

December 2020

Labor Market Analysis

Emergency Medical Technicians



California
Community
Colleges



C·O·E

CENTERS OF EXCELLENCE
Inform Connect Advance



Prepared by the Central Valley/Mother Lode Center of Excellence

Table of Contents

Summary	3
Key findings.....	3
Introduction	4
Occupational Demand	4
Wages	5
Job Postings.....	5
Salaries	6
Education.....	6
Baseline and Specialized Skills.....	6
Software Skills	7
Certifications.....	7
Education, Work Experience & Training.....	7
Supply	8
Student Outcomes.....	8
Conclusion	9
Recommendation.....	9
Appendix A: Methodology & Data Sources.....	10

COVID-19 Statement: This report includes employment projection data by EMSI. EMSI's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local employers, may help validate current and future employment needs as depicted here.

If for any reason this document is not accessible or if you have specific needs for readability, please contact us and we will do our utmost to accommodate you with a modified version. To make a request, contact Nora Seronello by phone at (209) 575-6894 or by email seronellon@mjc.edu.

Summary

Please note the COVID-19 statement on page 2 when considering this report's findings.

This study conducted by the Central Valley/Mother Lode Center of Excellence examines labor market demand, wages, skills, and postsecondary supply for emergency medical technicians (EMTs). One occupation related to emergency medical technicians was identified for Cerro Coso Community College: 29-2041, Emergency Medical Technicians and Paramedics.

Key findings:

- **Occupational demand** — Nearly 1,300 workers were employed in jobs related to emergency medical technicians in 2019 in the South Central Valley/Southern Mother Lode (SCV/SML) subregion. This occupation has a projected growth rate of 12% over the next five years and 130 annual openings.
- **Wages** — EMTs earn an entry-level wage of \$13.08/hour in the subregion and \$14.49/hour in the region.
- **Employers** — Employers with the most job postings in the subregion are Adventist Health, American Ambulance Central California, and Hall Ambulance Service Incorporated.
- **Occupational titles** — The most common occupational title in job postings in the subregion is emergency medical technicians and paramedics. The most common job title is paramedic.
- **Skills and certifications** — The top baseline skill is physical abilities, the top specialized skill is CPR, and the top software skill is Microsoft Office. The most in-demand certification is an EMT certification.
- **Education** — A postsecondary nondegree award is the typical entry-level education required for emergency medical technicians and paramedics.
- **Supply** — Analysis of postsecondary completions in the region shows that on average 397 awards were conferred in the Central Valley/Mother Lode region each year.

Based on a comparison of occupational demand and supply, there is an oversupply of 195 oversupply trained workers in the subregion and an oversupply of 172 workers in the region. However, an EMT certification is required for police officers which has an undersupply of workers. The Center of Excellence recommends that Cerro Coso work with the college's advisory board, and local industry in the continuance of the College's emergency medical technician program in support of its administration of justice program.

Introduction

The Central Valley/Mother Lode Center of Excellence was asked by Cerro Coso Community College to provide labor market information for emergency medical technicians (EMTs). The geographical focus for this report is the South Central Valley/Southern Mother Lode (SCV/SML) subregion, but regional demand and supply data has been included for broader applicability and use.

The average living wage for a single adult in the South Central Valley/Southern Mother Lode (SCV/SML) subregion is \$10.30/hour.¹

Analysis of the program and occupational data related to emergency medical technicians resulted in the identification of applicable occupations. The Standard Occupational Classification (SOC) System codes and titles used in this report are:

- 29-2041, Emergency Medical Technicians and Paramedics

The occupational titles, job descriptions, sample job titles, and knowledge and skills from the Bureau of Labor Statistics and O*NET OnLine are shown below.

Emergency Medical Technicians and Paramedics

Job Description: Assess injuries and illnesses and administer basic emergency medical care. May transport injured or sick persons to medical facilities.

Knowledge and Skills were not available in O*NET.

Occupational Demand

The South Central Valley/Southern Mother Lode subregion employed 1,290 workers in emergency medical technician occupations in 2019 (Exhibit 1). This occupation is projected to grow by 12% over the next five years and has 130 projected annual openings.

Exhibit 1. EMT employment and occupational projections in the SCV/SML subregion

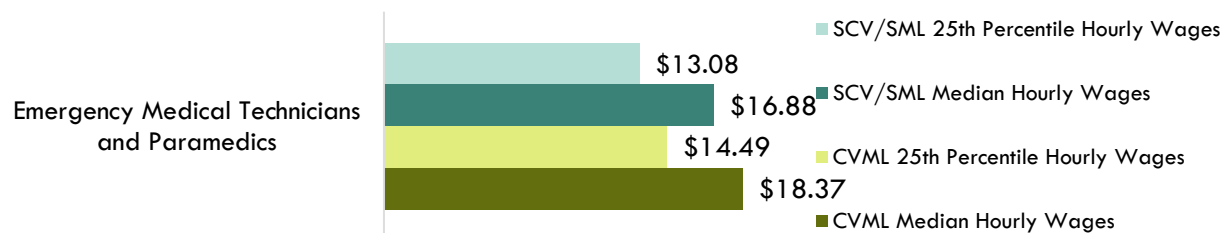
Occupation	2019 Jobs	2024 Jobs	5-Year Change	5-Year % Change	Annual Openings
Emergency Medical Technicians and Paramedics	1,290	1,443	153	12%	130

¹ The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: <https://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.

Wages

Exhibit 2 compares the entry-level and experienced wages of the emergency medical technicians. EMTs earn an entry-level wage of \$13.08/hour in the subregion and \$14.49/hour in the region.

Exhibit 2. Entry-level and experienced wage comparison in the SCV/SML subregion and region



Job Postings

There were 101 job postings for the one occupation in the SCV/SML subregion from May to October 2020.² The employers with the most job postings are listed in Exhibit 3.

Exhibit 3. Top employers of emergency medical technicians by number of job postings

Employer	Job Postings	% Job Postings
Adventist Health	10	11%
American Ambulance Central California	6	7%
Hall Ambulance Service Incorporated	6	7%
Air Methods	5	6%
Securitas	5	6%
Foster Farms	4	4%
Valley Children's Healthcare	4	4%
Workcare	4	4%
City Of Dinuba	3	3%
Active Transport Medical Services, Llc	2	2%

Exhibit 4 shows how job postings for the targeted occupations in the SCV/SML subregion are distributed across one O*NET OnLine occupation. The occupational title emergency medical technicians and paramedics is listed in 101 job postings. Common job titles in postings include paramedic in 14 job postings, emergency medical technician in nine job postings, and EMT in seven job postings.

Exhibit 4. Top occupational titles in job postings for emergency medical technicians

Occupational Title	Job Postings	% of Job Postings
Emergency Medical Technicians and Paramedics	101	100%

² Other than occupation titles and job titles, the categories below can be counted one or multiple times per job posting, and across several areas in a single posting. For example, a skill can be counted in two different skill types, and an employer can indicate more than one education level.

Salaries

Exhibit 5 shows the “Market Salaries” for emergency medical technicians occupations that are calculated by Burning Glass which uses a machine learning model built off of millions of job postings every year, and accounts for adjustments based on locations, industry, skills, experience, education requirements, among other variables.

Exhibit 5. Salaries for emergency medical technicians

Market Salary Percentile	Salary Amount
10th Percentile	\$28,638
25th Percentile	\$30,812
50th Percentile	\$34,070
75th Percentile	\$38,804
90th Percentile	\$45,267

Education

Of the 101 job postings, 47 listed an education level preferred for the positions being filled. Of those, 94% requested high school or vocational training, and 49% requested an associate degree (Exhibit 6). A job posting can indicate more than one education level. Hence, the percentages shown in the chart below total more than 100%.

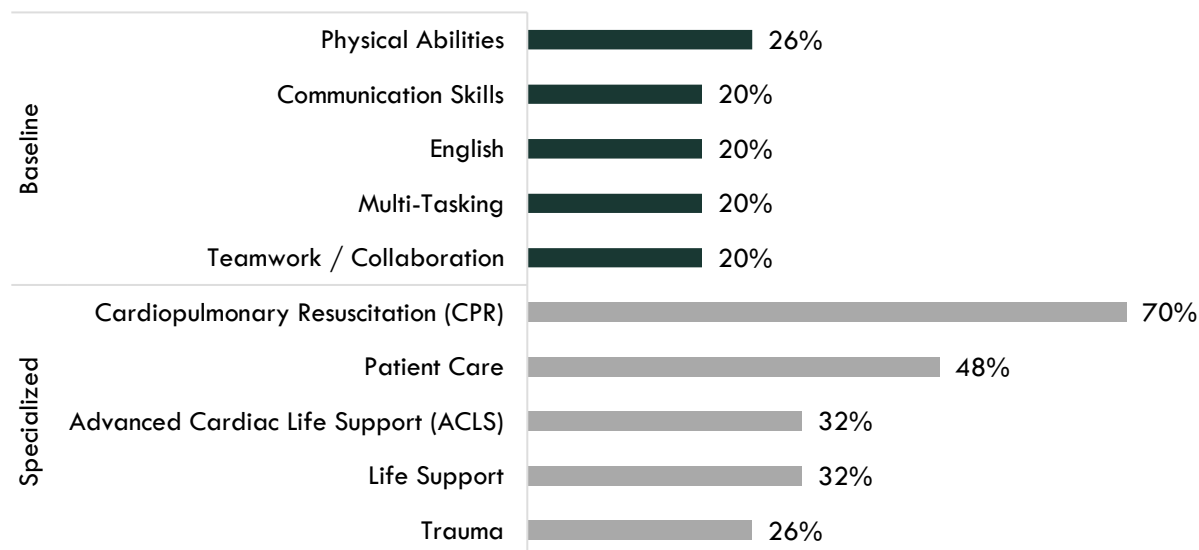
Exhibit 6. Education levels requested in job postings for emergency medical technicians

Education level	Job Postings	% of Job Postings
High school or vocational training	44	94%
Associate degree	23	49%

Baseline and Specialized Skills

Exhibit 7 depicts the top baseline and specialized skills for the targeted occupations. The three most important baseline skills are physical abilities, 26% of job postings, communication, 20%, and English, 20%. The top three specialized skills are CPR, 70% of job postings, patient care, 48%, and advanced cardiac life support, 32%.

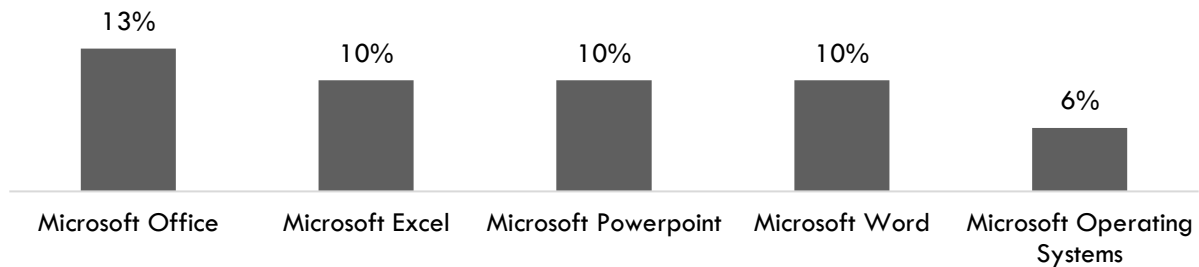
Exhibit 7. In-demand EMT baseline and specialized skills



Software Skills

Analysis also included the software skills most in demand by employers. Microsoft Office and Excel were the top two software skills identified in job postings (Exhibit 8).

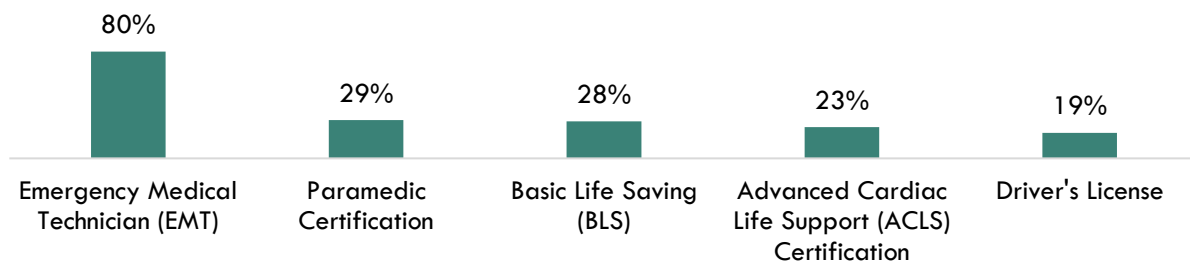
Exhibit 8. In-demand EMT software skills



Certifications

Of the 101 job postings, 94 contained certification data. Among those, 80% indicated a need for an EMT certification. The next top certifications are paramedic and basic life saving (Exhibit 9).

Exhibit 9. Top EMT certifications requested in job postings



Education, Work Experience & Training

A postsecondary nondegree award is the typical entry-level education required for emergency medical technicians and paramedics (Exhibit 10).

Exhibit 10. Education, work experience, training, and Current Population Survey results for emergency medical technicians³

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Emergency Medical Technicians and Paramedics	Postsecondary nondegree award	None	None	66.1%

³ "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, <https://www.bls.gov/cps/>.

Supply

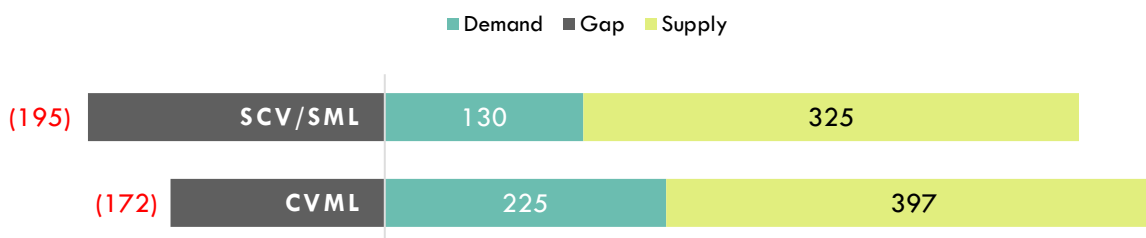
Analysis of program data from the California Community Colleges Chancellor's Office Data Mart included the TOP codes: 125000-Emergency Medical Services and 125100-Paramedic. Analysis of the last three years of data shows that, on average, 397 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 11).

Exhibit 11. Postsecondary supply for emergency medical technicians in the region

TOP or CIP Code-Title	College	Associate Degree	Certificate 18 < 30 semester units	Certificate 30 < 60 semester units	Certificate 6 < 18 semester units	Noncredit award 960+ hours	Subtotal
125000 - Emergency Medical Services	Bakersfield				179		179
	Cerro Coso				6		6
	Columbia	0	1		1	1	3
	Merced				20		20
	Modesto				49		49
	Porterville				59		59
	Sequoias				28	34	61
125100 - Paramedic	Bakersfield	2		4			6
	Fresno City			0			0
	West Hills Lemoore	2	11				13
TOTAL		4	11	5	342	34	397

There is an oversupply of 195 emergency medical technicians workers in the SCV/SML subregion and an oversupply of 172 workers in the region (Exhibit 12).

Exhibit 12. EMT workforce annual demand and supply in the SCV/SML subregion and region



Student Outcomes

Exhibit 13 summarizes employment and wage outcomes from the California Community College Chancellor's Cal-PASS Plus LaunchBoard for the TOP codes related to emergency medical technicians. There were 13 paramedic students who received a degree, certificate, or attained apprenticeship journey status, and 39 emergency medical services students transferred. A higher percentage of paramedic students reported attaining a job closely related to their field of study, a median change in earnings, and attaining a living wage.

Exhibit 13. Regional metrics for the TOP codes related to emergency medical technicians

Metric	Emergency Medical Services	Paramedic
	125000	125100
Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status	*	13
Number of Students Who Transferred	39	*
Job Closely Related to Field of Study	69%	100%
Median Change in Earnings	51%	91%
Attained a Living Wage	64%	95%
* denotes data not available.		

Conclusion

The entry-level wages of the one occupation exceed the SCV/SML subregion's average living wage. There were 101 job postings in the past six months for occupations related to emergency medical technicians in the subregion. Analysis of skills and certification requirements in job postings indicates:

- The top baseline skill is physical abilities, and the top specialized skill is CPR.
- The top software skill is Microsoft Office.
- The top certification is an EMT certification.

There is an oversupply of trained workers, an excess of 195 EMTs in the SCV/SML subregion and 172 EMTs in the region.

Recommendation

Based on a comparison of occupational demand and supply, there is an oversupply of 195 oversupply trained workers in the subregion and an oversupply of 172 workers in the region. However, an EMT certification is required for police officers which has an undersupply of workers. The Center of Excellence recommends that Cerro Coso work with the college's advisory board, and local industry in the continuance of the College's emergency medical technician program in support of its administration of justice program.

Appendix A: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor's Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (EMSI). EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry: economicmodeling.com .
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: https://www.bls.gov/emp/tables/educational-attainment.htm .
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: labormarketinfo.edd.ca.gov .
Job Posting and Skills Data	Burning Glass: burning-glass.com/ .
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 occupations as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: onetonline.org .

Key Terms and Concepts

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (EMSI) formula that includes historical employment and economic indicators along with national, state and local trends.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.