C·O·E CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

Emergency Medical Technicians and Paramedics

Inland Empire/Desert Region (Riverside and San Bernardino counties combined)

This workforce demand report uses state and federal job projection data developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.

Summary

- The emergency medical services community college program provides the knowledge, skill, and abilities that leads to the *emergency medical technicians and paramedics* occupation. This occupation is considered an **essential critical infrastructure occupation**.

- Employment for *emergency medical technicians and paramedics* is expected to **increase by 10% between 2019 and 2024** in the Inland Empire/Desert Region. A total of **292 annual job openings** will be available each year over the five-year timeframe.

- The 50th percentile, median hourly wage for *emergency medical technicians and paramedics* is **$18.35, below the $19.94 per hour self-sustainable hourly wage** estimate for a single adult with one child. The median hourly wage is above the $18 per hour "good wage," but only if the job offers benefits.

- Over the last three academic years, there were **402 awards issued** from regional community college training programs related to emergency medical services and paramedic programs. There were 22 awards issued annually from private educational institutions in the region that offer related training programs in the previous three academic years.

Introduction

In the field of first-response emergency medical services, emergency medical technicians (EMTs) typically represent entry-level positions for patient care while paramedics possess advanced training, which allows them to administer medications, start intravenous lines, provide airway management to increase oxygen flow, and resuscitate patients (UCLA, 2019). The Standard Occupational Classification (SOC), the primary and reliable system for quantifying occupations, combines EMTs and paramedics into a single occupation. This report provides data on the occupation and programs most closely related to emergency medical technicians and paramedics.

Emergency medical technicians and paramedics are considered an essential critical infrastructure occupation as identified by the Public Policy Institute of California. This classification of occupations is vital in supporting the basic economic needs of California (Bohn et al.).

The California Community College emergency medical services (TOP 1250.00) and paramedic (1251.00) programs prepare students for employment as emergency medical technicians and paramedics. The emergency medical services program prepares students for employment through the instruction of the pre-hospital, emergency medical diagnostic procedure, treatment, and comprehensive care in medical crises, including emergency vehicle operation and patient transportation procedures, including training specific to the certification standards for the EMT-1 or EMT-2 certifications. The paramedic program provides training specific to the certification standards for EMT-P (Paramedic) (Taxonomy of Programs, 2012). The description and a sample of job titles for *emergency medical technicians and paramedics* are listed below.

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: Emergency Medical Technician (EMT); Emergency Medical Technician, Basic (EMT, B); Emergency Medical Technician/Driver (EMT/DRIVER); EMT Intermediate (Emergency Medical Technician, Intermediate); EMT, Paramedic (Emergency Medical Technician, Paramedic); EMT/Dispatcher (Emergency Medical Technician/Dispatcher); First Responder; Flight Paramedic; Multi-Care Technician (Multi-Care Tech); Paramedic

Entry-Level Educational Requirement: Postsecondary nondegree award
Training Requirement: None
Work Experience Required: None
Incumbent workers with a Community College Award or Some Postsecondary Coursework: 66%

Job Opportunities

In 2019, there were 3,302 *emergency medical technician and paramedic* jobs in the Inland Empire/Desert Region (IEDR). This occupation is projected to increase employment by 10% through 2024. Employers in the region will need to hire 1,458 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes occupational transfers and retirements). Exhibit 1 displays five-year projected job growth, and Exhibit 2 displays historical and projected jobs for *emergency medical technicians and paramedics* in the IEDR.

Exhibit 1: Five-year projections for emergency medical technicians and paramedics

2019 Jobs	2024 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
3,302	3,619	10%	1,458	292	8%

Source: EMSI 2020.3

Exhibit 2: Historical and projected emergency medical technicians and paramedics jobs in the IEDR, 2014 – 2024
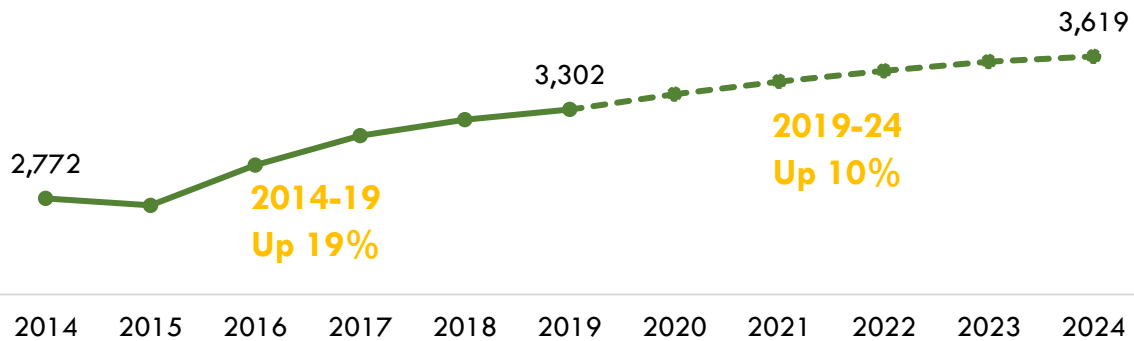
Source: EMSI 2020.3

Job Postings

Exhibit 3 displays the number of job ads posted during the last 12 months, along with the regional and statewide average time to fill for *emergency medical technicians and paramedics*. On average, local employers fill online job postings for *emergency medical technicians and paramedics* within 36 days. This regional average is six days shorter than the statewide average of 42 days, indicating that local employers face fewer challenges than other employers in California when looking to fill open positions.

Exhibit 3: Job ads and time to fill, Sep 2019 – Aug 2020

Job Ads	Regional Average Time to Fill (Days)	California Average Time to Fill (Days)
375	36	42

Source: Burning Glass – Labor Insights

Exhibit 4 displays the number of online job postings for *emergency medical technicians and paramedics* in the IEDR between 2010 and 2019. While job postings for this occupation dropped from 2017 to 2018, demand appears to be rebounding, with 336 job postings from the last 12 months and 258 job postings listed in 2020 alone.

Exhibit 4: Job ads for emergency medical technicians and paramedics in the IEDR, 2010 – 2019
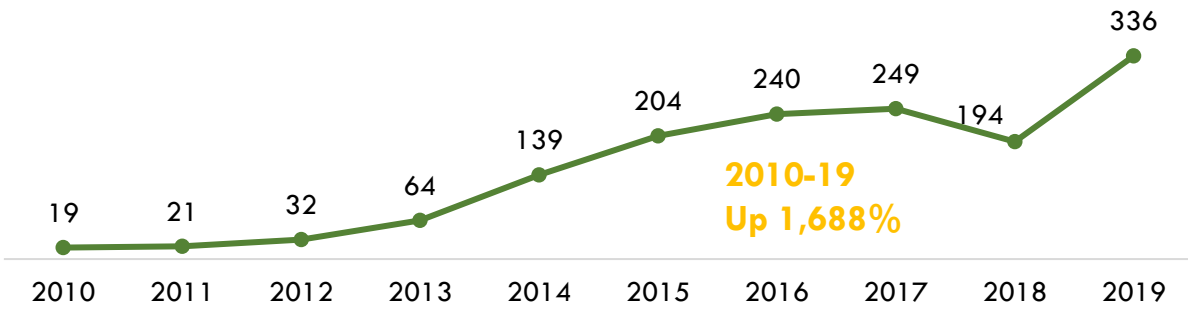

Source: Burning Glass – Labor Insights

Earnings

Community colleges should ensure their training programs lead to employment opportunities that provide a self-sustainable level of income. The Brookings Institute in their Advancing Opportunity in California's Inland Empire report found that a "good job" wage in the region is above $18.00 per hour, or $37,440 per year (Shearer, Shah & Gootman, p. 25). The Family Needs Calculator estimates that a self-sustainable wage for a single adult with one school-age child is $19.94 per hour or $41,475 annually (Pearce & Manzer, 2018).

The median wage for *emergency medical technicians and paramedics* surpasses the Brookings Institute's "good job" wage but falls below the Family Needs Calculator self-sustainability rate. Hourly earnings for *emergency medical technicians and paramedics* do not exceed the self-sustainability rate until at the experienced-level. Exhibit 5 displays the IEDR hourly earnings for this occupation.

Exhibit 5: Hourly earnings for emergency medical technicians and paramedics

Source: EMSI 2020.3

Emergency Medical Technicians and Paramedics in the Inland Empire/Desert Region (IEDR), September 2020
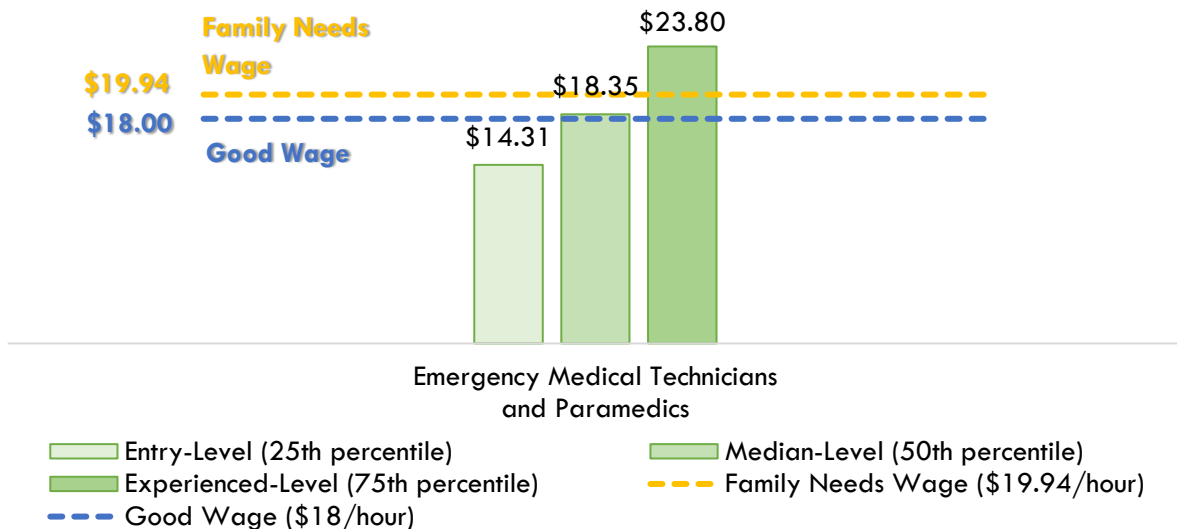
According to occupational guides developed by the California Labor Market Information Division, benefits for *emergency medical technicians and paramedics* generally include medical, dental, and vision insurance, in addition to other benefits (Occupational Guides, 2020).

Employers, Skills, Education, Work Experience, and Certifications

Exhibit 6, on the next page, displays the employers that posted more than ten job ads for *emergency medical technicians and paramedics* over the last 12 months in the IEDR.

Exhibit 6: Employers posting the most job ads for emergency medical technicians and paramedics, Sep 2019 – Aug 2020

Employers (Cities)	Job Ads
American Medical Response (Riverside, Redlands, Rancho Cucamonga, Victorville)	70
Desert Valley Hospital (Victorville)	60
Chino Valley Medical Center (Chino)	47
Global Medical Response (Redlands, Victorville, Rancho Cucamonga)	17
Temecula Valley Hospital (Temecula)	15
Montclair Hospital Medical Center (Montclair)	15
St. Bernardine Medical Center (San Bernardino)	11
Total for all other employers	*140*
Total	**375**

Source: Burning Glass – Labor Insights

Exhibit 7 displays a sample of specialized and employability skills employers seek when looking for workers to fill *emergency medical technician and paramedic* positions. Specialized skills are job-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as "soft skills." The skills requested in job postings may be utilized as a helpful guide for curriculum development.

Exhibit 7: Sample of in-demand skills from employer job ads for emergency medical technicians and paramedics, Sep 2019 – Aug 2020

Occupation	Specialized Skills	Employability Skills
Emergency Medical Technicians and Paramedics *(n=160)*	• Patient Care • Advanced Cardiac Life Support (ACLS) • Trauma • Cardiopulmonary Resuscitation (CPR) • Electrocardiogram (EKG/ECG)	• Physical Abilities • Leadership • Communication Skills • English • Teamwork/Collaboration

Source: Burning Glass – Labor Insights

Exhibit 8 displays the entry-level education and minimum advertised education requirements typically required to become an *emergency medical technician and Paramedic*, according to the Bureau of Labor Statistics (BLS), and the educational attainment for incumbent workers with "some college, no degree" and an "associate degree" according to the U.S. Census (2016-17).

Exhibit 8: Typical entry-level education, educational attainment, and the minimum advertised education requirements for emergency medical technicians and paramedics, Sep 2019 – Aug 2020

Occupation	Typical Entry-Level Education Requirement	CC-Level Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
			Number of job postings	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Emergency Medical Technicians and Paramedics	Postsecondary nondegree award	66%	259	99%	1%	-

Source: EMSI 2020.3, Burning Glass – Labor Insights
*Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework

Exhibit 9 displays the typical work experience required and real-time work experience requirements from employer job ads for *emergency medical technicians and paramedics* over the last twelve months.

Exhibit 9: Typical work experience required and real-time work experience requirements, last 12 months

Occupation	Work Experience Typically Required	Real-Time Work Experience Required from Job Ads			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Emergency Medical Technicians and Paramedics	None	87	67%	29%	4%

Source: EMSI 2020.3, Burning Glass – Labor Insights

The California Emergency Services (EMS) Authority is the regulatory agency that issues *emergency medical technician and paramedic* certifications. Before applying for an EMT or paramedic certification, individuals

must complete an EMT or paramedic training program, then pass the National Registry (NREMT) examination. After successfully passing the NREMT, individuals must contact their local EMS agency to obtain their EMT certification in California. For more information about EMT and paramedic certifications and requirements, visit the EMSA website (California Emergency Services Authority, 2020). Exhibit 10 displays the certifications required by employers posting job ads for EMTs and paramedics in the IEDR. Approximately 22% of job advertisements were seeking a certified paramedic.

Exhibit 10: Certifications required by employer job ads for EMTs and paramedics, Sep 2019 – Aug 2020

Occupation	Certifications
Emergency Medical Technicians and Paramedics *(n=375)*	• Certified Emergency Medical Technician (EMT) (307 ads) • Advanced Cardiac Life Support (ACLS) (189 ads) • Basic Life Support (BLS) (158 ads) • Certified Paramedic (83 ads)

Source: Burning Glass – Labor Insights

Student Completions and Program Outcomes

Exhibits 11 and 12 display annual average completion data for the California Community College *emergency medical services* and *paramedic programs*, based on the most recent three academic years.

Exhibit 11: 2016-19, Annual average community college awards for the emergency medical services programs in the IEDR

1250.00 – Emergency Medical Services	Certificate requiring 18< 30-semester units	Certificate requiring 6< 18-semester units	CCC Annual Average Awards, Academic Years 2016-19
Chaffey	1	-	1
Crafton Hills	-	165	165
Desert	1	-	1
Moreno Valley	-	128	128
Palo Verde	-	2	2
Total	**1**	**295**	**297**

Source: MIS Data Mart

Exhibit 12: 2016-19, Annual average community college awards for the paramedic programs in the IEDR

1251.00 - Paramedic	Associate degree	Certificate requiring 30< 60-semester units	CCC Annual Average Awards, Academic Years 2016-19
Crafton Hills	5	33	39
Moreno Valley	7	25	32
Victor Valley	6	28	34
Total	**19**	**86**	**105**

Source: MIS Data Mart

California program outcome data may provide a useful insight into the likelihood of success for the proposed program. Community college student outcome information based on the selected TOP codes and region is provided in Exhibits 13 and 14. The outcome methodology is available in the appendix section of this report.

Exhibit 13: 1250.00 – Emergency medical services strong workforce program outcomes

Strong Workforce Program Metrics: 1250.00 – Emergency Medical Services Academic Year 2017-18, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2018-19)	1,866	19,997
Completed 9+ career education units in one year (2018-19)	35%	31%
Perkins Economically disadvantaged students (2018-19)	79%	70%
Students who attained a noncredit workforce milestone in a year (2018-19)	-	50%
Students who earned a degree, certificate, or attained apprenticeship (2018-19)	-	62
Transferred to a four-year institution (transfers)	53	685
Job closely related to the field of study (2016-17)	66%	69%
Median annual earnings (all exiters)	$25,436	$29,060
Median change in earnings (all exiters)	18%	37%
Attained a living wage (completers and skills-builders)	51%	48%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Exhibit 14: 1251.00 – Paramedic strong workforce program outcomes

Strong Workforce Program Metrics: 1251.00 - Paramedic Academic Year 2017-18, unless noted otherwise	Inland Empire/Desert Region	California
Unduplicated count of enrolled students (2018-19)	324	1,972
Completed 9+ career education units in one year (2018-19)	61%	62%
Perkins Economically disadvantaged students (2018-19)	78%	71%
Students who attained a noncredit workforce milestone in a year (2018-19)	-	24%
Students who earned a degree, certificate, or attained apprenticeship (2018-19)	86	480
Transferred to a four-year institution (transfers)	-	36
Job closely related to the field of study (2016-17)	86%	91%
Median annual earnings (all exiters)	$46,700	$56,744

Strong Workforce Program Metrics: 1251.00 - Paramedic Academic Year 2017-18, unless noted otherwise	Inland Empire/Desert Region	California
Median change in earnings (all exiters)	76%	83%
Attained a living wage (completers and skills-builders)	75%	79%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

Awards granted from private educational institutions are displayed in Exhibit 15 along with the relevant CIP code.

Exhibit 15: Annual average private educational institution awards from emergency medical technology/technician (EMT Paramedic) programs in the Inland Empire/Desert region

51.0904 – Emergency Medical Technology/Technician (EMT Paramedic)	Bachelor's degree	Award < 1 year	Private Educational Institutions Annual Average Certificates or Other Credit Awards (2014-17)
Loma Linda University	8	-	8
Riverside County Office of Education-School of Career Education	-	14	14
Total annual average other awards	**8**	**14**	**22**

Source: IPEDS

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References

Bohn, S., Cuellar Mejia, M., Lafortune, J. (2020). Essential Workers and COVID-19 - Public Policy Institute of California. Retrieved from https://www.ppic.org/blog/essential-workers-and-covid-19/

Burning Glass Technologies. (2020). *Labor Insights/Jobs*. Retrieved from https://www.burning-glass.com/

California Community Colleges Chancellor's Office. LaunchBoard. (2020). *California Community Colleges LaunchBoard*. Retrieved from https://www.calpassplus.org/Launchboard/Home.aspx

California Community Colleges Chancellor's Office. LaunchBoard. (2020a). *Strong Workforce Program Metrics Data Element Dictionary*. Pg. 3. Retrieved from https://www.calpassplus.org/MediaLibrary/calpassplus/launchboard/Documents/SWP-DED.PDF

California Community Colleges Chancellor's Office. (2020). *Chancellor's Office Curriculum Inventory (COCI), version 3.0*. Retrieved from https://coci2.ccctechcenter.org/programs

California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. (2020). *Data Mart*. Retrieved from https://datamart.cccco.edu/datamart.aspx

California Community Colleges Chancellor's Office, Curriculum and Instructional Unit, Academic Affairs Division. (2012). *Taxonomy of Programs, 6th Edition, Corrected Version*. Retrieved from https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Digital-Innovation-and-Infrastructure/Research/Files/TOPmanual6200909corrected12513.ashx?la=en&hash=94C709CA83C03808284155579395A5F536736C7C1

California Emergency Medical Services Authority. (2020). *Certification and Testing*. Retrieved from https://emsa.ca.gov/emt/

California Emergency Medical Services Authority. (2020). *Paramedic Licensure and Testing FAQs*. Retrieved from https://emsa.ca.gov/paramedic-licensure-and-testing-faqs/

Carnevale, A. P., Jayasundera, T., & Repnikov, D. (n.d.). Understanding Online Job Ads Data. Retrieved from https://cew.georgetown.edu/wp-content/uploads/2014/11/OCLM.Tech_.Web_.pdf

Economic Modeling Specialists International (EMSI). (2020). *Datarun 2020.3*. Retrieved from https://www.economicmodeling.com/

Labor Market Information Division. Employment Development Department of California. (2020). *Detailed Occupational Guides*. Retrieved from https://www.labormarketinfo.edd.ca.gov/OccGuides/Search.aspx

National Center for O*NET Development. (2020). *O*NET OnLine*. Retrieved from https://www.onetonline.org/

Pearce, D., Manzer, L. Center for Women's Welfare at the University of Washington. (2018). Retrieved from https://insightcced.org/2019-family-needs-calculator/

Shearer, C., Shah, I., Gootman, M. (2019, February). Metropolitan Policy Program at Brookings. Advancing Opportunity in California's Inland Empire. *Defining Opportunity*. (pg. 25). Retrieved from https://www.brookings.edu/wp-content/uploads/2019/02/Full-Report_Opportunity-Industries_Inland-California_Final_Shearer-Shah-Gootman.pdf

University of California, Los Angeles (UCLA). (2019). *What's the difference between an EMT and Paramedic?* Retrieved from https://www.cpc.mednet.ucla.edu/node/27

Appendix: Program Completion and Outcome Methodology

Exhibits 11 and 12 display the average annual California Community College (CCC) awards conferred during the three academic years between 2016 and 2019, from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. Awards are the combined total of associate degrees and certificates issued during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variation 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 records provided by 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, 2020a). 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, 2020a).

Job postings data is limited to the information provided by employers and the ability of artificial intelligence search engines to identify this information. Additionally, preliminary calculations by Georgetown Center on Education and the Workforce found that "just 30 to 40 percent of openings for candidates with some college or an associate degree, and only 40 to 60 percent of openings for high school diploma holders appear online" (Carnevale et al., 2014). Online job postings often do not reveal the hiring intentions of employers; it is unknown if employers plan to hire one or multiple workers from a single online job posting, or if they are collecting resumes for future hiring needs. A closed job posting may not be the result of a hired worker.