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Labor Market Analysis

Paramedics



POWERED BY



Prepared by the Central Valley/Mother Lode Center of Excellence

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COVID-19 Statement: This report includes employment projection data by Lightcast. Lightcast’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.

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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 Paramedics. One occupation related to Paramedics was identified for San Joaquin Delta College:

- 29-2040, Emergency Medical Technicians and Paramedics

Key findings:

- **Occupational demand** — There were 1,065 workers employed in jobs related to Paramedics in 2021 in the North Central Valley/Northern Mother Lode (NCV/NML) subregion. Emergency medical technicians and paramedics have 1,065 workers, a projected growth rate of 7% over the next five years, and 91 annual openings.
- **Wages** — Emergency medical technicians and paramedics earn an entry-level wage, \$14.62/hour in the subregion.
- **Employers** — Employers with the most job postings in the subregion are Amr, Norcal Ambulance, and Protransport 1.
- **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 Ed Technician.
- **Skills and certifications** — The top baseline skill is physical abilities, the top specialized skill is Cardiopulmonary Resuscitation (CPR), and the top software skill is Microsoft Office. The most in-demand certification is an Emergency Medical Technician (EMT).
- **Education** — There was no education data available for emergency medical technicians and paramedics.
- **Supply** — Analysis of postsecondary completions shows that on average 354 awards were conferred in the Central Valley/Mother Lode region each year.

Based on a comparison of occupational demand and supply, there is an undersupply of 56 trained workers in the subregion and an oversupply of 135 workers in the region. Even with an oversupply of workers at the regional level, these programs remain in need because emergency medical technicians and paramedics is a high-churn occupation. The Center of Excellence recommends that San Joaquin Delta College work with the regional directors, the college's advisory board, and local industry in the development of programs to address the shortage of paramedic workers in the subregion.

Introduction

The Central Valley/Mother Lode Center of Excellence was asked by San Joaquin Delta College to provide labor market information for Paramedics. The geographical focus for this report is the North Central Valley/Northern Mother Lode (NCV/NML) 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 NCV/NML subregion is \$12.65/hour.¹ Analysis of the program and occupational data related to Paramedics resulted in the identification of applicable occupations. The Standard Occupational Classification (SOC) System codes and titles used in this report are:

- 29-2040, 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: N/A

Skills: N/A

Occupational Demand

The NCV/NML subregion employed 1,065 workers in paramedic occupations in 2021 (Exhibit 1). Emergency medical technicians and paramedics with 1,065 workers, and is projected to grow by 7% over the next five years with 91 annual openings, 91.

Exhibit 1. Paramedics employment and occupational projections in the NCV/NML subregion

Occupation	2021 Jobs	2026 Jobs	5-Year Change	5-Year % Change	Annual Openings
Emergency Medical Technicians and Paramedics	1,065	1,142	77	7%	91
TOTAL	1,065	1,142	77	7%	91

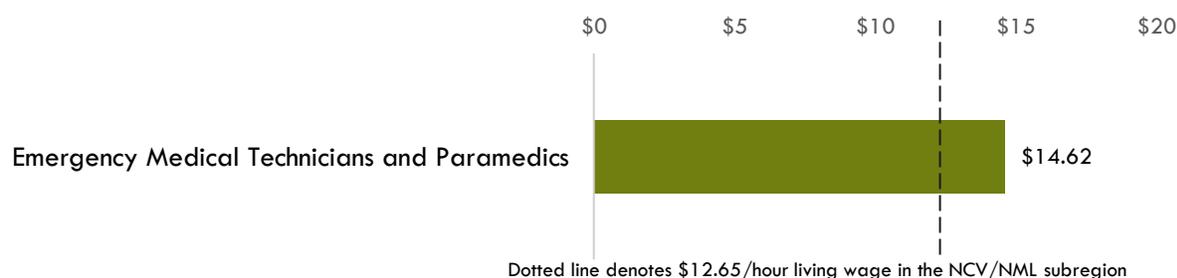
Wages

Exhibit 2 shows the entry-level hourly wages of the paramedic occupations. Emergency medical technicians and paramedics earn an entry-level wage, \$14.62/hour in the subregion².

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/>.

² Entry-level wages are derived from the 25th percentile.

Exhibit 2. Paramedics entry-level wages in the NCV/NML subregion



Job Postings

There were 147 job postings for the occupation in the NCV/NML subregion from March 2022 to August 2022.³ The employers with the most job postings are listed in Exhibit 3.

Exhibit 3. Top employers of paramedics by number of job postings

Employer	Job Postings	% Job Postings
Amr	11	9%
Norcal Ambulance	11	9%
Protransport 1	10	8%
Tenet Health System	7	6%
Envision	6	5%
Adventist Health	5	4%
Copperopolis Fire Protection District	4	3%
Dignity Health	4	3%
Global Medical Response	4	3%
Pro Transport	4	3%

Exhibit 4 shows how job postings for the targeted occupations in the NCV/NML subregion are distributed across one O*NET OnLine occupations. The occupational title Emergency Medical Technicians and Paramedics is listed in 147 job postings. Note how this occupational title dominates the job posting results. Common job titles in postings include Ed Technician in 22 job postings, EMT in 18 job postings, and Paramedics in 13 job postings.

Exhibit 4. Top occupational titles in job postings for paramedics

Occupational Title	Job Postings	% of Job Postings
Emergency Medical Technicians and Paramedics	147	100%

Salaries

Exhibit 5 shows the “Market Salaries” for paramedic occupations. These are calculated by Burning Glass using a machine learning model built off of millions of job postings every year. This accounts for adjustments based on locations, industry, skills, experience, education requirements, among other variables.

³ 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.

Exhibit 5. Salaries for paramedic occupations

Market Salary Percentile	Salary Amount
10th Percentile	\$29,001
25th Percentile	\$30,655
50th Percentile	\$32,759
75th Percentile	\$38,135
90th Percentile	\$43,055

Education

Of the 147 job postings, 80 listed an education level preferred for the positions being filled. Among those, 98% requested high school or vocational training, and 11% requested an associate degree (Exhibit 6). A job posting can indicate more than one education level. Hence, the percentages shown in the chart below may total more than 100%.

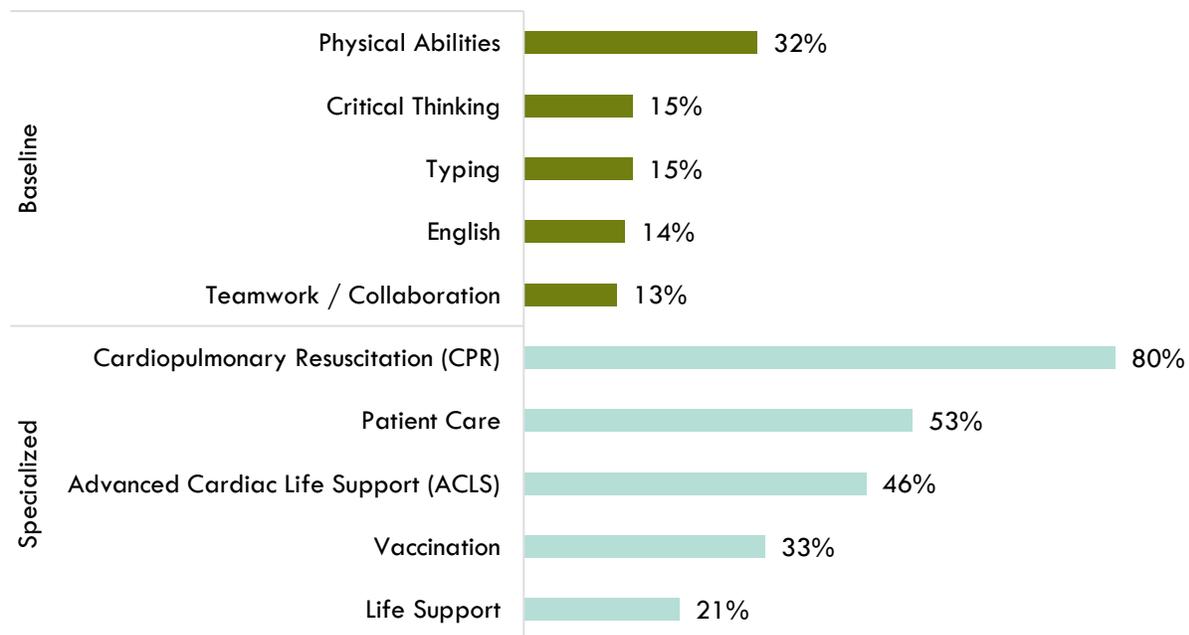
Exhibit 6. Education levels requested in job postings for paramedics

Education Level	Job Postings	% of Job Postings
High school or vocational training	80	98%
Associate's degree	9	11%

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, 32% of job postings, critical thinking, 15%, and typing, 15%. The top three specialized skills are Cardiopulmonary Resuscitation (CPR), 80% of job postings, patient care, 53%, and Advanced Cardiac Life Support (ACLS), 46%.

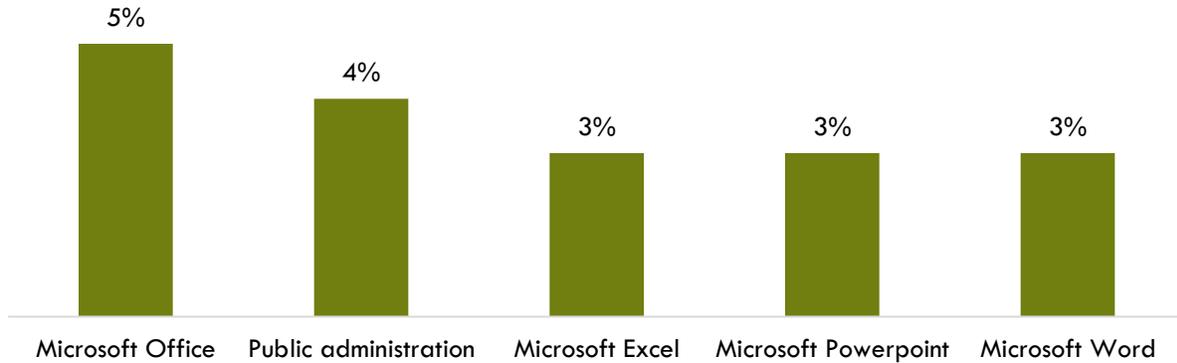
Exhibit 7. In-demand paramedics baseline and specialized skills



Software Skills

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

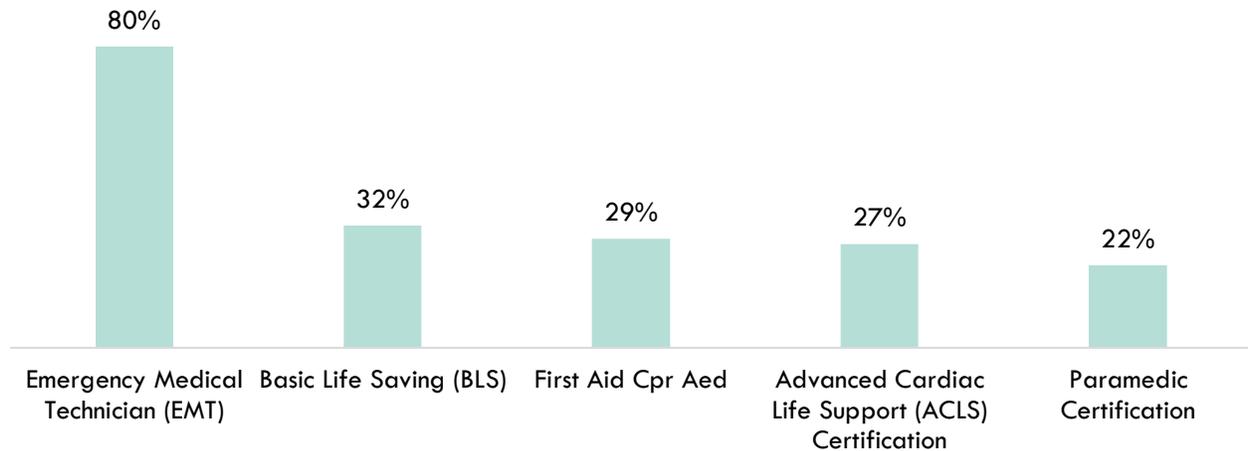
Exhibit 8. In-demand paramedics software skills



Certifications

Of the 147 job postings, 142 contained certification data. Among those, 80% indicated a need for a Emergency Medical Technician (EMT). The next top certifications are a Basic Life Saving (BLS) and First Aid Cpr Aed (Exhibit 9). Please note 44% of job postings indicated a need for a driver's license, but it is not a certification.

Exhibit 9. Top paramedics certifications requested in job postings



Education, Work Experience & Training

There was no education data available for emergency medical technicians and paramedics.

Supply

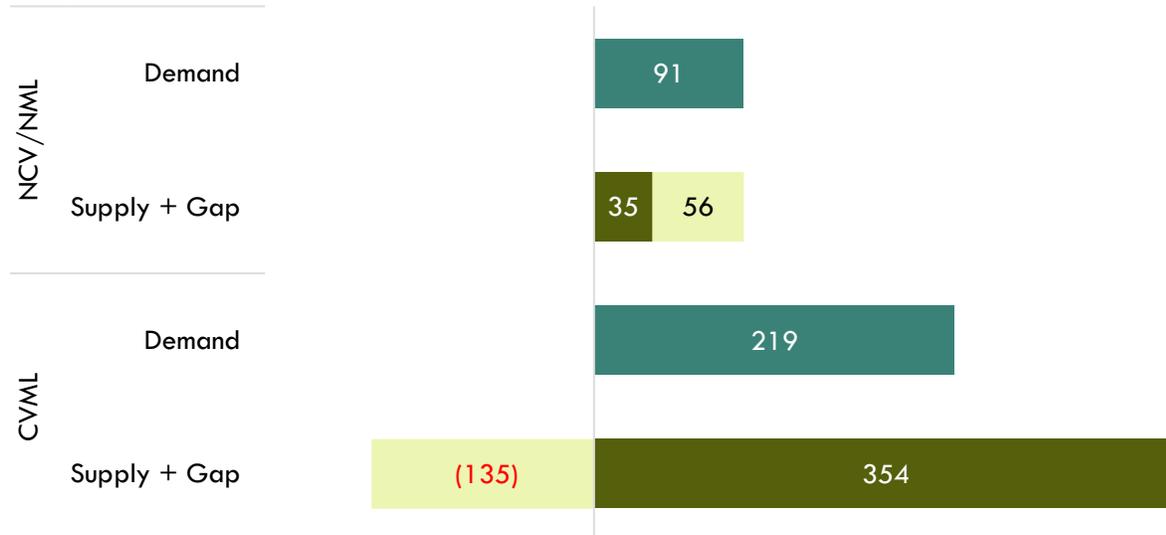
Analysis of program data from the Integrated Postsecondary Education Data System (IPEDS) included the TOP and CIP codes and titles: 125000 - Emergency Medical Services and 125100 - Paramedic. Analysis of the last three years of data shows that, on average, 354 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 10).

Exhibit 10. Postsecondary supply for paramedics occupations in the region

TOP/ CIP Code- Title	College	Associate Degree	Certificate 16 < 30 semester units	Certificate 18 < 30 semester units	Certificate 30 < 60 semester units	Certificate 6 < 18 semester units	Credit Award, < 6 semester units	Subtotal
125000 - Emergency Medical Services	Bakersfield					129		129
	Cerro Coso					15		15
	Columbia	0		0		1	1	3
	Merced					28		28
	Modesto Junior					33		33
	Porterville					63		63
	Sequoias					42	20	62
125100 - Paramedic	Bakersfield	2			5			7
	Fresno City				1			1
	West Hills Lemoore	3	3	8				14
TOTAL		5	3	8	6	310	21	354

There is an undersupply of 56 Paramedics workers in the NCV/NML subregion and an oversupply of 135 workers in the region (Exhibit 12).

Exhibit 12. Paramedics workforce demand (annual job openings), postsecondary supply of students (awards), and additional students needed to fill gap in the NCV/NML 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 code related to Paramedics. Of note, 21 students transferred; 89% of students obtained a job closely related to their field of study; 39% had a median change in earnings; and 54% of students attained a living wage.

Exhibit 13. Regional metrics for the TOP code related to paramedics

Metric	Emergency Medical Services 125000
Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status	*
Number of Students Who Transferred	21
Job Closely Related to Field of Study	89%
Median Change in Earnings	39%
Attained a Living Wage	54%
* denotes data not available.	

Conclusion

The entry-level wages of the occupation exceed the NCV/NML subregion's average living wage. There were 147 job postings in the past six months for occupations related to paramedics 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 Cardiopulmonary Resuscitation (CPR).
- The top software skill is Microsoft Office.
- The top certification is an Emergency Medical Technician (EMT).

There is an undersupply of trained workers, a shortage of 56 in the NCV/NML subregion and an oversupply of 135 workers in the region.

Recommendation

Based on these findings, it is recommended that San Joaquin Delta College work with the regional directors, the college's advisory board, and local industry in the development of programs to address the shortage of Paramedic workers in the subregion.

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. (Lightcast). Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast 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 LIGHTCAST 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: ononline.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. (LIGHTCAST) 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.