

Program Endorsement Brief:

Sierra College: Emergency Medical Technicians (EMTs) and Paramedics

North Far North Center of Excellence, May 2019

INTRODUCTION

This report provides an overview of the labor market demand and educational program supply for Emergency Medical Occupations in the Greater Sacramento region and the larger 22-county North Far North region.

BACKGROUND

Sierra College approached COE with a request for labor market information data for a modification to an existing Paramedicine program housed within their Health Sciences degree program. The modification is a result of an education partnership between Sierra's EMT program and CSU Sacramento's paramedic program. Sierra and CSU Sacramento College of Continuing Education are partnering to offer students opportunities in emergency health care, with a specific focus on Paramedic training.

CSU Sacramento's paramedic program is offered through their College of Continuing Education and is a self-supporting, non-degree program. This partnership would allow students to earn an Associate of Science in Paramedicine through Sierra while attending the paramedic program at CSU Sacramento. Additionally, this partnership would allow students to obtain financial aid (via Sierra) to help defray the costs of attending Sacramento State's paramedic training program. Total costs of the CSU Sacramento program, including books, materials, internship fees, and background checks, are approximately \$14,600¹.

SUMMARY OF KEY FINDINGS

- Demand for EMTs and Paramedics in the Greater Sacramento region is projected to outpace demand in the North Far North region and across the state.
- The median hourly wage for EMTs and Paramedics is above the living wage for one adult in the Greater Sacramento region.
- A significant proportion of job postings specified that employers are looking for individuals with EMT-P, or Paramedic, training.

The report contains the following sections:

- Occupational demand,
- Wages and job postings,
- Education and training,
- Regional program supply, and
- Findings and recommendations.

¹ Sacramento State College of Continuing Education. Frequently Asked Questions. Retrieved May 7, 2019 from <https://www.cce.csus.edu/faq-pod/frequently-asked-questions-0>

OCCUPATIONAL DEMAND

There was one Standard Occupational Classification (SOC) code related to the proposed program, 29-2041 Emergency Medical Technicians (EMTs) and Paramedics, included in the analysis.

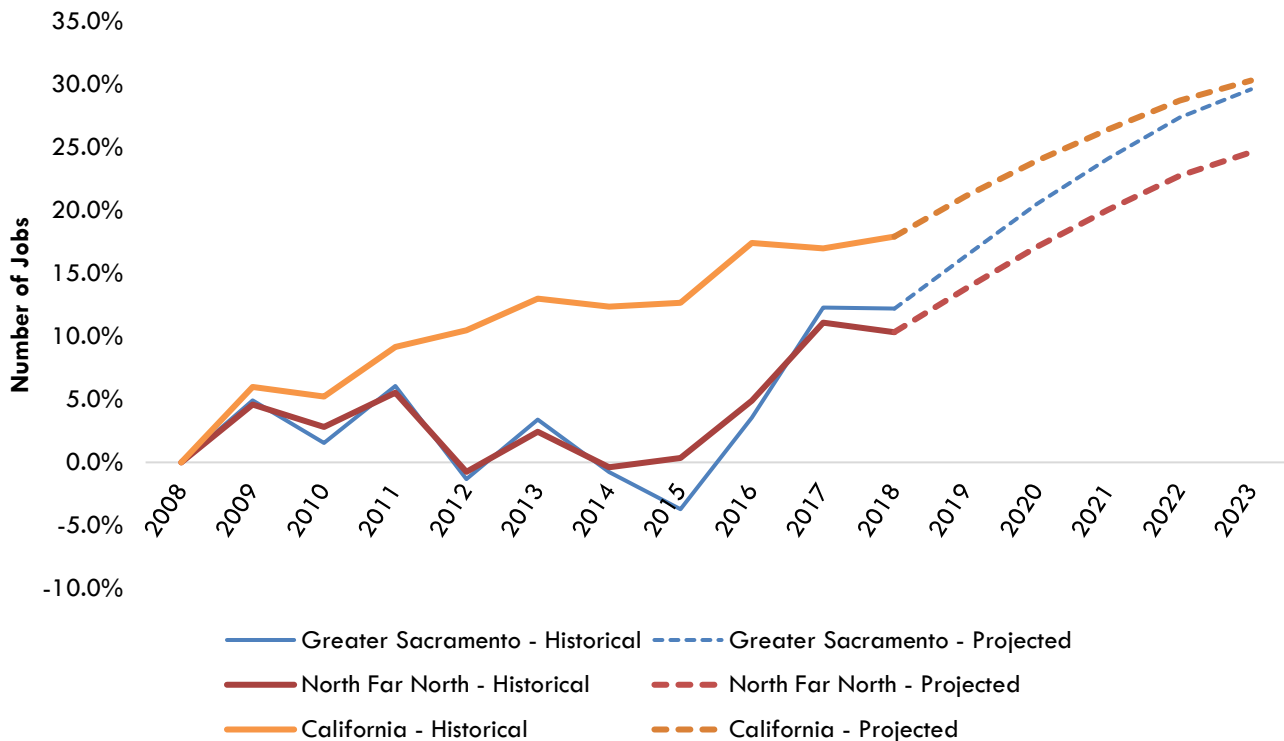
Exhibit 1 summarizes the job trends by SOC codes in the 7-county Greater Sacramento region, the 22-county North Far North region, and California.

Exhibit 1. Employment and projected occupational demand²

Occupation	SOC	2008 Jobs	2018 Jobs	2023 Jobs	2018-23 % Change	Annual Openings	Annual Replacements
Emergency Medical Technicians and Paramedics	29-2041	1,099	1,234	1,425	15.5%	119	70
GREATER SACRAMENTO	TOTALS	1,099	1,234	1,425	15.5%	119	70
Emergency Medical Technicians and Paramedics	29-2041	1,731	1,910	2,158	12.9%	180	110
NORTH FAR NORTH	TOTALS	1,731	1,910	2,158	12.9%	180	110
Emergency Medical Technicians and Paramedics	29-2041	17,833	21,031	23,241	10.5%	1,838	1,208
CALIFORNIA	TOTALS	17,833	21,031	23,241	3.1%	875	1,208

Exhibit 2 compares the rates of change of the total number of jobs between 2008 and 2018 in the Greater Sacramento region, the North Far North region, and California. It also compares occupational demand projections from 2018 through 2023 across the same areas. The rate of change is indexed to the base year 2008 total number of jobs.

Exhibit 2. Rate of Change for Selected Occupations³



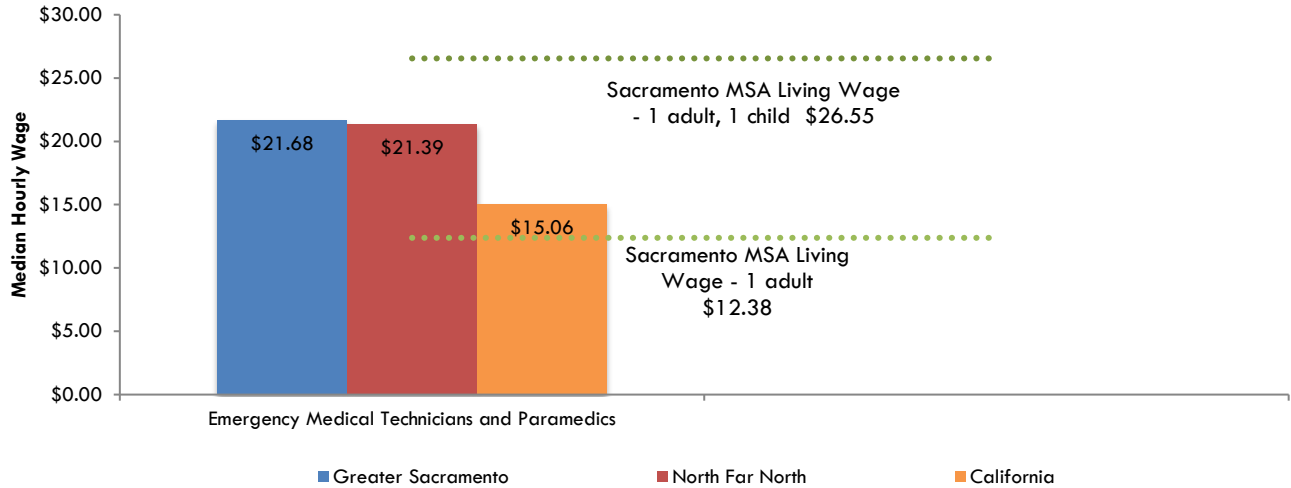
² Emsi 2019.2; QCEW Employees, Non-QCEW Employees and Self-Employed. The 7-county Greater Sacramento region includes El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba. The 22-county North Far North region includes the aforementioned counties as well as Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity.

³ Ibid.

WAGES AND JOB POSTINGS

Exhibit 3 compares the median hourly wages of the selected occupations in the study regions to the Sacramento Metropolitan Statistical Area (MSA) living wage for a one-adult household and a one-adult, one-child household.⁴

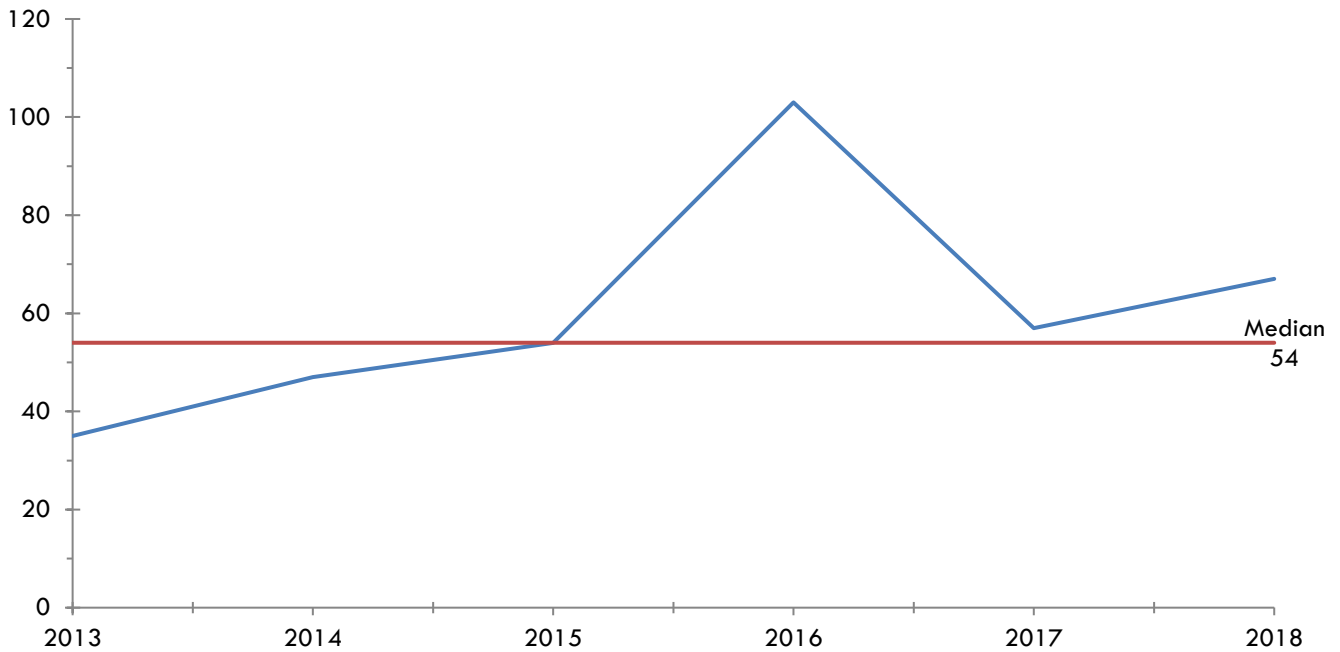
Exhibit 3. Wages for selected occupations⁵



Burning Glass identified a pool of 79 job postings in the Greater Sacramento region for the selected occupations. This data represents job listings posted online within the last year, from April 1, 2018, through March 31, 2019.

Exhibit 4 compares the 10-year job posting trends of the selected occupations to the median number of job postings in the Greater Sacramento region.

Exhibit 4: Job postings trend for selected occupations⁶



⁴ Living Wage Calculator: Counties and Metropolitan Statistical Areas in California, <http://livingwage.mit.edu/>

⁵ Emsi 2019.2; QCEW Employees, Non-QCEW Employees and Self-Employed.

⁶ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," <http://www.burning-glass.com>, 2019.

Exhibit 5 shows the number of job postings by county for the selected occupations.

Exhibit 5. Top job postings locations for selected occupations⁷

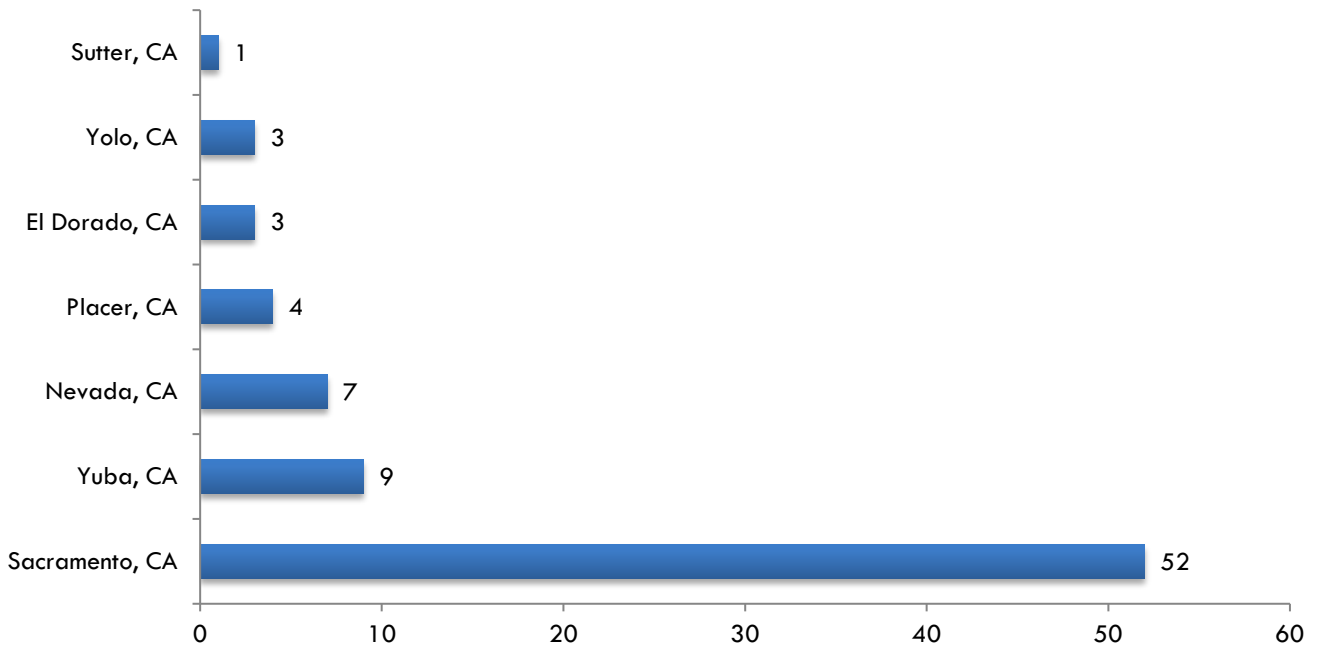


Exhibit 6 lists the employers with the most job openings for the selected occupations within the study region. Of the 79 job postings, 54 included the employer’s name.

Exhibit 6: Top employers by number of job postings⁸

Employer	Greater Sacramento (n = 54)	
	Number of Postings	Percent of Postings
Dignity Health	6	11.1%
NorCal Ambulance	6	11.1%
Reach Air Medical Service	6	11.1%
Pro Transport	4	7.4%
American Medical Response (AMR)	3	5.6%
Medic Ambulance Service Incorporated	3	5.6%
US Army	3	5.6%
Matrix Providers	2	3.7%
ProTransport 1	2	3.7%
Sacramento Metropolitan Fire District	2	3.7%

⁷ Ibid.

⁸ Ibid.

Exhibit 7 shows the top job titles for the selected occupations in the Greater Sacramento region. All 79 job postings included job titles.

Exhibit 7. Top job titles by number of job postings⁹

Top Job Titles	Greater Sacramento (n = 79)	
	Number of Postings	Percent of Postings
Paramedic	30	38.0%
Emergency Medical Technician	13	16.5%
EMT	6	7.6%
Emergency Room	5	6.3%
Emergency Medicine	4	5.1%
EMT Basic	3	3.8%
Flight Paramedic	3	3.8%
Ground EMT - Cal- Life Flight	3	3.8%
EMT-B	2	2.5%
Paramedics	2	2.5%

Exhibit 8 shows the skills most in-demand for the selected occupations in the Greater Sacramento region. 56 of the 79 job postings included required skills information.

Exhibit 8. Top skills by number of job postings¹⁰

Skills in Greatest Demand	Greater Sacramento (n = 56)	
	Number of Postings	Percent of Postings
Cardiopulmonary Resuscitation (CPR)	39	69.6%
Advanced Cardiac Life Support (ACLS)	38	67.9%
Patient Care	33	58.9%
Medical Triage	14	25.0%
Patient Transportation and Transfer	13	23.2%
Life Support	9	16.1%
Lifting Ability	8	14.3%
Occupational Health and Safety	8	14.3%
Ambulance Operations	7	12.5%
Cleaning	7	12.5%
Hepatitis B	7	12.5%
Trauma	7	12.5%
Primary Care	6	10.7%
Vaccines	6	10.7%
Airway Management	5	8.9%
Critical Care	5	8.9%
Vital Signs Measurement	5	8.9%

⁹ Ibid.

¹⁰ Ibid.

EDUCATION AND TRAINING

Exhibit 9 shows the typical educational attainment for workers 25 years and old by occupation across the U.S. At the national level, the typical education for the existing workforce based on survey data from 2016-2017 for the selected occupations is some college.

Exhibit 9. Typical educational attainment for selected occupations, nationally¹¹

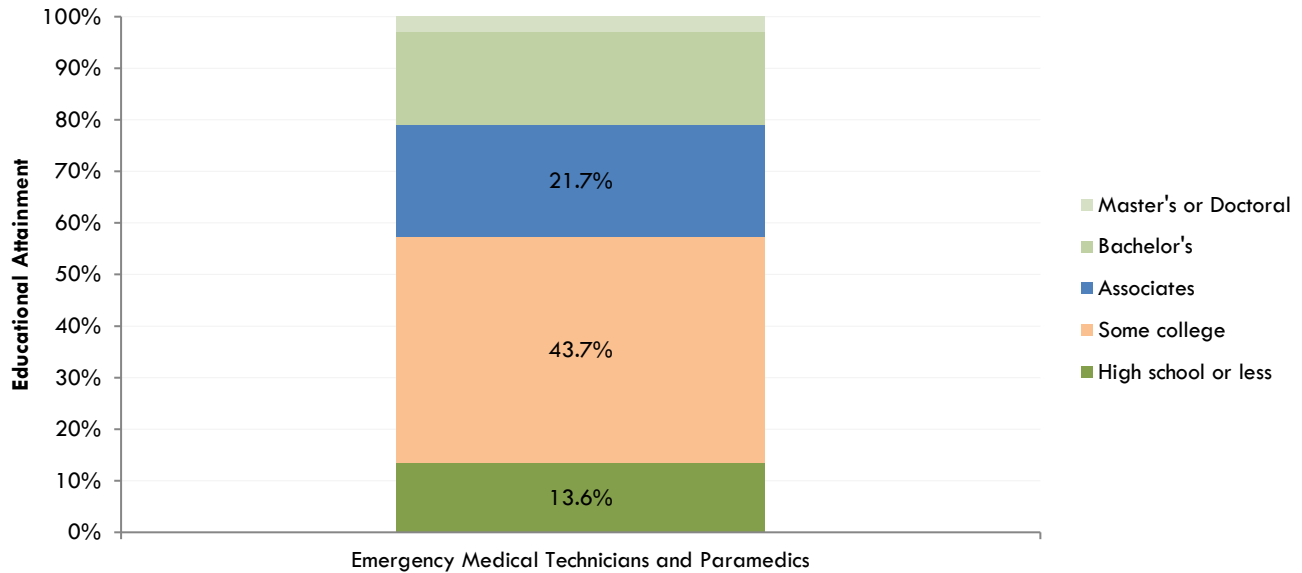


Exhibit 10 shows the typical entry-level education requirements, on-the-job training, and work experience requirements for the selected occupations in the Greater Sacramento region. EMTs and Paramedics are required to attend and complete an approved EMT or Paramedic training course, pass a state or national licensing examination, and obtain certification within two years of being issued a course completion certificate.

Exhibit 10. Typical education, training, and work experience for selected occupations¹²

Occupations	Typical Entry-Level Education	Typical On-The-Job Training	Work Experience Required
Emergency Medical Technicians and Paramedics	Postsecondary Non-degree Award	None	None

PROGRAM SUPPLY

Analysis of existing educational programs shows that there are two Taxonomy of Program (TOP) codes related to training for EMT and Paramedic occupations: 1250.00 - Emergency Medical Services, which trains for EMT-1 and EMT-2 certifications, and 1251.00 - Paramedic which trains for EMT-P, the paramedic occupation. The corresponding Classification of Instructional Programs (CIP) code for both programs is 51-0904 - Emergency Medical Technology/Technician (EMT Paramedic).

According to the Commission on Accreditation of Allied Health Education Programs¹³, three Greater Sacramento post-secondary institutions offer Emergency Medical Services-Paramedic training: American River College, CSU Sacramento, and NCTI-Roseville. According to the California Community Colleges Chancellor's Office, Cosumnes River College and Woodland Community College also offer training. Exhibit 11 compares the total number of awards conferred by colleges in the Greater Sacramento region over the last three academic years.

¹¹ Bureau of Labor Statistics. Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2016-2017, <https://www.bls.gov/emp/tables/educational-attainment.htm>.

¹² Emsi 2019.2; QCEW Employees, Non-QCEW Employees and Self-Employed.

¹³ Commission on Accreditation of Allied Health Education Programs, <https://www.caahep.org/>

Exhibit 11. Total awards conferred by Greater Sacramento post-secondary institutions, 2015-2018¹⁴

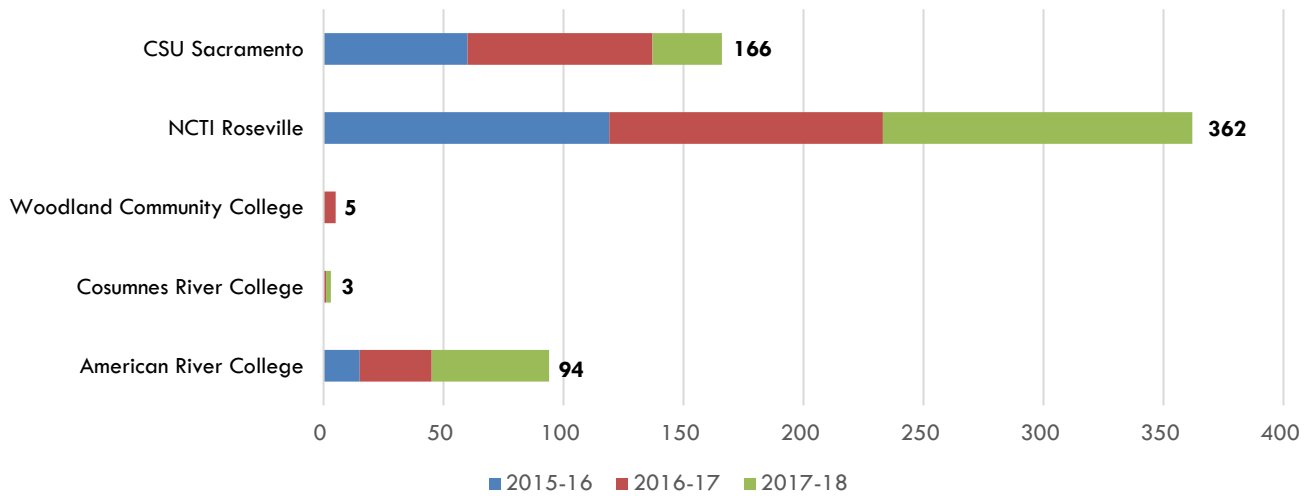


Exhibit 12 displays program awards by level and year for the selected education programs over the last three academic years.

Exhibit 12. Program awards conferred by Greater Sacramento post-secondary institutions, 2015-2018¹⁵

School	Program	Award	2015-16	2016-17	2017-18	3-Yr Avg
American River College	Paramedic - 1251.00	Associate	5	5	9	6
American River College	Paramedic - 1251.00	Certificate	10	5	12	9
NCTI Roseville	Paramedic - 1251.00	Certificate	22	35	41	33
CSU Sacramento	Paramedic - 1251.00	Certificate	60	77	29	55
Paramedic Program Totals			97	122	91	103
American River College	Emergency Medical Services - 1250.00	Certificate	0	20	28	16
Cosumnes River College	Emergency Medical Services - 1250.00	Certificate	0	1	2	1
Woodland Community College	Emergency Medical Services - 1250.00	Certificate	0	5	0	2
NCTI Roseville	Emergency Medical Services - 1250.00	Certificate	97	79	88	88
EMS Program Totals			97	105	118	107

¹⁴ COE Supply Tables, California Community Colleges Chancellor's Office DataMart, and Integrated Postsecondary Education Data System (IPEDS).

¹⁵ Ibid.

FINDINGS

Occupational demand

- From 2008 to 2018, the North Far North region added 179 jobs, 135 of which were located in the 7-county Greater Sacramento region.
- 2018 to 2023 demand for EMTs and Paramedics in the Greater Sacramento region is projected to outpace demand in the North Far North region and across the state at 15.5% (vs. 12.9% and 3.1%, respectively).
- There will be 180 projected annual openings in the North Far North region, with 119 of those openings in the Greater Sacramento region.

Wages

- In the Greater Sacramento region, the median hourly wage for EMTs and Paramedics is \$21.68, which is above the living wage for one adult in the Greater Sacramento region (\$12.38), but below the living wage for a one-adult, one-child household (\$26.55) in the same region.

Employers

- Burning Glass found a total of 79 job postings related to EMTs and Paramedics between April 1, 2018, and March 31, 2019.
- Most employers, 52, were located within Sacramento County and top employers included Dignity Health, NorCal Ambulance, and Reach Air Medical Services.

Job titles

- The most requested job titles included Paramedic, Emergency Medical Technician, and EMT.
- At least 44% of the postings specified that they were looking for Paramedics, or individuals who were EMT-P certified (as opposed to EMT-Basic, EMT-Intermediate or non-specified).

Skills and Certifications

- The most requested skills included knowledge of Cardiopulmonary Resuscitation (CPR), Advanced Cardiac Life Support (ACLS), patient care, medical triage, and patient transportation and transfer.

Education

- According to the Bureau of Labor Statistics, the typical education level for existing EMTs and Paramedics is some college. This finding aligns well with training requirements as EMTs and Paramedics are required to attend and complete an approved EMT or Paramedic training course, pass a state or national licensing examination, and obtain certification within two years of being issued a course completion certificate.

Supply

- There are several Greater Sacramento post-secondary institutions which offer related training: American River College, Cosumnes River College, CSU Sacramento, NCTI-Roseville, and Woodland Community College. Beginning fall 2019, Folsom Lake College is anticipated to offer an EMS certificate. Data for Sierra College's EMT program completions could not be found using either TOP code.
- Approximately 210 certificates and associate degrees are conferred annual across all post-secondary institutions.

RECOMMENDATIONS

- An occupation not included in this study, but require consideration, are Firefighters (SOC 33-2011). Many firefighters are also EMTs because they serve as first responders to the scenes of accidents and other emergencies. Furthermore, in addition to employing EMTs and Paramedics, fire departments are increasingly seeking firefighters with EMT or Paramedic certifications. Therefore, this educational partnership would benefit both the Fire Technology and Health Science students at Sierra.
- A simple gap analysis between supply (average 210 annual awards) and demand (approximately 180 projected annual openings) indicates an oversupply of EMTs and Paramedics in the North Far North region. However, these values do not account for the paramedicine training needs of Firefighters. First responders, including firefighters, are often the first step in medical treatment for not only emergencies but the elderly population and those who cannot afford basic medical care.
- COE recommends the following:
 - Move forward with program modification
 - Align the program with other programs throughout the region by considering the use of specific TOP codes: Emergency Medical Services, or EMS, - 1250.00 and Paramedic - 1251.00, as well as the respective CIP code: 51-0904 - Emergency Medical Technology/Technician (EMT Paramedic).

COE Recommendation		
Move forward with program	Program is not recommended	Additional information needed
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

METHODOLOGY

Occupations in this report were identified using O*Net. Findings in this report were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi, and jobs posting data from Burning Glass.

APPENDIX A: DATA SOURCES

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOLETA) O*NET Online
- Burning Glass, Labor Insight/Jobs
- Economic Modeling Specialists, International (EMSI)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- Bureau of Labor Statistics, Occupational Employment Statistics (OES)
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard
- Living Insight Center for Community Economic Development, Self-Sufficiency Standard Tool for California
- California Community Colleges Chancellor's Office Management Information Systems (MIS Data Mart)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

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