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Labor Market Analysis

Paramedic



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Prepared by the Central Valley/Mother Lode Center of Excellence

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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.

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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 paramedic. One occupation related to paramedic was identified for Merced College:

- 29-2041, Emergency Medical Technicians and Paramedics

Key findings:

- **Occupational demand** — Nearly 1,230 workers were employed in jobs related to paramedic in 2020 in the North Central Valley/Northern Mother Lode (NCV/NML) subregion. The largest occupation is emergency medical technicians and paramedics with 1,223 workers, a projected growth rate of 6% over the next five years, and 106 annual openings.
- **Wages** — Emergency medical technicians and paramedics earn the highest entry-level wage, \$15.80/hour in the subregion.
- **Employers** — Employers with the most job postings in the subregion are Amr, Global Medical Response, and Norcal Ambulance.
- **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 Emt.
- **Skills and certifications** — The top baseline skill is physical abilities, the top specialized skill is patient care, and the top software skill is Meditech. The most in-demand certification is Emergency Medical Technician (EMT).
- **Education** — A postsecondary nondegree award is typically required 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 43 trained workers in the subregion and an oversupply of 124 workers in the region. Even with an oversupply of workers at the regional level, these programs remain in need. Additionally, this is a high-churn occupation. Therefore, the Center of Excellence recommends that Merced 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 region.

Introduction

The Central Valley/Mother Lode Center of Excellence was asked by Merced College to provide labor market information for paramedic. 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 paramedic resulted in the identification of applicable occupations. The Standard Occupational Classification (SOC) System code and title used in this report is:

- 29-2041, Emergency Medical Technicians and Paramedics

Occupational Demand

The NCV/NML subregion employed 1,223 workers in paramedic occupations in 2020 (Exhibit 1). The largest occupation is emergency medical technicians and paramedics with 1,223 workers in 2020. This occupation is projected to grow by 6% over the next five years and has the greatest number of projected annual openings, 106.

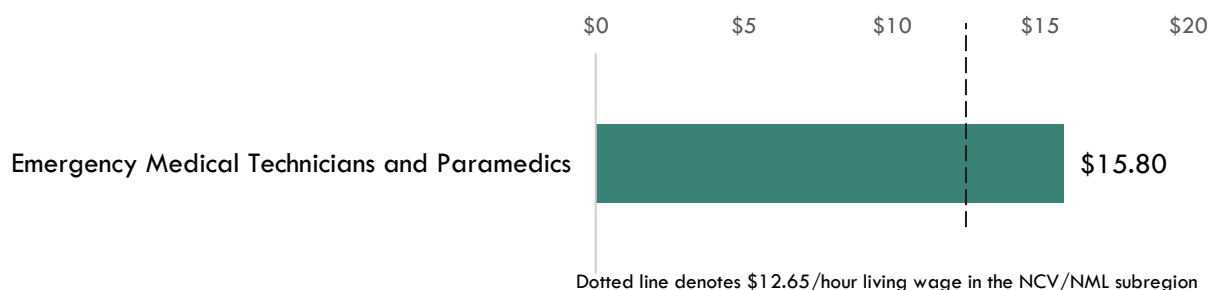
Exhibit 1. Paramedic employment and occupational projections in the NCV/NML subregion

Occupation	2020 Jobs	2025 Jobs	5-Year Change	5-Year % Change	Annual Openings
Emergency Medical Technicians and Paramedics	1,223	1,302	79	6%	106
TOTAL	1,223	1,302	79	6%	106

Wages

Exhibit 2 shows the entry-level hourly wages of the paramedic occupations. Emergency medical technicians and paramedics earn the highest entry-level wage, \$15.80/hour in the subregion².

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



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.

Job Postings

There were 124 job postings for the one occupation in the NCV/NML subregion from September 2021 to February 2022.³ The employers with the most job postings are listed in Exhibit 3.

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

Employer	Job Postings	% Job Postings
Amr	10	10%
Global Medical Response	8	8%
Norcal Ambulance	8	8%
Tenet Health System	8	8%
Concentra	7	7%
Envision	6	6%
Adventist Health	5	5%
Pro Transport	4	4%
Protransport 1	4	4%
Dignity Health	3	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 124 job postings. Note how this occupational title dominates the job posting results. Common job titles in postings include Emt in 18 job postings, Emergency Medical Technician in 16 job postings, and Emergency Medicine in 16 job postings.

Exhibit 4. Top occupational titles in job postings for paramedic

Occupational Title	Job Postings	% of Job Postings
Emergency Medical Technicians and Paramedics	124	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.

Exhibit 5. Salaries for paramedic occupations

Market Salary Percentile	Salary Amount
10th Percentile	\$29,212
25th Percentile	\$30,602
50th Percentile	\$33,073
75th Percentile	\$39,818
90th Percentile	\$44,489

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.

Education

Of the 124 job postings, 52 listed an education level preferred for the positions being filled. Among those, 100% requested high school or vocational training, and 12% 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%.

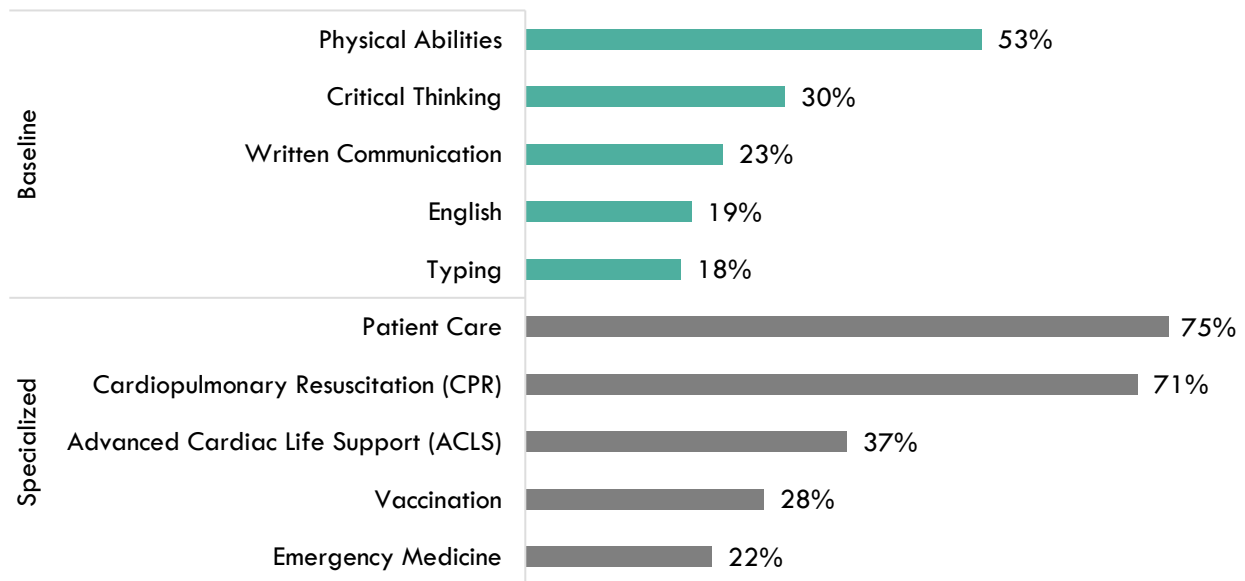
Exhibit 6. Education levels requested in job postings for paramedic

Education Level	Job Postings	% of Job Postings
High school or vocational training	52	100%
Associate degree	6	12%

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, 53% of job postings, critical thinking, 30%, and written communication, 23%. The top three specialized skills are patient care, 75% of job postings, cardiopulmonary resuscitation (CPR), 71%, and advanced cardiac life support (ACLS), 37%.

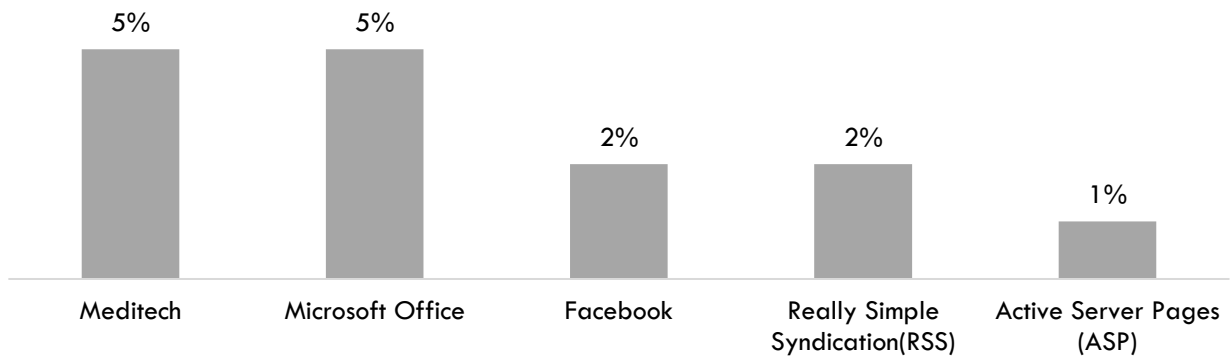
Exhibit 7. In-demand paramedic baseline and specialized skills



Software Skills

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

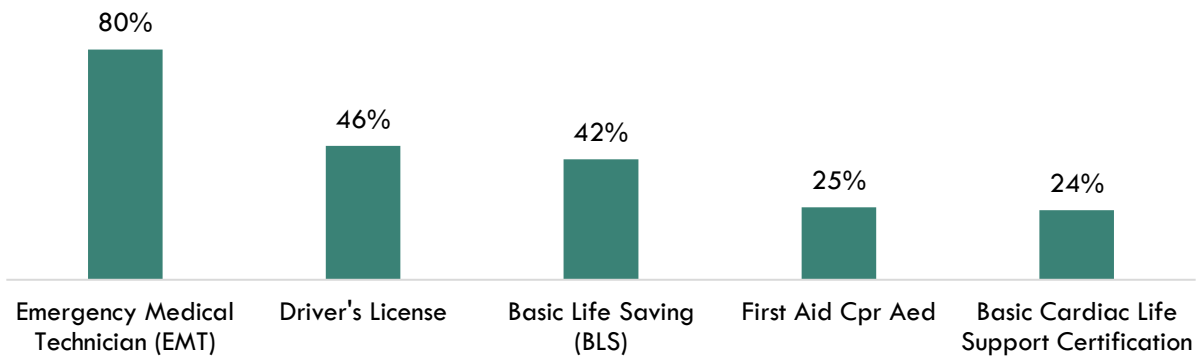
Exhibit 8. In-demand paramedic software skills



Certifications

Of the 124 job postings, 108 contained certification data. Among those, 80% indicated a need for a Emergency Medical Technician (EMT). The next top certifications are a driver’s license and Basic Life Saving (BLS) (Exhibit 9).

Exhibit 9. Top paramedic certifications requested in job postings



Education, Work Experience & Training

A postsecondary nondegree award is typically required for emergency medical technicians and paramedics (Exhibit 10).

Exhibit 10. Education, work experience, training, and Current Population Survey results for paramedic occupations⁴

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Emergency Medical Technicians and Paramedics	Postsecondary nondegree award	None	None	66.6%

⁴ “Labor Force Statistics from the Current Population Survey,” Bureau of Labor Statistics, <https://www.bls.gov/cps/>.

Supply

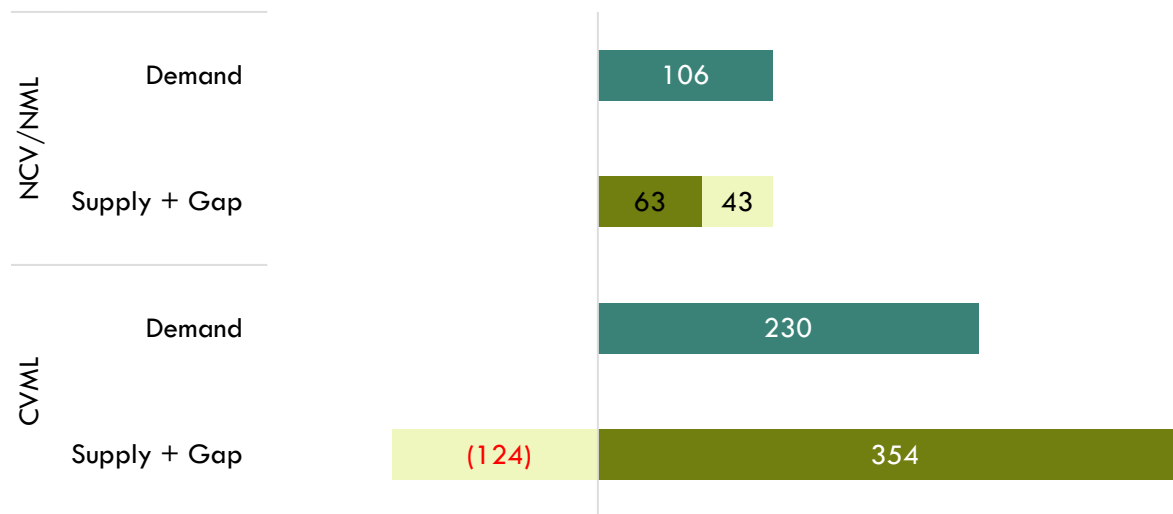
Analysis of program data from the Integrated Postsecondary Education Data System (IPEDS) included the TOP code and title: 125000 - Emergency Medical Services and 125100 - Paramedic. Analysis of the last three years of data shows that, on average, 354 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 11).

Exhibit 11. Postsecondary supply for paramedic 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					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 43 paramedic workers in the NCV/NML subregion and an oversupply of 143 workers in the region (Exhibit 12).

Exhibit 12. Paramedic 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

There was no employment and wage outcomes data available from the California Community College Chancellor's Cal-PASS Plus LaunchBoard for the TOP code related to paramedic.

Conclusion

The entry-level wage of the occupation exceeds the NCV/NML subregion's average living wage. There were 124 job postings in the past six months for occupations related to paramedic 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 patient care.
- The top software skill is Meditech.
- The top certification is an Emergency Medical Technician (EMT).

There is an undersupply of trained workers, a shortage of 43 in the NCV/NML subregion and a surplus of 124 in the region. Even with an oversupply of workers at the regional level, these programs remain in need. Additionally, this is a high-churn occupation.

Recommendation

Based on these findings, it is recommended that Merced College work with the regional director, the college's advisory board, and local industry in the development of programs to address the shortage of paramedic in the region.

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.