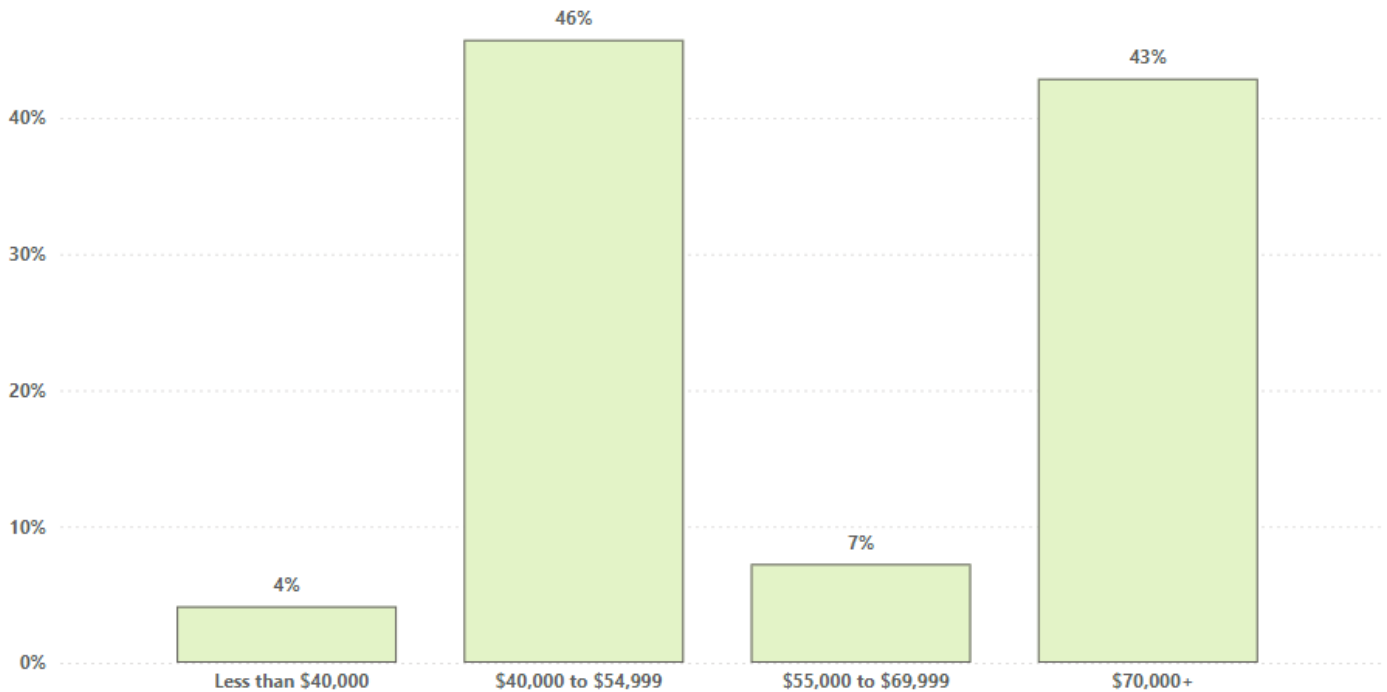
³ While the [UW self-sufficiency standard](#) is currently used by the CO and other COEs, the self-sufficiency standard was last updated by UW in 2021, does not account for significant increases in the cost of living in the Inland Empire the last three years, and is below the State of California minimum wage of \$16.00. While the COE uses this standard for the LMI Wage criteria, for these reasons, the provides an alternative living wage calculation from MIT in the analysis as an additional reference point. MIT estimates, the living wage for an adult with no kids living in 2024 is \$26.30 in Riverside County and \$25.17 in San Bernadino County.

⁴ *ibid*

Advertised Salary from Online Job Ads

Exhibit 4 displays the regional online advertised salaries for the occupations related to emergency services over the last 12 months. Online job ad salary information data suggests most employers (50%) advertise an annual salary greater than \$55,000 (\$26.44 per hour).

Exhibit 4. Online advertised salaries occupations related to emergency services, IE/D Region, Jun '23 to May '24



SOURCE: LIGHTCAST 2024.1

Online Job Advertisements: top job titles, skills, education & work experience.

Exhibit 5 displays the job titles most frequently used in job postings for the occupations related to emergency services over the last 12 months. Assessing the top advertised job titles may provide insight into the types of positions sought by employers.






Exhibit 5. Job titles most frequently used in job ads, IE/D Jun '23 to May '24

Job Title	Unique Postings
Paramedics	258
Emergency Medical Technicians - Basic	179
Emergency Response Managers	166
Emergency Medical Technicians	132
On-Site Medical Representatives	12
Ambulance Drivers	7
Emergency Care Technicians	5
Flight Paramedics	5
Special Events Managers	5
ALM Analysts	4

SOURCE: LIGHTCAST 2024.1

Exhibit 6 displays the employers posting the most job ads for this occupational group during the last 12 months. Showing employer names can provide insight into where students may find employment after completing a program and may inform job development and other employer engagement targets for faculty and staff involved in related programs. AMR and Global Medical Response had the highest unique job posts for this occupational group in the last 12 months. Posting intensity is the ratio of total job posts to unique job posts which are deduplicated. A higher posting intensity can represent the level of effort and activity the organization is putting into hiring for that position.

Exhibit 6. Employers posting the most job ads, IE/D Jun '23 to May '24

Company	Total/Unique (May 2023 - Apr 2024)	Posting Intensity	Median Posting Duration
AMR	4,436 / 720	6 : 1 	31 days
Global Medical Response	130 / 65	2 : 1 	38 days
Lifeguard Air Ambulance	14 / 13	1 : 1 	46 days
Dispatchhealth	19 / 11	2 : 1 	20 days
Amazon	67 / 8	8 : 1 	34 days
Lincare	13 / 6	2 : 1 	55 days
Advantage Ambulance	25 / 6	4 : 1 	30 days
Pechanga Resort & Casino	9 / 5	2 : 1 	11 days
Morongo Band Of Mission Indians	6 / 4	2 : 1 	53 days
Kaiser Permanente	11 / 4	3 : 1 	22 days

SOURCE: LIGHTCAST 2024.1

It should also be noted that there are other historical healthcare firms that have hired paramedics in the region including: fire departments, campsites, ski-resorts, and movie sets – just to name a few business types. Although they are not all represented in the job posting data available in Lightcast, there are a wide range of businesses which require trained paramedics for their regular operations, and which regularly post for openings in this field in the region.

Exhibit 7 displays the top common, specialized and computer skills that were included in the job postings over the last 12 months. Today's demand is an important indicator of which skills employers are looking for in the current market. Analyzing skills from a historical perspective as well as projecting the future needs of employers may provide insight into how the job posting skills demand compares to the market as a whole. Rapidly growing skills are those that are increasing in demand at a faster rate than the market as a whole.⁵

Exhibit 7. Top 10 in-demand skills from employer job ads, IE/D Jun '23 to May '24

Common skills	Total Postings	Skill Growth Relative to Market
Good Driving Record	713	Growing
Professionalism	507	Growing
Customer Service	380	Stable
Communication	329	Lagging
Management	229	Stable
Operations	81	Stable
Quality Assurance	68	Growing
Cleanliness	62	Growing
First Aid	31	Growing
Lifting Ability	24	Growing

Specialized skills	Total Postings	Skill Growth Relative to Market
Ambulances	729	Growing
National Incident Management Systems	664	Stable
Medical Equipment	648	Stable
Cardiopulmonary Resuscitation (CPR)	491	Growing
Electrocardiography	377	Growing
Defibrillation	361	Lagging
Intravenous Hydration	357	Stable
Emergency Medical Services	347	Growing
Medical Assistance	307	Growing
Patient Rights	292	Growing

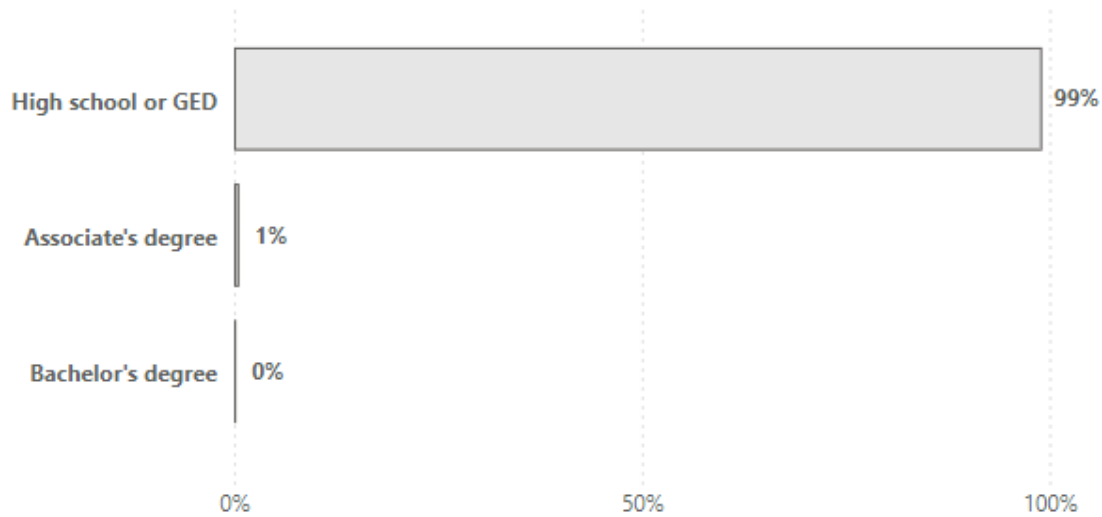
Computer Skills	Total Postings	Skill Growth Relative to Market
Microsoft Office	13	Growing
Amazon Product Advertising API	12	Growing
Firewall	2	Rapidly Growing
Java Persistence API	2	Growing
Microsoft Word	2	Stable
Mono	2	Lagging
Active Server Pages (ASP)	1	Stable
Microsoft Excel	1	Growing
Microsoft Outlook	1	Rapidly Growing
Microsoft PowerPoint	1	Rapidly Growing

SOURCE: LIGHTCAST 2024.1

⁵ "What are Lightcast Skill Projects", Lightcast Knowledge base, <https://kb.lightcast.io/en/articles/8496296-what-are-lightcast-skill-projections>

Exhibit 8 includes the minimum educational requirements from job postings for this occupational group with high school diploma or equivalent (99%) significantly greater than associate degree (1%) or bachelor's degree (0%).

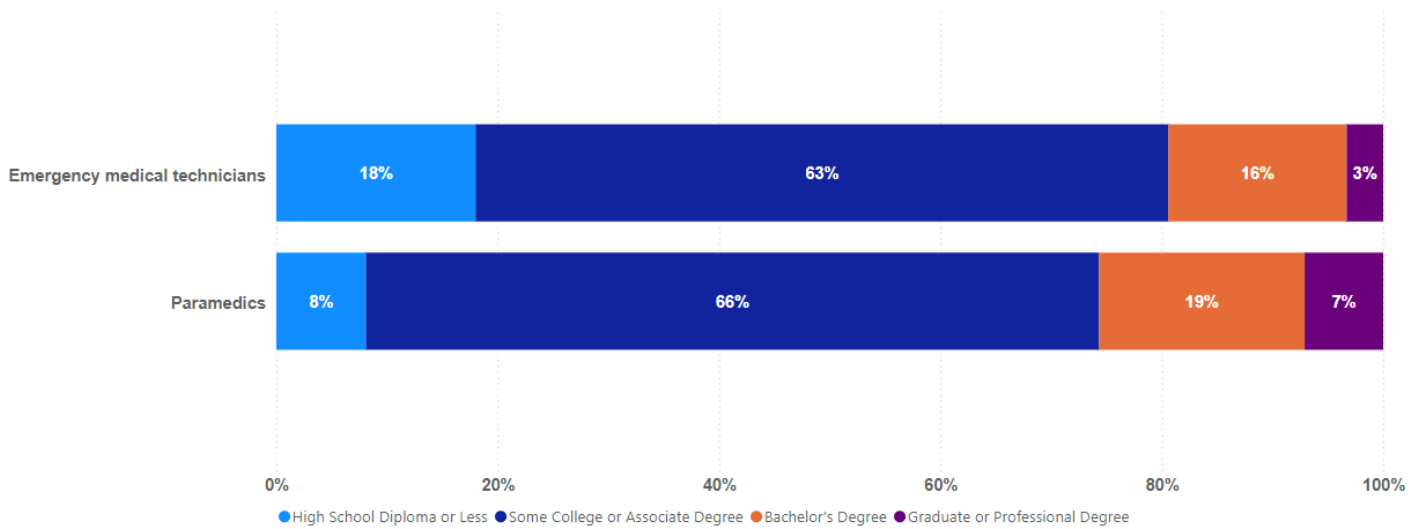
Exhibit 8 Minimum educational requirements in job postings for this occupational group, IE/D Jun '23 to May '24



SOURCE: LIGHTCAST 2024.1

For this middle-skill occupation, the Bureau of Labor Statistics (BLS) education attainment data in Exhibit 9 for current professionals in the occupations of interest indicates that approximately 63 - 66% of workers have completed some college or an associate degree as their highest level of education.

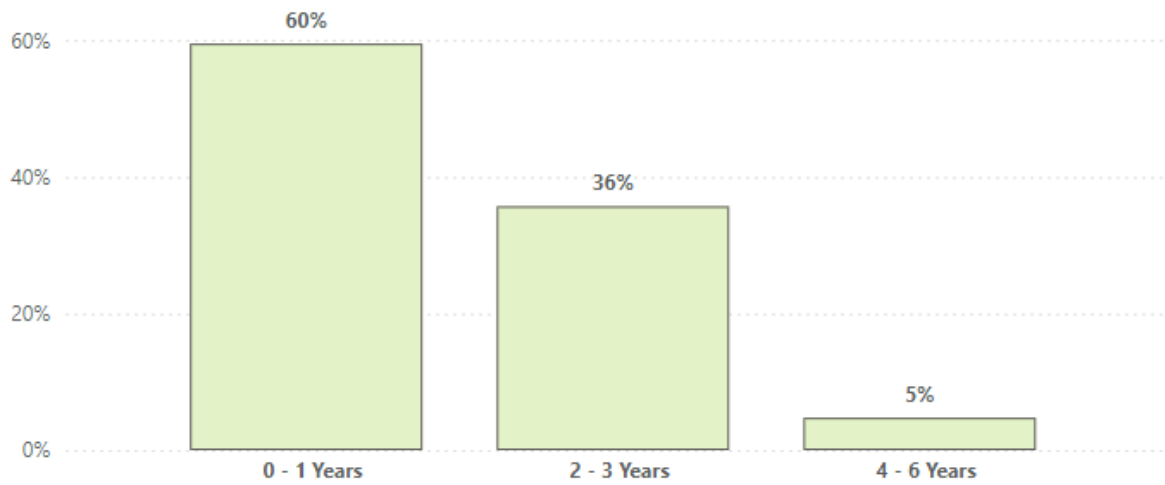
Exhibit 9 National-level Education Attainment for Occupations



SOURCE: BLS 2021

Exhibit 10 displays the work experience typically required from employer job ads for this occupational group. The majority (60%) of employers listing minimum experience requirements sought candidates with 0 – 1 years of previous work experience.

Exhibit 10 Work experience requirements, IE/D Jun '23 to May '24



SOURCE: LIGHTCAST 2024.1

Student Completions and Program Outcomes

The exhibits below display student completions for the Paramedic (TOP 1251.00) programs over the last three academic years (2020-2023). However, there is an outlier in the award data which shows that most awards are related to a single college's programs, which is also several times the size of the other two colleges' programs. There are some possible causes for this outlier (multiple certifications per student, data validation issues, etc.) but we are not able to definitively determine the cause(s) from this analysis.

Exhibit 11a demonstrates the award totals using the full dataset, while Exhibit 11b shows the awards totals without the outlier data. There is clearly a wide gulf between the two annual average award totals, which has a material impact on the analysis because, without the outlier data, there are projected to be only 63 annual average awards educational institutions over the last 3 years – while, including the outlier, the 3-year average is 373 annual average awards.

Exhibit 11a Annual average community college awards for Paramedic (TOP 1251.00), all programs

Top Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
1251.00	Paramedic	Victor Valley	261	441	227	310
1251.00	Paramedic	Moreno Valley	29	43	45	39
1251.00	Paramedic	Crafton Hills	9	23	40	24
Total			299	507	312	373

Exhibit 11b Annual average community college awards for Paramedic (TOP 1251.00), some programs

Top Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
1251.00	Paramedic	Moreno Valley	29	43	45	39
1251.00	Paramedic	Crafton Hills	9	23	40	24
Total			38	66	85	63

SOURCE: MIS DATA MART

Non-Community College Supply

Award completion data is available for Emergency Medical Technology/Technician (EMT Paramedic) (51.0904) in the IE/D for non-community college programs.

In the previous three academic years, one regional non-community college institution issued an average of 1 award in relevant programs. However, it should be noted that this program at Loma Linda University is currently closed.

CIP	CIP with Title	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
51.0904	51.0904 - Emergency Medical Technology/Technician (EMT Paramedic)	Loma Linda University	2	1	0	1
Total			2	1	0	1

SOURCE: IPEDS

California program outcome data may provide useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP code and region is provided in Exhibit 12.

Exhibit 12 Paramedic strong workforce program outcomes, IE/D, most recent academic year

Program metric title	Inland Empire/Desert	Statewide
Attained a living wage (completers and skills-builders)	74%	76%
Completed 9+ career education units in one year	64%	63%
Job closely related to the field of study	77%	93%
Median annual earnings (all exiters)	\$58,130	\$60,566
Students who attained a noncredit workforce milestone in a year	88%	74%
Students who earned a degree, certificate, or attained apprenticeship	233	586
Unduplicated count of enrolled students	387	1,777

SOURCE: LAUNCHBOARD

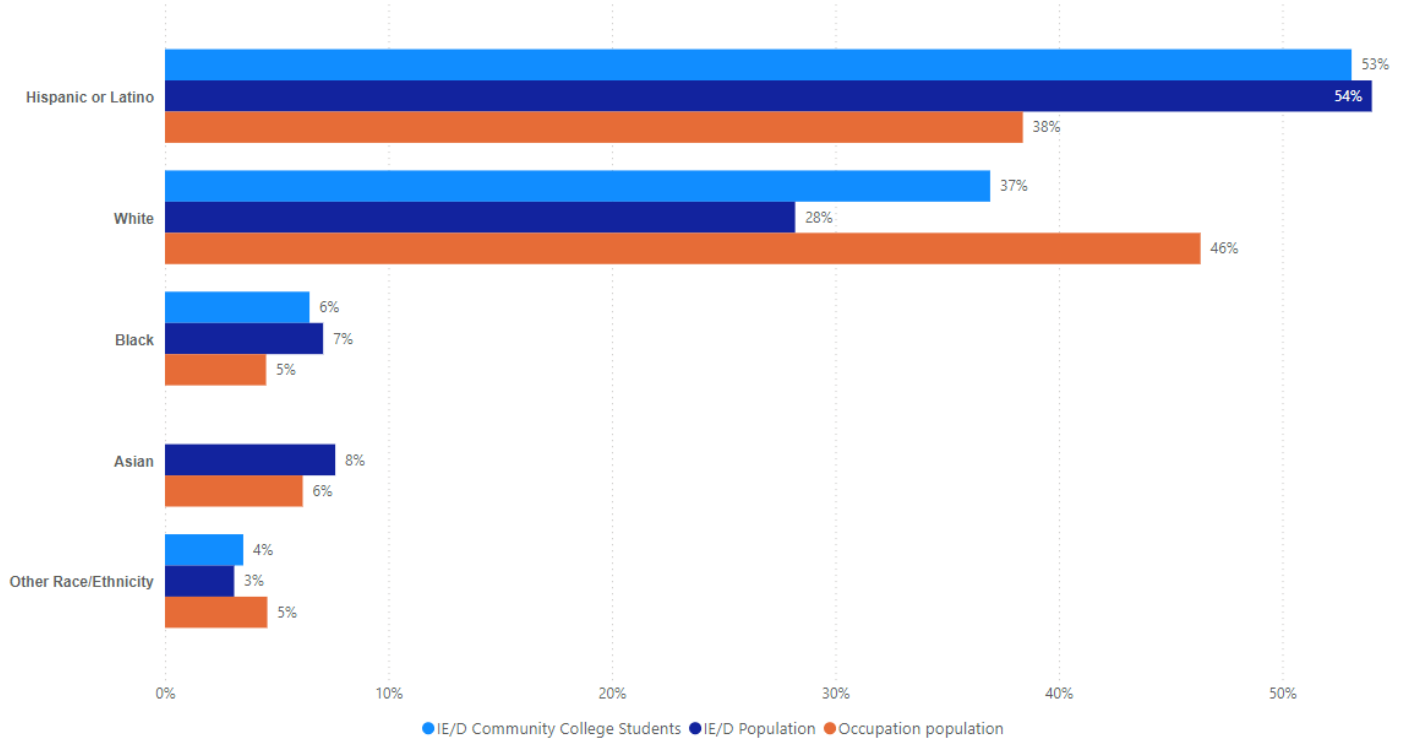
Building an Inclusive Economy

This section examines demographic data for IE/D community college students in Paramedic programs compared to the IE/D population. We also include demographics for related occupation data for this occupation related to emergency services. This analysis can be used to:

- Understand the community college system’s current or potential role supporting a diverse talent pipeline into the occupations of interest.
- Inform students (and the faculty and staff working with them) the extent to which individuals from similar demographic groups are over or underrepresented in the professions related to their field of study.
- Inform employers of the diverse talent pipeline coming from the community college system for the occupations analyzed.

Notably, 53% of students enrolled in Paramedic programs are Hispanic/Latino which is significantly higher than Hispanic/Latino workers in occupations related to emergency services in the IE/D region (38%). Additionally, 6% of the IE/D population that are employed in occupations related to emergency services are Asian, while there appear to be few IE/D community college students (<1%) in these programs who identify as Asian. Though 46% of the workers employed in occupations related to emergency services are White, only 37% of students in Paramedic programs and 28% of the IE/D population are White.

Exhibit 13 Program and County Demographics by Ethnicity



SOURCE: LIGHTCAST 2024.1 AND LAUNCHBOARD

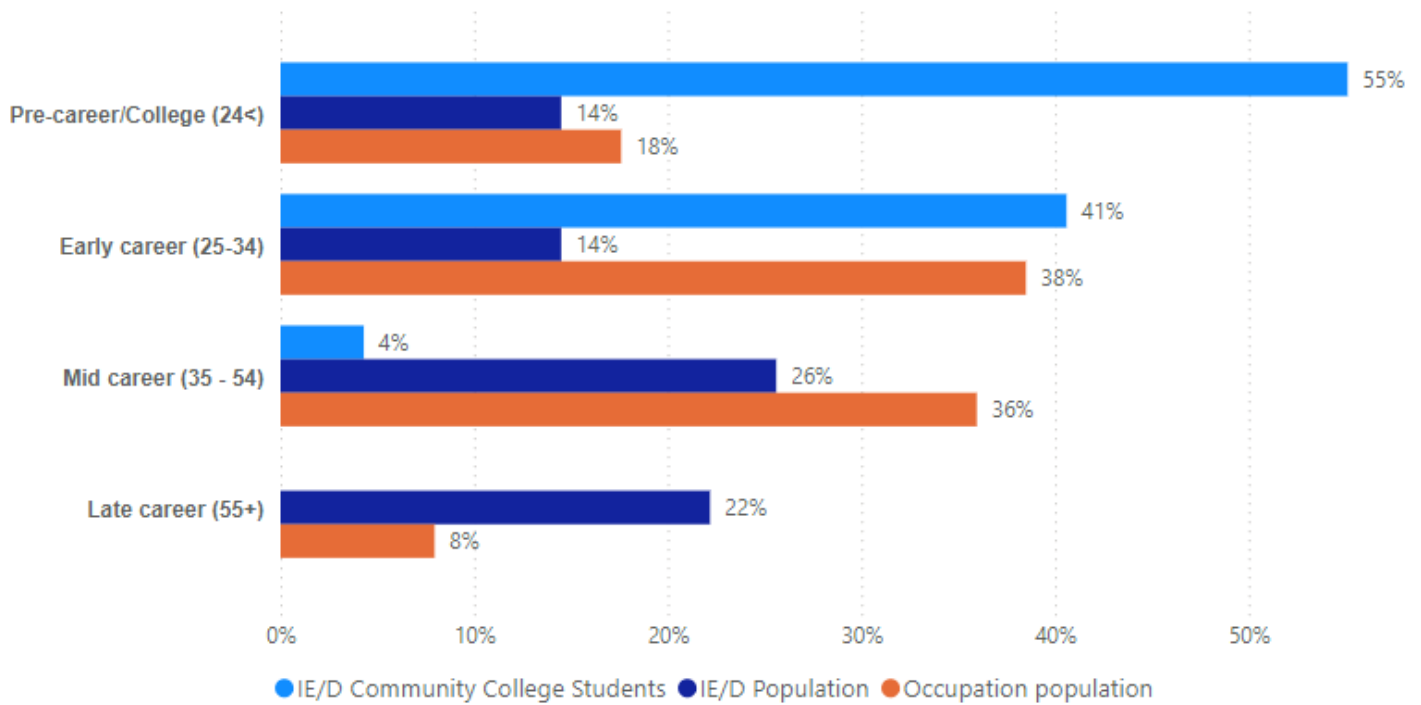
Most IE/D professionals in emergency services occupations are White (46%), “early career” or “mid-career” age categories (74%), and male (66%). Most community college students in related programs are Hispanic/Latino (53%), “pre-college/career” (55%), and male (75%). Major takeaways:

- Community colleges are an important talent source for employers committed to greater racial/ethnic diversity, especially Hispanic/Latino professionals.
- College programs may want to consider strategies to engage more women into these programs.

Exhibit 14 compares the age of IE/D community college students enrolled in Paramedic programs compared to the IE/D population.

The majority of students enrolled in Paramedic programs are in the “pre-career/college” category (55%) as compared to IE/D population (14%) and workforce (18%) in this occupation related to emergency services. These programs are an important entry point for young emergency services professionals.

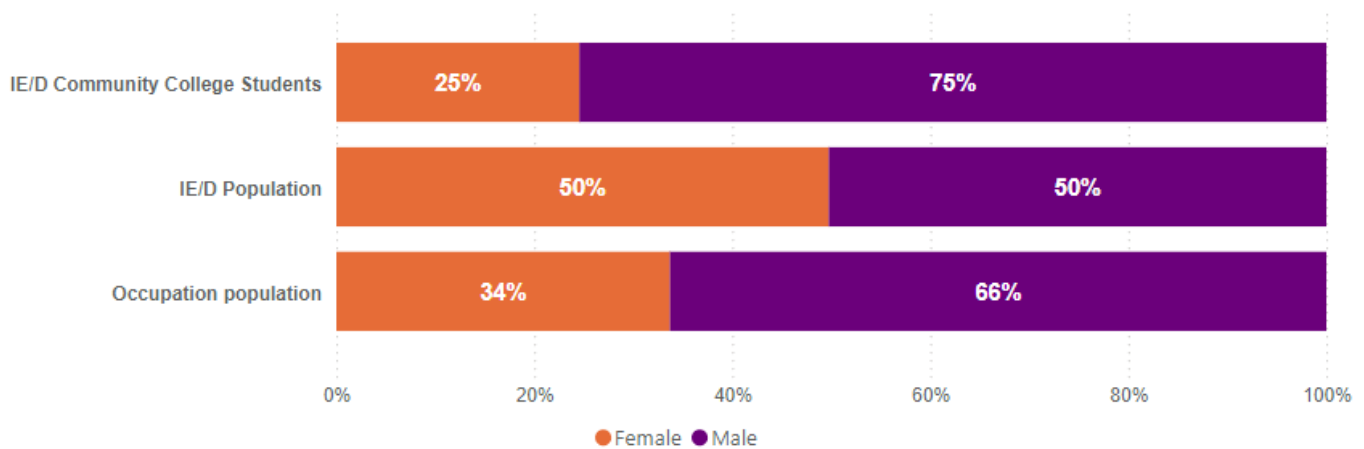
Exhibit 14 Program and County Demographics by Age



SOURCE: LIGHTCAST 2024.1

Exhibit 15 compares the gender of IE/D County community college students enrolled in Paramedic programs compared to the IE/D population. We also include demographics for related occupation data for this occupation related to emergency services to identify potential diversity and equity issues addressable by community college programs.

Exhibit 15 Program and County Demographics by Gender



SOURCE: LIGHTCAST 2024.1

Appendix: Methodology

Exhibit 11 displays the average annual California Community College (CCC) awards conferred during the three academic years between 2020 and 2023 from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. Awards are the combined total during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variations that might be present in a single year.

Community college student outcome information is from LaunchBoard and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included for each metric, please see the web link for LaunchBoard's Strong Workforce Program Metrics Data Element Dictionary in the References section (LaunchBoard, 2023a). Finally, employment in a job closely related to the field of study comes from self-reported student responses on the CTE Employment Outcomes Survey (CTEOS) administered by Santa Rosa Junior College (LaunchBoard, 2023a).

Appendix: References

Type of Data	Source
Occupational Projections, Wages, and Job Postings	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. https://lightcast.io/
Living Wage	The living wage is derived from MITs Living Wage Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, childcare, health care, transportation, and taxes. For more information, see: https://livingwage.mit.edu/pages/methodology The living wage for one adult in San Bernardino County is \$25.17 per hour (\$52,353.60 annually). The living wage for one adult in Riverside County is \$26.30 per hour (\$54,704 annually). The average living wage to represent Inland Empire/Desert is \$25.74 per hour (53,539.20 annually)
Typical Education and Training Requirements, and Educational Attainment	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 https://www.bls.gov/emp/documentation/education/tech.htm
Educational Supply	The CCCC Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu 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 https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions
Student Metrics and Demographics	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: https://www.calpassplus.org/LaunchBoard/Home.aspx