

Strong Workforce Program
Health Sector Regional Advisory Committee Meeting Proceedings
Careers in Emergency Medical Services (EMS) & Emergency Technician
(EMT)/Parademic
October 30, 2020
Virtual - Zoom

Introduction

The Los Rios Community College District, in partnership with Valley Vision, and in collaboration with Sierra College and Yuba Community College District, invests Strong Workforce funding to organize and convene Regional Advisories. The objectives of the Regional Advisories are to build strong relationships between employers, educators, and workforce that:

- Provide timely information on skills gaps and workforce needs, informing partners on major industry trend information;
- Improve the efficiency of the advisory process for educators and employers;
- Reflect a regional view of workforce needs and assets
- Provide opportunities for more systemic, ongoing engagement that includes workforce partners in key industry sectors.

Regional Advisory meetings help inform decisions on needed investments and enhancements for Career Education (CE) programs to help fill the growing demand for middle-skill positions. This meeting proceedings report includes key findings, best practices, and minutes from the Fall 2020 Health Sector Regional Advisory meeting focused specifically on careers in Emergency Medical Services (EMS) & Emergency Technician (EMT)/Parademic.

Valley Vision supports a robust talent pipeline through our multiple 21st Century Workforce initiatives. We prepare our regional workforce for the future by addressing skills gaps, advancing research, aligning efforts and strengthening systems. Valley Vision's workforce efforts are supported by the Sacramento Employment and Training Agency (SETA), Golden Sierra Workforce Development Board (WDB), North Central Counties Consortium, Yolo WDB, City of Sacramento, local community college districts and others.

The Strong Workforce program provides Career Education opportunities to increase social mobility and fuel regional economies with skilled workers.

Key Findings

- COVID-19 impacted EMT and paramedic programs by limiting internship opportunities due to temporary halt and limited Personal Protective Equipment (PPE).
- Individuals entering the field have difficulty comparing wages across differing employers (private and public sector) due to differing ways of listing salaries. Some include base wage only while some include expected overtime. Instructing students on factoring in overtime to compare annual earnings across employment opportunities would benefit industry.
- There is a need for good preceptors (mentors); an emphasis on preceptors as a career pathway would be helpful along with skills on training and mentoring others effectively.
- In addition to technical knowledge, instruction in empathy, mental health, and customer service are vital to industry.
- Students need training on self-care for their own mental health needs as well as identifying and caring for patients with mental health crises.
- Community colleges within Los Rios have strong partnerships in place with industry to provide internship and pipeline opportunities.
- Attracting and supporting more diverse student populations to completion in these careers, especially paramedic, would be valuable to industry to have the workforce be representative of the community they are serving.
- Data drives medicine, students need to understand the value of the data they will be capturing and monitoring; why it is important and the necessity of being accurate and complete.
- COVID-19 has paved the way for innovation in mobile integrated health.

Meeting Proceedings

Welcome and Overview

Trish Kelly, Managing Partner at Valley Vision, and Julie Holt, Regional director Employer Engagement - Health California Community Colleges Health Workforce Initiative, provided the welcome appreciating the work going on in the field and the incredible strength of first responders during this trying time. They reviewed the advisory goals; to connect with industry and employers, identify training gaps to address employer needs for a qualified workforce, learn about existing community college programs throughout the region, and look for opportunities to strengthen skills, courses or programs offered by Los Rios Community College District.

Labor Market Information Overview

Ebony J. Benzing, Research Manager at North/Far North Centers of Excellence at Los Rios provided information from labor market data and Burning Glass Technologies including: industry trends, occupational/job data, job postings information, as well as an overview on certificates and degrees conferred from regional community colleges. This information is designed to be used to understand conditions in the local labor market, determine skills and credentials needed, understand the Health Regional Industry Advisory 10-30-2020

employment outlook for students, identify which community college programs are ripe for investment, and better understand the needs of industry and conditions in the local labor market.

Occupations Overview

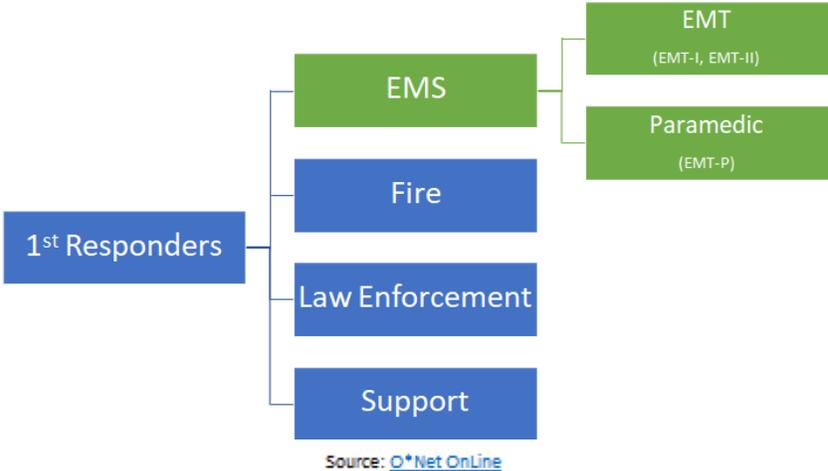


Figure 1 - First Responder Occupations

The above figure depicts the specific target areas of current EMT and Paramedic programs. There are a variety of first responder occupations that may need to have some level of emergency medical training, including firefighters, law enforcement, and various EMS support roles. Rather than taking a broad look, the following data provides a highlighted focus on EMT and paramedic occupations. EMT and paramedic training programs identified correlate to jobs where students will be most qualified to perform or find work in these fields without additional training.

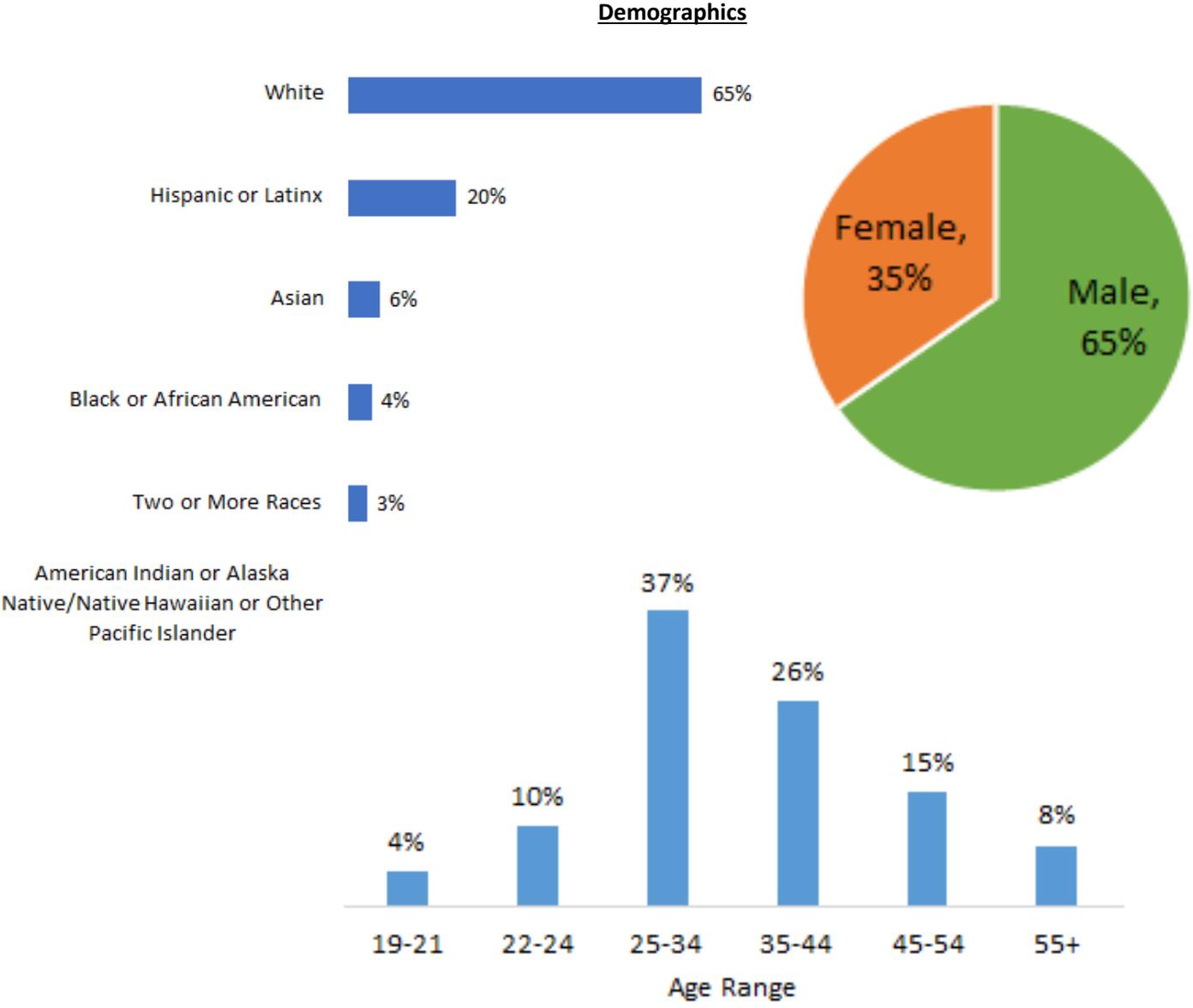


Source: Emsi 2020.4; QCEW Employees, Non-QCEW Employees, and Self-Employed in the seven-county North (Greater Sacramento) region, which includes El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba.

Figure 2 - Overview of Demand Data for EMT and Paramedic jobs

The data above in Figure 2 was collected from a quarterly census of employers for the North/Greater Sacramento region, including El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba Counties. This gives a picture of steady high growth at 12% prior to COVID and average wages at \$25.52 which is substantial for certificated trainings. Projection data does not take into account the impact of the pandemic since the latest data set available has just started to incorporate the first quarter of 2020

(from January to March). COVID-19 impacts to the data set may not begin to show until January of 2021.



Source: Emsi 2020.4; QCEW Employees, Non-QCEW Employees, and Self-Employed. 7-county North (Greater Sacramento) region.

Figure 3 - EMT/P Labor Force Demographics (2019)

EMTs and Paramedic jobs are primarily staffed by people who identify as white at ~65% of the current labor force, 8% of those staffed are ages 55 and older, therefore, retirement risk to the occupation is relatively low, although firefighter/EMT retirement can occur prior to 55. At 37%, the largest concentration of workers fall within the 25-34 year old range.

Job Postings Data

City	Job Postings
Sacramento	75
Grass Valley	19
South Lake Tahoe	8
Rocklin	4
Lincoln	4
Truckee	2
Rancho Cordova	2
Olivehurst	2
El Dorado	2
Roseville	1
Marysville	1
Folsom	1
Fair Oaks	1
Davis	1
Citrus Heights	1

Employer	Job Postings
Dignity Health	15
American Medical Response	6
Pro Transport 1	5
Medic Ambulance Service Incorporated	5
Sierra Nevada Memorial Hospital	5
Vail Resorts Management Company	4
Pro Transport	4
Norcal Ambulance	4
Bay Medic Ambulance	4
American Medical Response (AMR)	4
Thunder Valley Casino Resort	4
Sacramento Metropolitan Fire District	3
Northstar Incorporated	3
Los Rios Community College District	3
Aramark	3

Burning Glass Labor Insights

- Locations and employers with the most job postings, seven-county North (Greater Sacramento) subregion
- Oct 1, 2019–Sep 30, 2020
- SOC 29-2041, n=124 postings; 18 unspecified postings for employers, zero for location

Figure 4 - Top Locations and Employers

The above information (Figure 4) is collected using Burning Glass Technologies job posting data. While this information is not exhaustive, it is significantly representative of the job posting universe as 90% of jobs are posted online. When looking for job postings for EMTs and Paramedics, there were 124 online job postings for these occupations posted in the last 12 months, between October 1st, 2019 and September 1st, 2020. Specifications on the ratios of full-time versus part-time jobs were not included in the data. Locations with the greatest amount of job postings include Sacramento and Grass Valley. Employers with the largest amount of job postings include health and medical transport companies.

Certification	Job Postings
Emergency Medical Technician (EMT)	105
Driver's License	64
Advanced Cardiac Life Support (ACLS) Certification	38
Medical Examiner's License (DL 51/MCSA 5875)	35
Paramedic Certification	31
Basic Life Saving (BLS)	20
First Aid CPR AED	19
National Registry of Emergency Medical Technicians (NREMT)	17
Pediatric Advanced Life Support (PALS) Certification	15
Basic Cardiac Life Support Certification	10
American Heart Association Certification	9
Casino Gaming License (Thunder Valley - must be able to obtain)	4
Fire Fighter I	3

Skill	Skill Postings
Patient Care	64
Cardiopulmonary Resuscitation (CPR)	56
Advanced Cardiac Life Support (ACLS)	41
Life Support	22
Medical Triage	19
Hepatitis B	14
Lifting Ability	12
Patient Transportation and Transfer	12
Vaccines	12
Electrocardiogram (EKG / ECG)	10
Emergency Care	10
Guest Services	10
Medical Emergencies	10

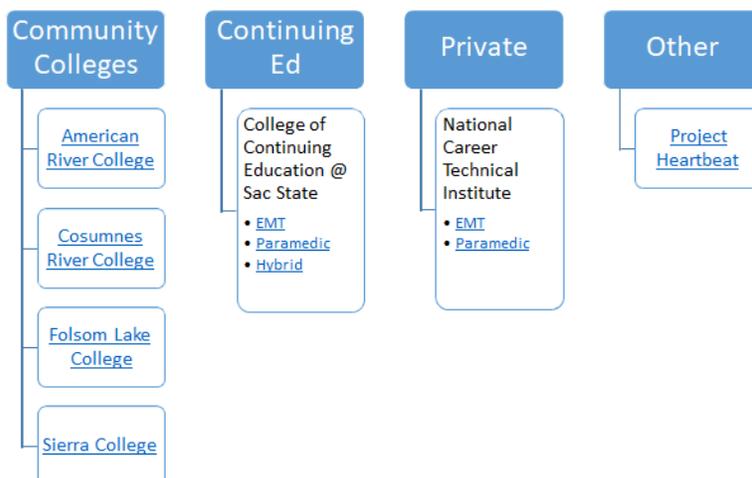
Burning Glass Labor Insights

- Certifications and skills in greatest demand, seven-county North (Greater Sacramento)
- Oct 1, 2019–Sep 30, 2020
- SOC 29-2041, n = 124 postings, 6 unspecified posts for certificates and 43 unspecified for skills

Figure 5 - Most Requested Certifications and Skills

Figure 5 above details the most requested certifications for the field including Emergency Medical Technicians (EMT), Driver’s License, and Advanced Cardiac Life Support (ACLS). The most requested skills include patient care, Cardiopulmonary Resuscitation (CPR), and Advanced Cardiac Life Support (ACLS).

College Programs and Awards



Note: List may not be fully exhaustive; changes may have been made within the last year and thus may be somewhat outdated.

Figure 6 - Training Providers in North (Greater Sacramento)

Community colleges providing training in EMT and Paramedic include: American River College, Cosumnes River College, Folsom Lake College, Sierra College, Woodland Community College and Yuba Community College.

Other training providers include the College of Continuing Education @ Sac State for EMT, Paramedic, and Hybrid training and National Career Technical Institute (NCTI), a private college, for EMT and Paramedic training. One other training provider was found Project Heartbeat.

PROGRAM	COLLEGE	2016-2017 AWARDS	2017-2018 AWARDS	2018-2019 AWARDS	ANNUAL AWARDS (3-YEAR AVERAGE)
PARAMEDIC-125100	American River	10	21	26	19
	<i>Paramedic subtotal</i>	10	21	26	19
EMERGENCY MEDICAL SERVICES-125000	American River	20	28	24	24
	Cosumnes River	1	2	1	1
	Woodland	5	0	0	2
	<i>EMS subtotal</i>	26	30	25	27
	Grand Total	36	51	51	46

Performance reports:

- CCE @ Sac State: [NREMT Pass Rates](#)
- NCTI Roseville: [EMT](#), [Paramedic](#)
- Project Heartbeat: None posted for Sacramento beyond FAQ mention
- State of California Commission on Emergency Services Mar 18, 2020 [meeting notes](#) – EMT pass rates (pg 39-57)

Key Take Away

- From researcher POV, incomplete view of EMT and Paramedic training supply in region
- Disparate sources of data in terms of “success”

Source: Management Information Systems (MIS) Data Mart, California Community Colleges Chancellor's Office, accessed October 29, 2020, <https://datamart.cccco.edu/>.

Figure 7 - Average Number of Awards by Community College, 2016-17 through 2019-20

Figure 7 demonstrates the available information for Paramedic and Emergency Medical Services (EMS) annual awards by colleges reporting data. An average of 46 awards are conferred through the community college system per year according to data tracked. Data is incomplete because of the differences in how programs classify success. In community colleges, paper awards are considered. From the College of Continuing Education at California State University Sacramento, data given was information about the National Registry EMT examination pass rates. NCTI talks about the number of graduates coming out of the program. While the data is incomplete due to different measures, it hints that certificates ranging from 6 to 18 units are what most students pursue to work as a paramedic. There are also students who take the course but do not apply for their certificate, which is why the amount of data for this is low (ie. Woodland zeroing out in number of awards conferred in the years 2017-2018 and 2018-2019.) Sierra College was not included in the table because no data was found on the issuing of awards/certificates. Data is dependent on individual college level reporting.

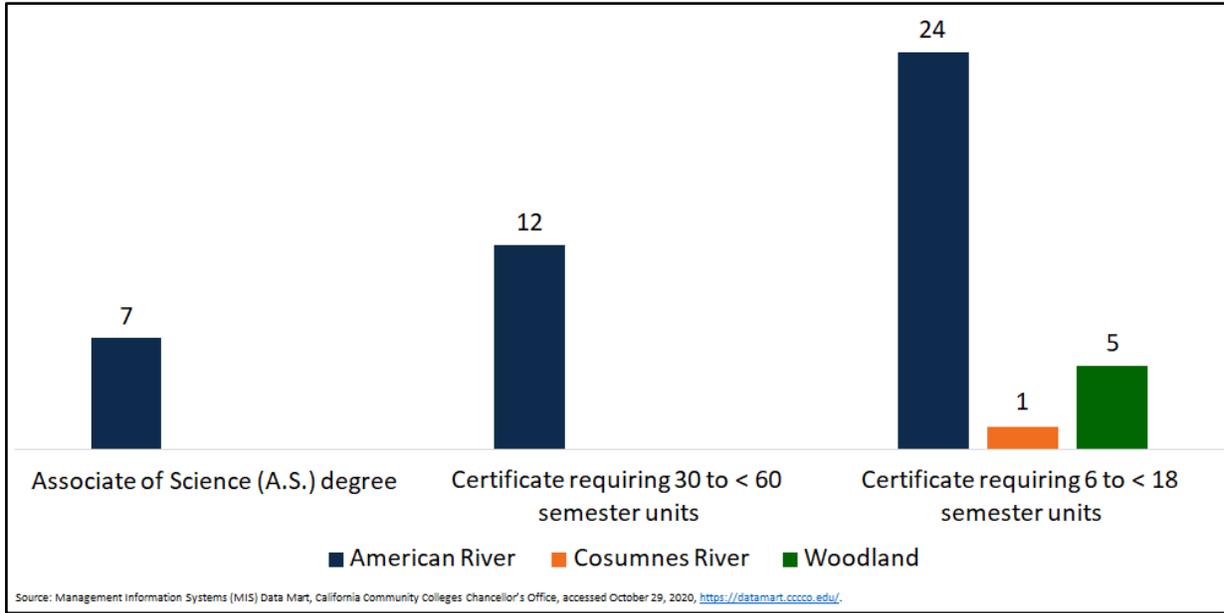


Figure 8 - Bar Graph of Average Number of Awards by Community College, 2016-17 through 2019-20

COVID-Patient Care and Safety Practices

Dr. Matthew James Maynard, DO, Capt. USAF, EMS Fellow, Department of Emergency Medicine, University of California Davis Medical Center (Pictured below)



Dr. Maynard presented via a pre-recorded message on how patient care is evolving and being managed in these challenging times. He shared information concerning what students and professionals need to know to work in the EMS and Paramedic professions, current information about practices being adopted due to COVID-19, and recommendations for teaching Paramedic/EMT students.

Dr. Maynard shared information on the amount of COVID-19 cases in California and the dramatic increases with Sacramento County currently averaging 153 cases per day. The projected trend of cases was rising and was expected to increase moving into the winter months. Dr. Maynard shared the current CDC EMS Systems Guidance and recommended following the CDC guidance when teaching EMS

and Paramedic students:

- Patients and family should wear their own cloth face covering prior to arrival, during the encounter, and transport
- Children under 2 should not have a face covering
- Face masks should be placed over the nasal cannula
- EMS personnel should always wear a face mask while in service
- EMS personnel should wear universal eye protection on all calls, eyewear with rubber gasket to block air entry is preferred if available
- Hand hygiene protocol includes washing for 20+ seconds with soap and/or 60 seconds with 95% alcohol containing hand gel
- From the side of dispatch, Dr. Maynard suggests that patients wear a face mask either when making an initial 911 call and/or when the EMS crew arrives.

Dr. Maynard also shared the **additional procedures for individuals who are presumed positive** as follows:

“When responding to a person who is presumed positive or may be positive for Covid, the standard is to wear a face mask/facial protection, gown, and gloves. Aerosolizing procedures recommend the usage of an N95 mask. BVMs and other ventilatory equipment should be equipped with HEPA filtration to filter expired air. If possible, the rear doors of the transport vehicle should be opened, and the HVAC system should be activated during AGPs. Consider iGel (supraglottic airway device) as the primary mode of securing the airway over intubation. Since viral particles are released into the air when intubating someone, it is recommended to use the supraglottic device first instead of intubation. If possible, discontinuation of AGPs prior to entering the destination facility or communication with receiving personnel that AGPs are being implemented.”

Additional procedures for transporting suspected or confirmed COVID patients:

“When transporting a suspected or confirmed COVID patient it is recommended to isolate the ambulance driver’s compartment from the patient compartment, avoid contamination of the driver’s compartment, and maximize ventilation out the back of the vehicle. After transport, leave the rear doors open to allow for sufficient air changes to remove viral particles. Gloves, facemask, and eye protection should be worn during cleaning while using hospital grade disinfectant. The vehicle should be cleaned and disinfected in accordance with standard operating procedures.”

Dr Maynard also referenced the CDC website resources for the [Sequence for Putting on Personal Protective Equipment \(PPE\) and Safe Removal](#).

Panel Discussion on Arising Issues

The panel consisted of Matt Burrue, Operations Manager with AlphaOne Ambulance Medical Services, Kathy Ivy, EMS Specialist with Sacramento County Emergency Medical Services Agency, and Kim Iannucci, Assistant Chief with Sacramento Fire Department.



- **Alpha One** has been around since 2011 in Sacramento County and serves the majority of senior facilities in Sacramento County and psychiatric care. While acknowledging the landscape of the industry has changed significantly, Matt Burrue celebrated the adaptability of their staff. Alpha One hires primarily brand new EMTs and paramedics, although experienced individuals are welcome. The company has 176 employees with approximately 35 paramedics and 75 EMTs.
- **Sacramento County EMS** oversees all providers in the county, ensuring oversight and compliance. While they don't directly hire, Kathy Ivy and team educate and orient new staff to Sacramento County and accredit individuals to work within. Nine private and four public ambulance companies operate in Sacramento County along with some non-transporting, advanced life support fire department, airport and helicopters.
- Kim Iannucci oversees outreach and recruitment for the **Sacramento Fire Department** including pipeline programs. Sac Fire has 24 fire stations, 24 engines, 10 trucks/hazmat units, and 17 advanced life support units employing 350 firefighters that are either EMTs or paramedics. Sac Fire prefers a ratio of 75% paramedics and 25% EMTs, although their current ratio is closer to 50% paramedics and 50% EMTs. Their medics also work as firefighters.

The panelists discussed **challenges with comparing annual income across EMT and paramedic occupations**. While the hourly rate can look low for positions at private ambulance companies like Alpha One, there is quite a bit of overtime which results in higher annual earnings. The disparity in how wages are represented can be a challenge for recruitment. Annual wages are a more accurate representation of compensation. Some positions, such as at Sac Fire, estimate a 56-hour work week with overtime income factored into the salary in position postings. In other company position postings overtime is not included in the wage or salary information listed. Educating students about this disparity in posting data would be helpful to help them consider actual annual wages across positions. Additionally, it is important students accessing the field are a cultural fit. These positions require a lot of overtime which is not always predictable and can impact family life.

- **Need for customer care/patient care balance**
 - Panelists agreed schools were good at teaching protocols, technical skills, and knowledge, however, personality and customer care were needed as well.
- **Supply of good preceptors**
 - There was agreement on a lack of supply for preceptors and a need for quality preceptors who were genuinely interested in training and wanting to make an impact on training new recruits. It would be helpful if this could be emphasized in education as a career pathway and the skills needed to mentor individuals with different learning styles and treat them respectfully.
- **Need for diverse candidates**
 - A need for diverse candidates, especially in paramedic occupations was highlighted. High school pathway programs have provided some limited success in advancing diverse candidates. Specifically, pathway programs including medical language, techniques and skills help diverse students transition well to EMT post-secondary education.
- **COVID -19 Implications**
 - There was a slow-down in getting students into internships for three to four months due to COVID restrictions. Now a lack of PPE is impacting internships. In some cases, students have had to bring their own PPE in order to participate unless the provider has enough. COVID-19 has created an impetus for the field to become better infectious disease practitioners.
- **Emerging skills due to the acceleration of automation**
 - The continued acceleration of automation has resulted in electronic PCR and EKG monitoring. In general, younger students handle the technology well. Blue collar or older workers can take more time to adapt. There is a big push on data capture and monitoring trends to update public health policies.
- **Data drives medicine**
 - The upside of data is the near immediate capture of information to inform policies and practices, the downside is it takes away from interaction with patients. **Students need to understand the value of the data they will be capturing and monitoring; why it is important and the necessity of being accurate and complete.**
- **Mobile integrated health**
 - Sac Fire shared the impact of COVID has opened the door on mobile integrated health as a **service model to reduce impact on 911 and hospitals and achieve reach into traditionally disinvested communities.** They are piloting a community care response unit with a nurse practitioner or physician's assistant paired with an EMT to reduce need for emergency room care when possible.
- **Mental health considerations**
 - Panelists agreed on the need for mental health supports for students entering the field and for how to interact with patients experiencing mental health concerns. Continually caring for individuals in trauma is difficult. Individuals entering the field need to be equipped with good self-care practices to guard against compassion fatigue, PTSD, and

destructive, escapism behaviors. Mental health concerns for EMTs usually develop not from one event but the multiplication of many events when going from call to call without the ability to process what they have seen. Teaching empathy toward those we serve, colleagues, and ourselves would be helpful. Saving a life is not always physical, words matter and empathy. Having trained peer support is necessary as individuals will likely talk to peers before professionals.

- **Partnering with the community colleges**
 - In general panelists celebrated their **strong relationships with the community colleges** and partnering on the pipeline for EMT and paramedic careers. Alpha One shared they **treat each internship as a working interview**. Sac Fire indicated they would like to see **expanded demographics to be representative of the population they are serving**. A recommendation was made to study data on completion and put processes and supports in place to address specific needs of target demographics to ensure completion. Sac Fire also requested more information on **tuition grants to help pay for their EMT and paramedic schools** which is outside normal tuition costs and the need for cadets from high schools to get help on how to sign up for classes and how to purchase the books, noting at risk kids don't have parents that have gone to college to help them sign up.

Conclusion

In closing, Dr. Grant Goold, Paramedic Program Director, Department Chair, American River College, encouraged faculty to **stay focused on self-learning during these challenging times including adapting to online learning** noting **faculty play such a critical role in the success of our students**. He noted all the college is doing to diversify and bring additional support to students. Encouraged self-care to faculty. He challenged staff on pursuing a professional development course especially for online education. He discussed participating in a statewide initiative on virtual reality as an augmentation tool for learning and critical thinking as students prepare for field internships and the need for 20 EMT and paramedic schools to get a statewide activity together to educate 1000 students into their learning. For individuals looking to connect the workforce they represent to the health sector, please contact Julie Holt, Regional Director-Employer Engagement of Health for the Greater Sacramento Region at the California Community Colleges at: HoltJ@scc.losrios.edu