



Yolo County Health & Human Services Agency



Kristin Weivoda
EMS Administrator

John S. Rose, MD, FACEP
Medical Director

October 2020

Re: YEMSA 2019/2020 Annual Report

Dear Stakeholders,

We are pleased to present the Yolo County Emergency Medical Services and Emergency Preparedness 2019-2020 Annual Report. Our report showcases the activities and accomplishments from our past year. These achievements are the result of the collective effort by Yolo County EMS and Emergency Preparedness stakeholders, and we want to express our appreciation to all of you for your hard work, collaboration, and commitment to our system.

We hope you will find the information in this year's report informative and inspiring. We remain committed to continuously finding ways to improve our EMS system and emergency response through evidence-based medicine and innovative solutions for the health care of our community.

If you have any questions or would like us to come present this information, please contact Kristin Weivoda at (530) 666-8671 or kristin.weivoda@yolocounty.org.

Sincerely,

Kristin Weivoda
EMS Administrator

Enclosed: YEMSA 2019/2020 Annual Report



Yolo County

2019-2020

**EMS Agency
Annual
Report**

INTRODUCTION



Kristin Weivoda
EMS Administrator

On behalf of the Yolo County EMS Agency, we are pleased to present the 2019-2020 EMS Annual Report.

This report provides an in-depth look at the wide range of day-to-day activities that allow the EMS Agency to deliver world-class, life-saving care. While it is difficult to choose just a few to mention, the following milestones are significant and worthy of highlighting.

Our EMS System, in its eight years has a legacy of system collaboration and this report reflects these roots are the foundation of our success. We offer our sincerest gratitude to each of you for your continued support that makes it possible for our system to achieve such impressive and sustained accomplishments for our community.

Kristin Weivoda

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STAFF



Kristin Weivoda
EMS Administrator



John S. Rose, MD
EMS Medical Director



Landee Linn
EMS Coordinator



Douglas Brim
EMS Coordinator/RDMHS



Megan Rizzo
EMS Coordinator/RDMHS



Karisa Huie
EMS Specialist I



Terry Weisser
EMS Specialist II



Susan Hensley
Emergency Planning/
Training Coordinator



Emily Duncan
Emergency Preparedness
Specialist I

VALUES - VISION - MISSION

Values



Vision

A comprehensive, accessible, and sustainable EMS delivery system, realized through collaboration that provides clinically superior, efficient, and innovative care.

Emergency Preparedness strengthens partnerships and resiliency in our county through preparedness activities and training.

Mission

The mission of YEMSA is to evolve a cost-effective, collaborative, and outcome-based EMS Delivery System that produces clinically superior and culturally competent care. We strive to work effectively with our Public Safety and Public Health partners to solve problems, make decisions, and achieve common goals.

The mission of EP is to prepare the residents of Yolo County for natural and intentional public health disasters and emergencies through improved operational readiness, planning, and mitigation activities and to ensure a timely response and successful recovery as a collaborative and resilient community.

EMS FELLOW



We are excited to have the Emergency Medical Services (EMS) fellow from UC Davis Department of Emergency Medicine rotating at Yolo County EMS.

EMS is a medical sub-specialty board from the American Board of Emergency Medicine/American Board of Medical Specialties.

The EMS fellowship is one year long. Dr. Matt Maynard is the first fellow for the EMS fellowship at UC Davis Medical Center (UCDMC). Dr. Maynard completed his emergency medicine residency at UCDMC. He was a paramedic in Utah and Louisiana prior to medical school, so he brings significant experience to the fellowship. He is also a Captain in the United States Air Force.

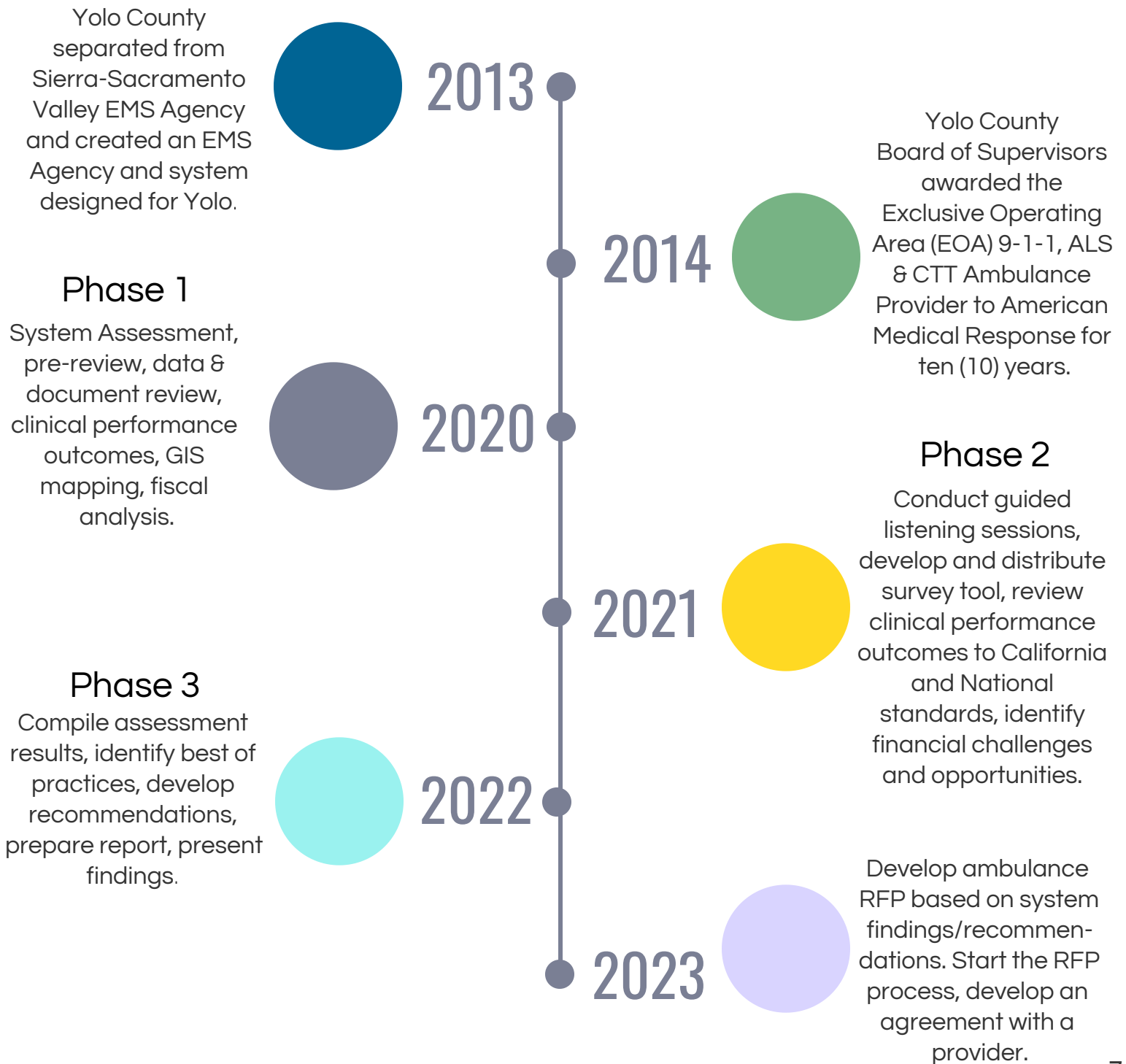
He will work with the staff at YEMSA to learn the various aspects of EMS policy development, oversight, and implementation under the supervision of Dr. Rose, YEMSA's Medical Director and EMS Fellowship Program Director. In addition to his YEMSA experience, Dr. Maynard will ride along with the AMR units in Yolo to get a first-hand opportunity to see how policies are operationalized and implemented.

UC DAVIS
HEALTH

MEDICAL
CENTER

SYSTEM ASSESSMENT

Yolo County EMS Agency is preparing for a competitive bidding process for Ambulance services that we anticipate will begin in 2022. To assist in managing this project, the County has hired EndPoint EMS Consulting, LLC. There will be three phases; a comprehensive assessment of the Yolo EMS system, the development of an ambulance Request for Proposals (RFP), and support with the development of a contract with the selected vendor.



DEMOGRAPHICS

Yolo County Population: 220,849
Population per Square Mile: 215
1,024 Square Miles served by EMS

July 1, 2019-June 30, 2020

22,195 EMS Calls

61 average EMS Responses per day
101 EMS Responses per 1,000 people



SYSTEM PARTNERS

Fire Protection Districts

Capay Valley Fire
Clarksburg Fire
Dunnigan Fire
Elkhorn Fire
Esparto Fire
Knights Landing Fire
Madison Fire
West Plainfield Fire
Willow Oak Fire
Yolo Fire
Zamora Fire

Municipal BLS Fire Departments

Davis Fire
UC Davis Fire
West Sacramento Fire
Winters Fire
Woodland Fire

Tribal ALS Fire Departments

Yocha Dehe Fire

BLS Ambulances

AlphaOne
AMR - Sutter Health
Medic Ambulance
NORCAL Ambulance
ProTransport-1
Sacramento Valley Ambulance

911 - ALS - CCT Ambulance

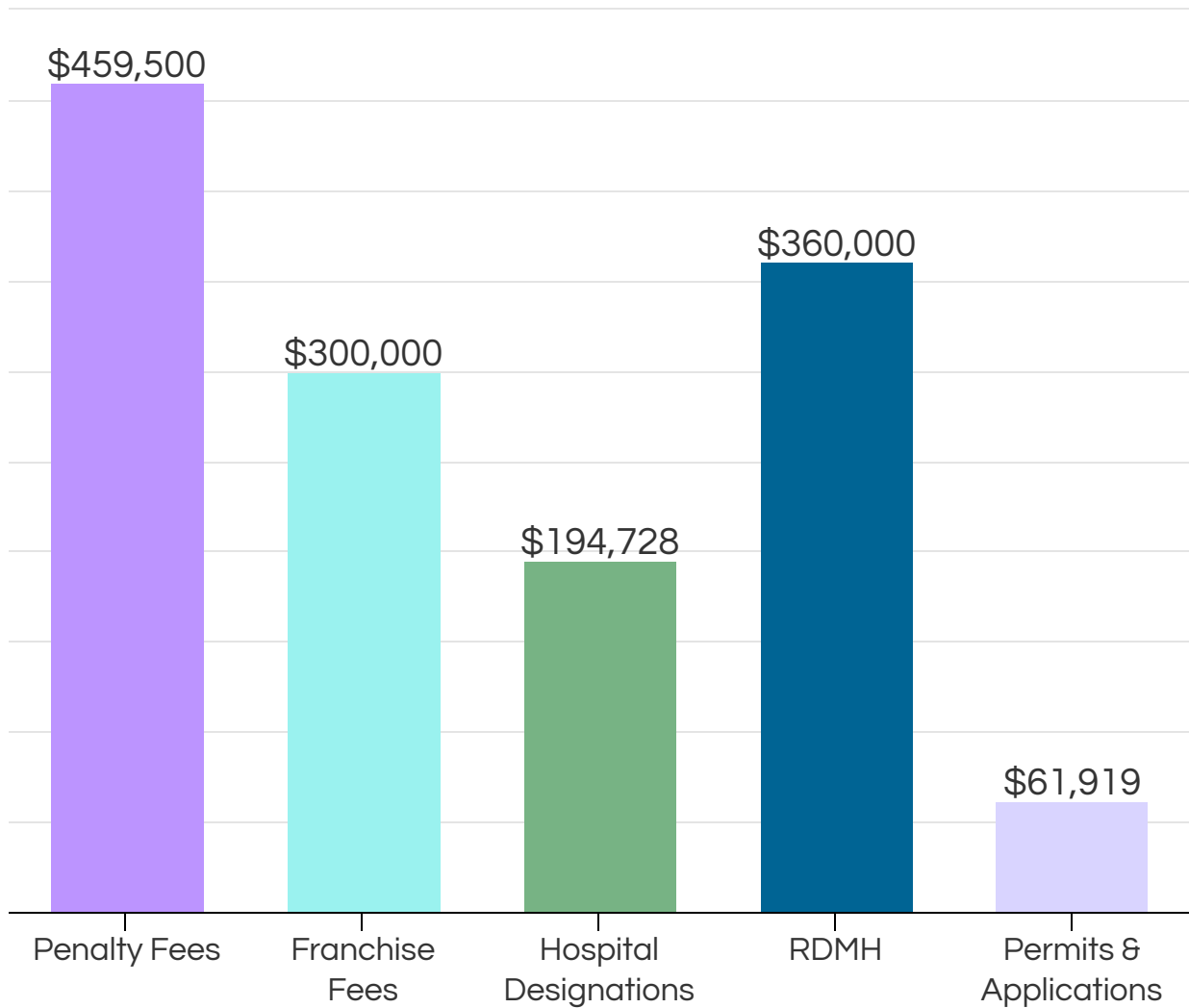
American Medical Response
(AMR)

Air Medical

REACH/CALSTAR

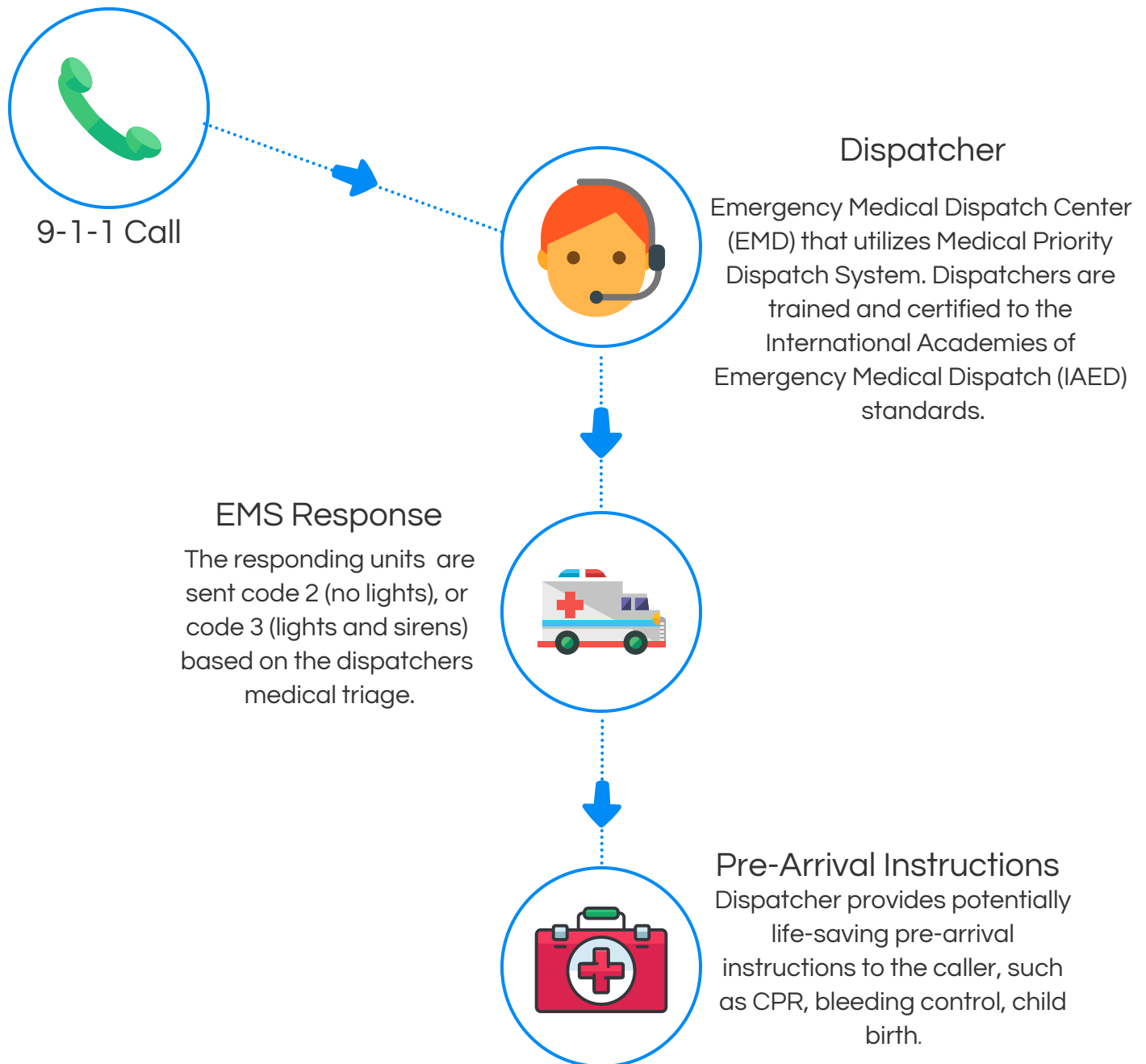
SYSTEM FUNDING

YEMSA is funded through an Exclusive Operating Area (EOA) Franchise Fee, Penalty Fees (late responses), fees collected for certifications, ambulance permits, ambulance inspections, hospital designations, and state allocations for the Regional Disaster Medical Health (RDMH) roles.



DISPATCH

Yolo Emergency Communication Agency (YECA) is one of the Public Safety Answering Points (PSAP) for the majority of Yolo County. They provide dispatch services for the County Sheriff, 3 Municipal Police Departments, and 19 Fire Agencies. It is the only approved Emergency Medical Dispatch Center (EMD) for the county.



CERTIFICATION & ACCREDITATION

Paramedics

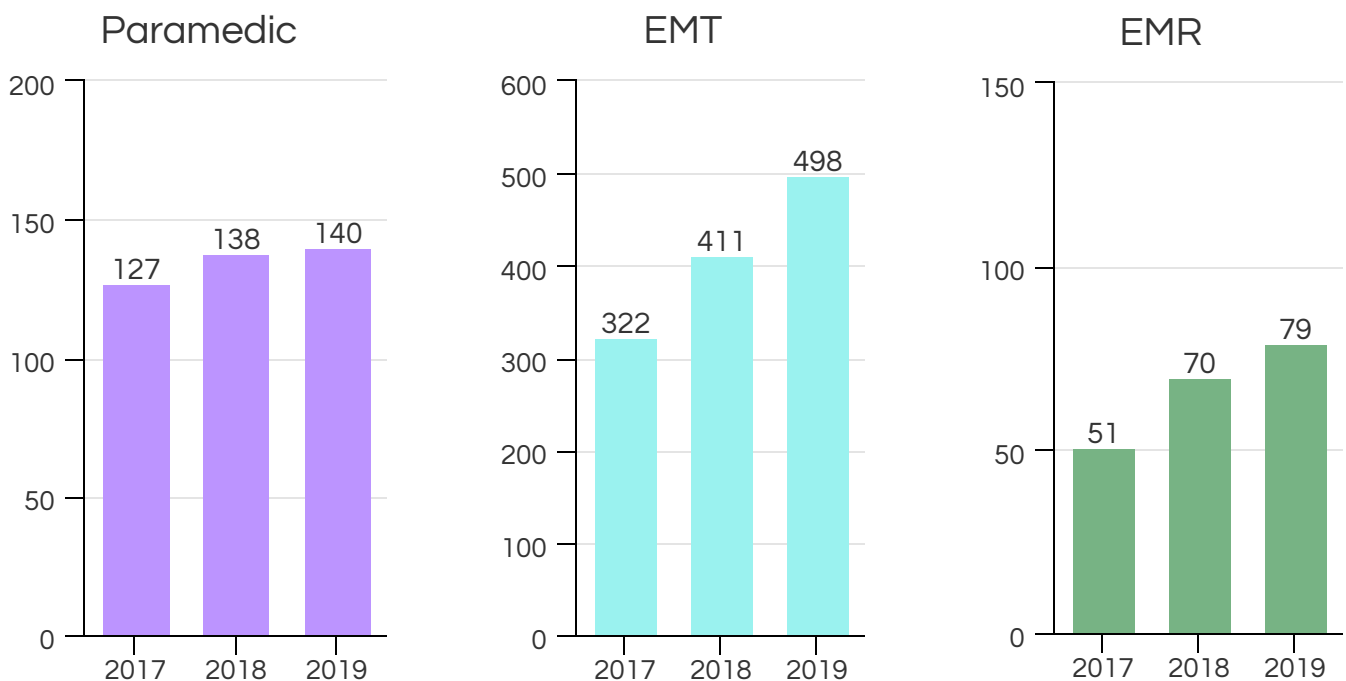
Paramedics are required to obtain a California Paramedic license from the State of California EMS Authority. Once a Paramedic has obtained a license, they must accredit themselves in the jurisdiction in which they are employed. Accreditation ensures Paramedics can work safely and competently within YEMSA's Protocols and Policies. Paramedics are required to verify compliance and update their accreditation with YEMSA every two (2) years.

Emergency Medical Technicians (EMT)

Emergency Medical Technicians (EMT) are required by state law to possess a State of California EMT certificate before they are permitted to practice. An EMT obtains a State of California EMT certificate by applying to one of California's local EMS agencies. An EMT certificate obtained through YEMSA is valid statewide for two (2) years.

Emergency Medical Responders (EMR)

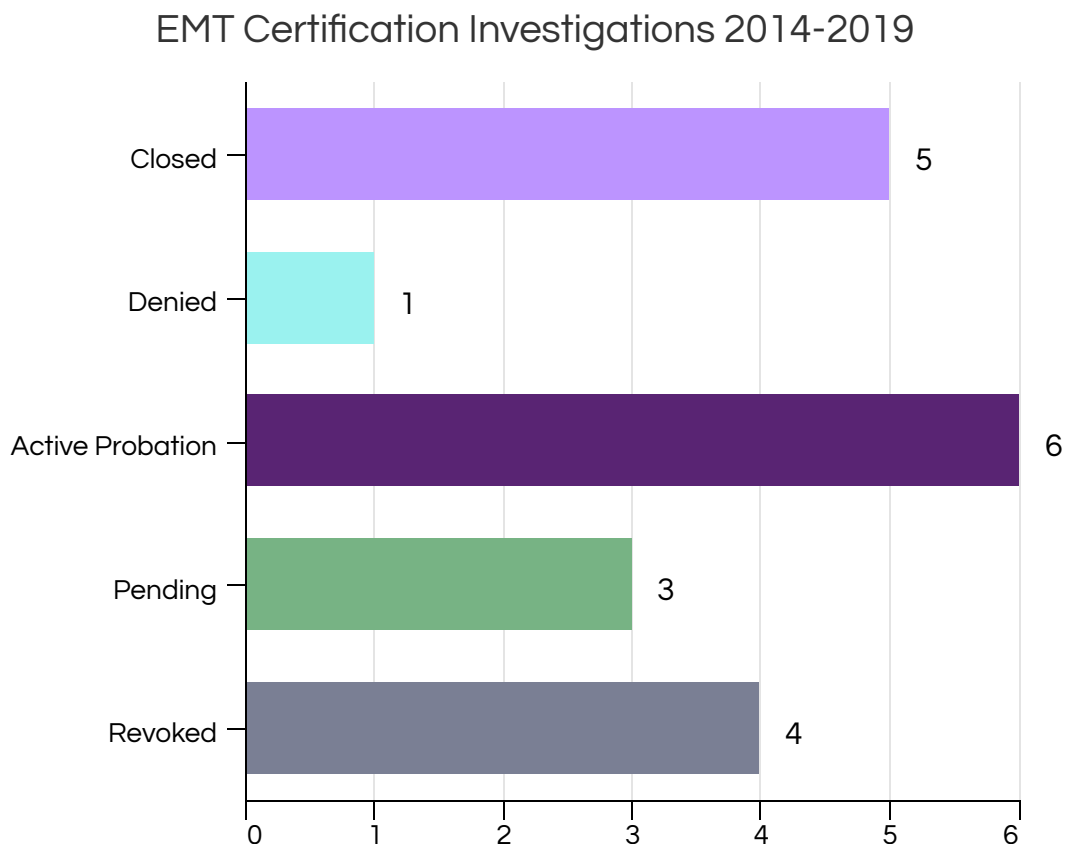
Emergency Medical Responders (EMR) are required to possess a YEMSA EMR certificate before they are permitted to practice within the county. An EMR certificate is obtained upon provision of proof of employment within the county and proof of completion of training through a certifying entity. EMR certification is valid for two (2) years.



CERTIFICATION OVERSIGHT

California Health and Safety Code Section 1798.200 grants Yolo County Emergency Medical Services Agency (YEMSA) the authority to conduct investigations into EMT's/EMR's on-duty and off-duty activities. This includes denying, suspending, revoking, or placing on probation a certification based upon criminal activity, which is substantially related to the qualifications, functions, and duties of pre-hospital personnel.

The Probation Program monitors EMTs/EMRs who have had their certifications placed on a probationary status due to discipline. YEMSA's Probation Program monitors and verifies that public protection is being achieved and that EMTs/EMRs are adhering to the requirements of their probation orders. EMT/EMR probationers who violate their probation orders are subject to having their certification revoked.

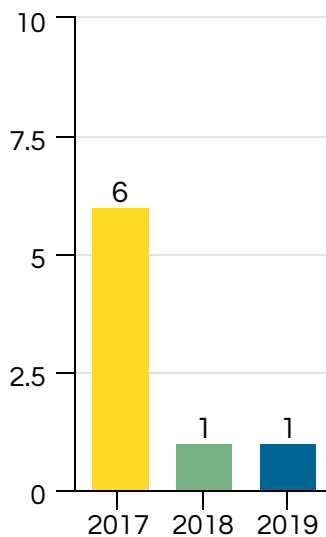


AMBULANCE PERMITS

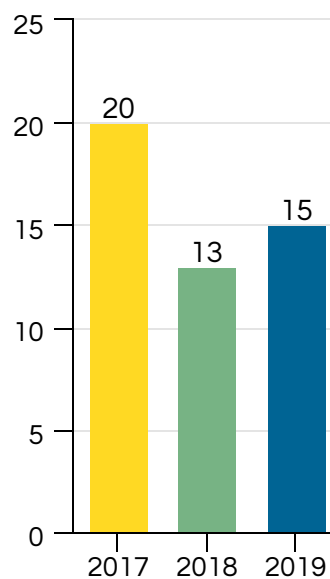
The Yolo County Ambulance Ordinance requires each Ambulance Provider to obtain a permit prior to initiating patient transport in Yolo County. YEMSA reviews all applications and inspects each ambulance to ensure public health and safety. Application approval and permits are required annually. YEMSA is responsible for investigating alleged violations of the ambulance ordinance against permit holders, and when necessary, suspends or revokes ambulance permits.



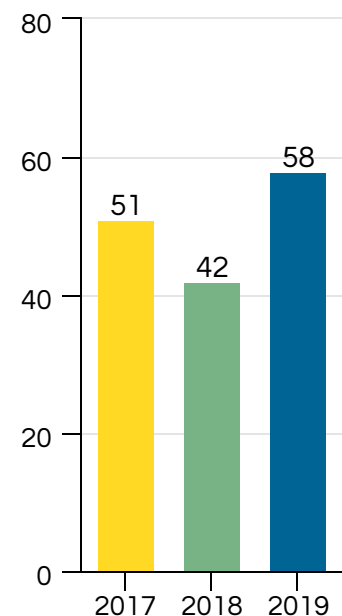
Critical Care Transport (CCT) Ambulance with: 1 RN, 1 Paramedic, and 1 EMT



Advanced Life Support (ALS) Ambulance with: 1 Paramedic and 1 EMT



Basic Life Support (BLS) Ambulance with: 2 EMT's



EMT TRAINING PROGRAMS

Under the State's EMS Regulations, YEMSA is the delegated regulatory agency responsible for approving EMT and Paramedic Training Programs in Yolo County. The EMS Agency has three (3) approved EMT Training Programs.



UC Davis Fire Department

← 2 EMT Courses

145 Students

Woodland Community College

2 EMT Courses →

26 Students



OnSite Medical Services Inc.

← 4 EMT Courses

95 Students



AMBULANCE RESPONSE TIME REQUIREMENTS

HIGH 8 MINUTE

Davis
Elkhorn
Madison
UC Davis
West Sacramento
Willow Oak
Winters
Woodland

MODERATE 15 MINUTE

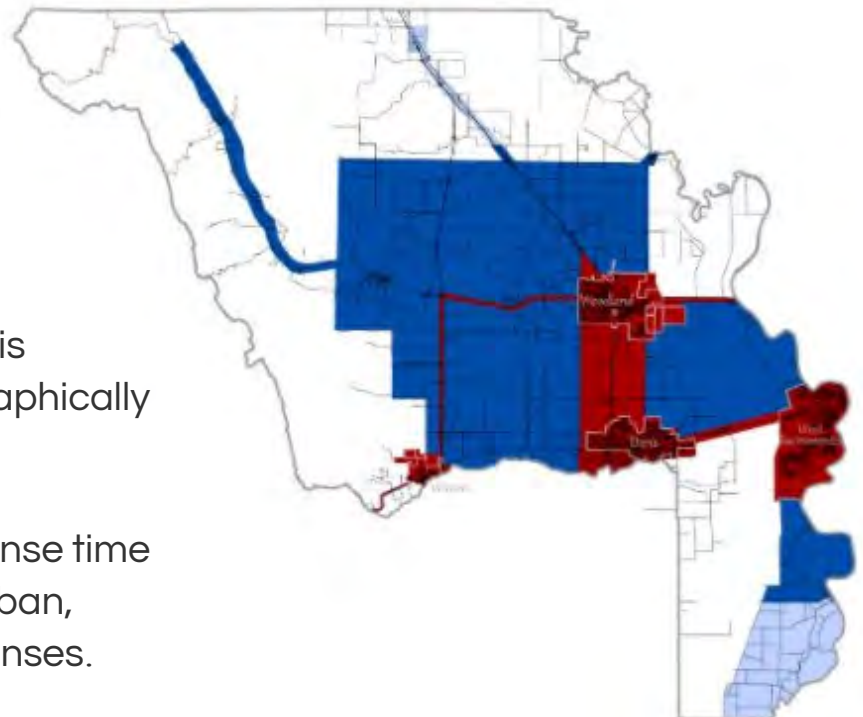
Brooks
Capay
Clarksburg
Elkhorn
Esparto
Guinda
Knights Landing
Madison
Rumsey
West Plainfield
Willow Oak
Yocha Dehe
Yolo
Zamora

MODERATE-LOW 20 MINUTE

Clarksburg
Dunnigan
Zamora

LOW 30 MINUTE

Rural areas of:
Brooks
Capay
Dunnigan
Elkhorn
Guinda
Knights Landing
Rumsey
Zamora



Each response zone is geographically and demographically diverse.

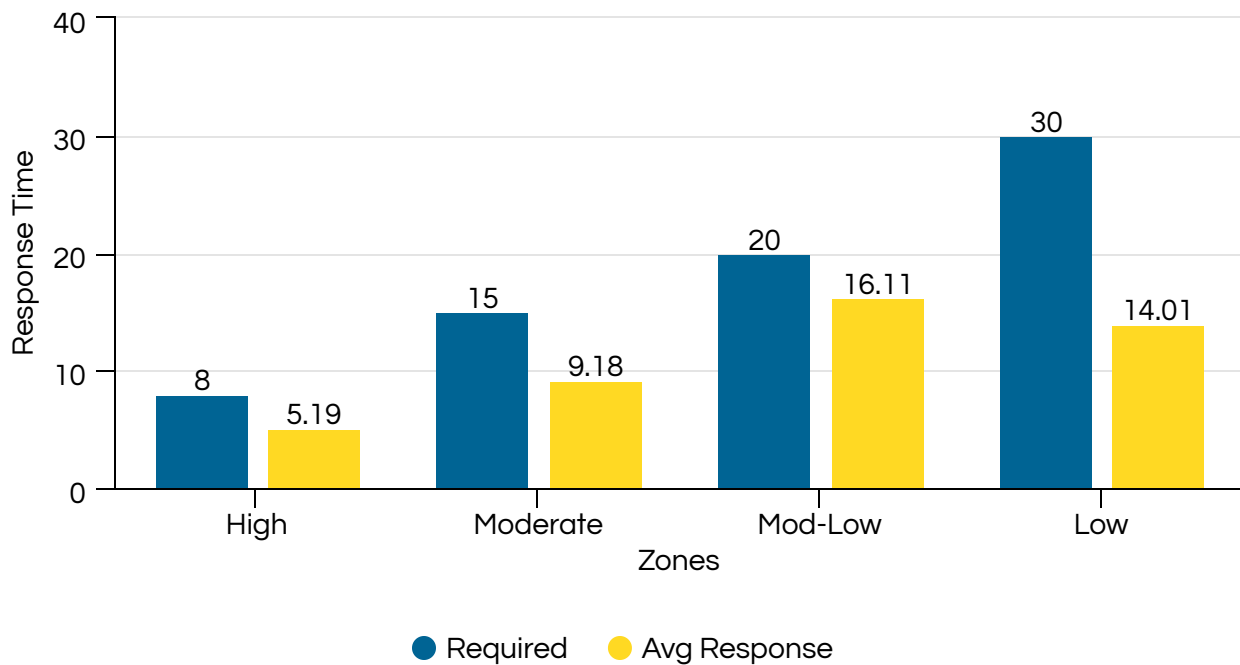
The 9-1-1 Ambulance response time requirements include urban, suburban, and rural responses.

AMBULANCE RESPONSE TIME PERFORMANCE

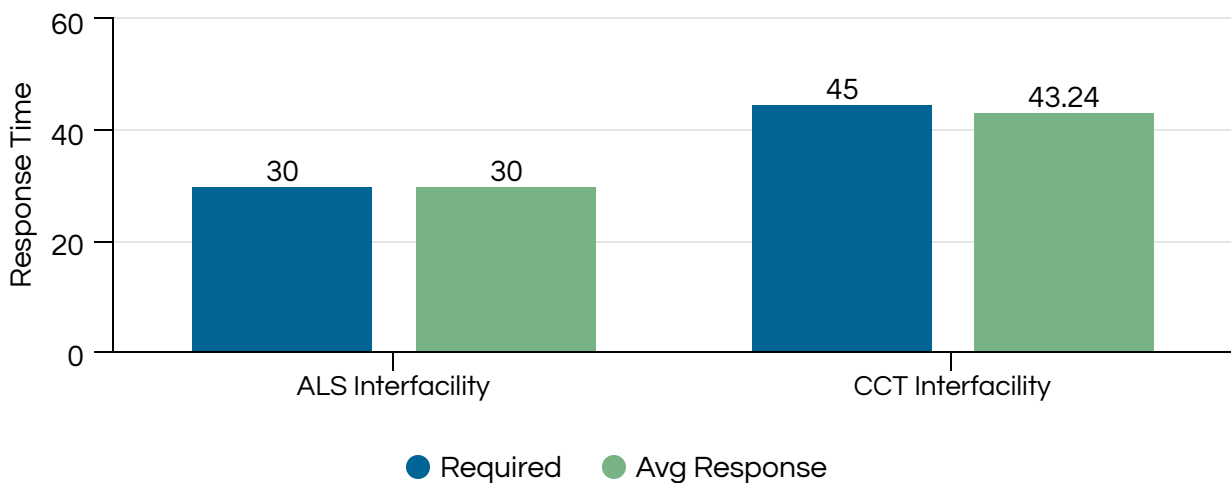
County Wide 2019-2020 Ambulance Volume

22,195

9-1-1 Ambulance Response Time Compliance



Interfacility Ambulance Response Time Compliance



AMBULANCE OFF-LOAD

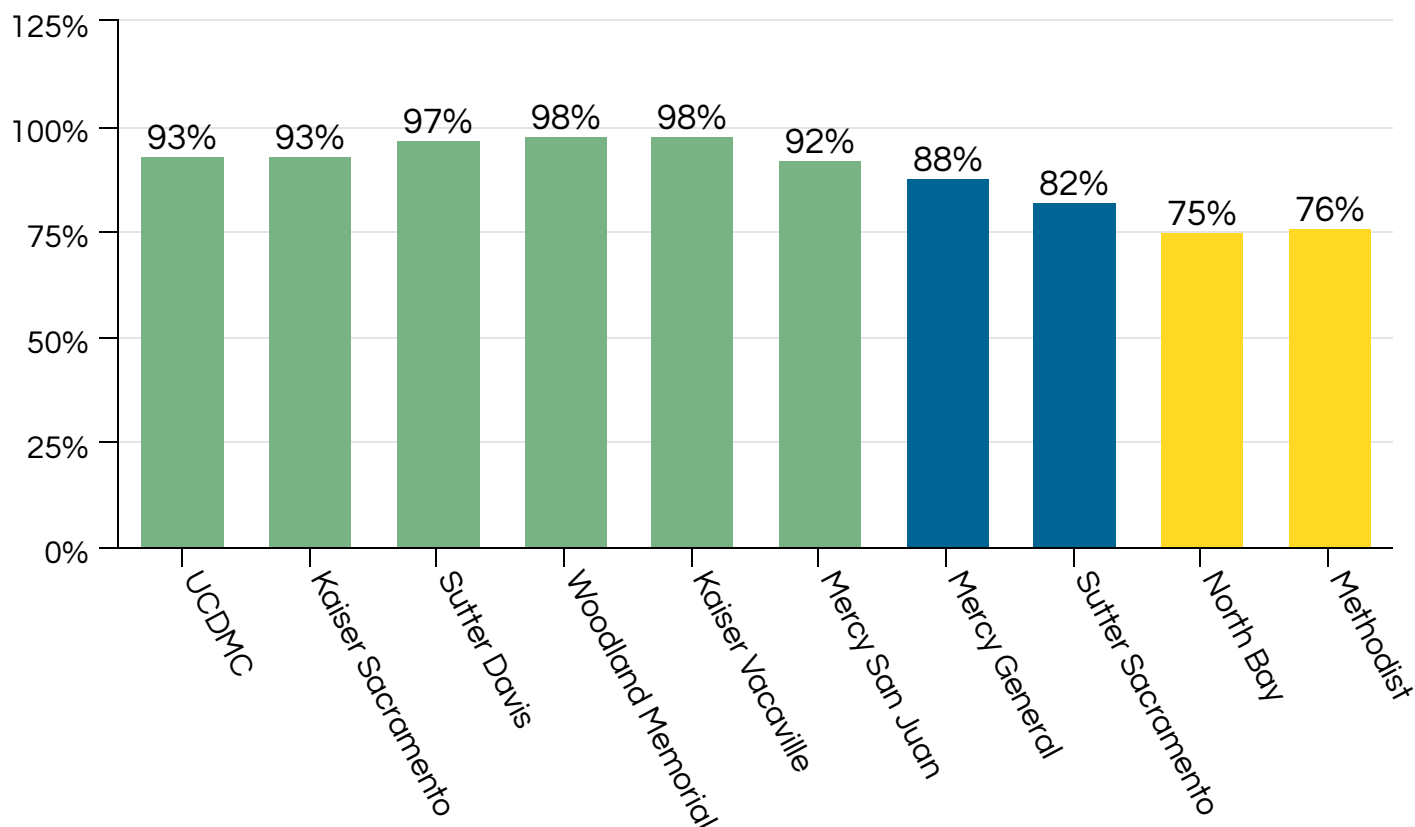


In accordance with Health and Safety Code Section 1797.120 Ambulance Off-Load Time (APOT) was established to calculate and report ambulance patient offload times.

Ambulance Off-Load delays are a persistent concern in the health care community due to the potential impact on patient safety and quality of care.

Yolo County EMS Agency provides quarterly reports on APOT times to the State EMS Agency. In addition, we monitor, in real-time, ambulance emergency room arrival time to departure. Our benchmark for arrival to departure is sixty (60) minutes. The graph below presents the data collected by Yolo County.

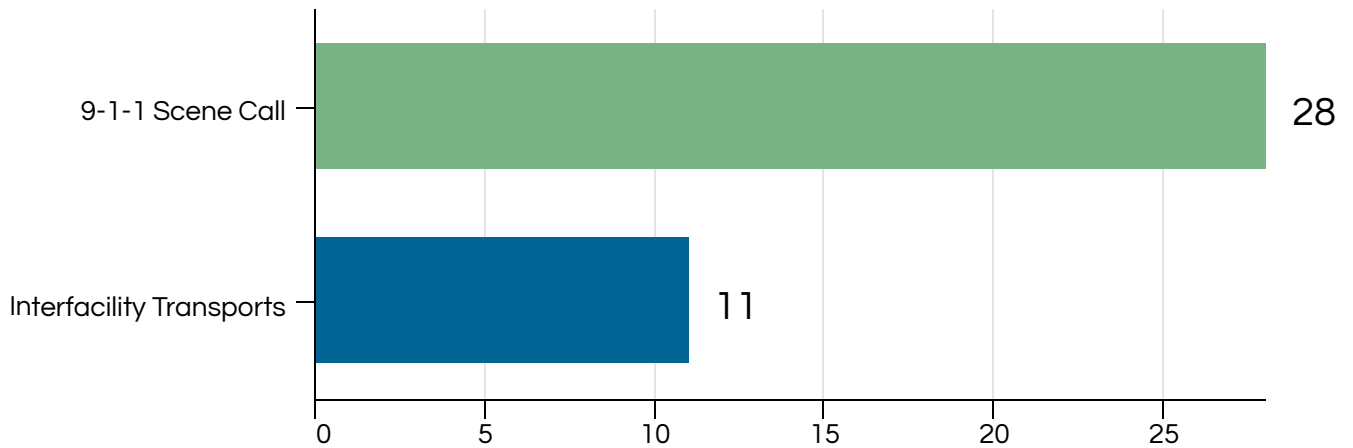
Ambulance Off-Load (60 min)



AIR MEDICAL TRANSPORT

Air Medical Transport provides specialized transportation services within the 9-1-1 system and interfacility transports that are essential to getting critically ill or injured patient to a specialty care facility. Air Medical Transport providers are dispatched for emergency calls in rural areas of the county, severe traffic accidents, stroke and STEMI patients, or when hospitals require the transport of a critically ill patient to another facility. Air Medical Transports comprises less than one (1) percent of patient transports in Yolo County.

Total Air Transports



SPECIALTY DESIGNATED CENTERS

Specialty Designated Centers are hospitals with enhanced capabilities to treat specific pressing problems, such as trauma, burns, heart attacks, ST-Elevation Myocardial Infarction (STEMI), stroke, and pediatric patients.

A Base Hospital is a local hospital that provides online physician consult to EMS personnel.

Base Hospital

Woodland Memorial Hospital

STEMI Receiving Centers

Mercy General Hospital

North Bay Hospital

Sutter Medical Center Sacramento

UC Davis Medical Center

Level I/II Trauma Centers

UC Davis Medical Center

Kaiser Vacaville

Pediatric Trauma Center

UC Davis Medical Center

Stroke Receiving Centers

Mercy General Hospital

Mercy San Juan Medical Center

Methodist Hospital

Sutter Davis Hospital

Sutter Medical Center Sacramento

UC Davis Medical Center

Woodland Memorial Hospital

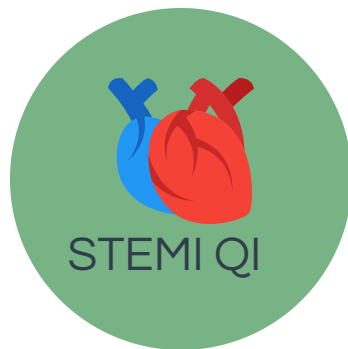
Burn Receiving Center

UC Davis Medical Center

QUALITY IMPROVEMENT

The Medical Quality Improvement (QI) program conducts programmatic, scientific, and case-based evaluation of the EMS System to improve the quality of EMS patient care in Yolo County.

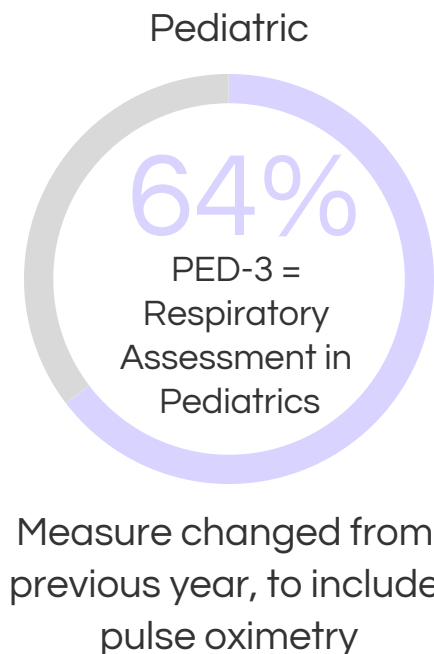
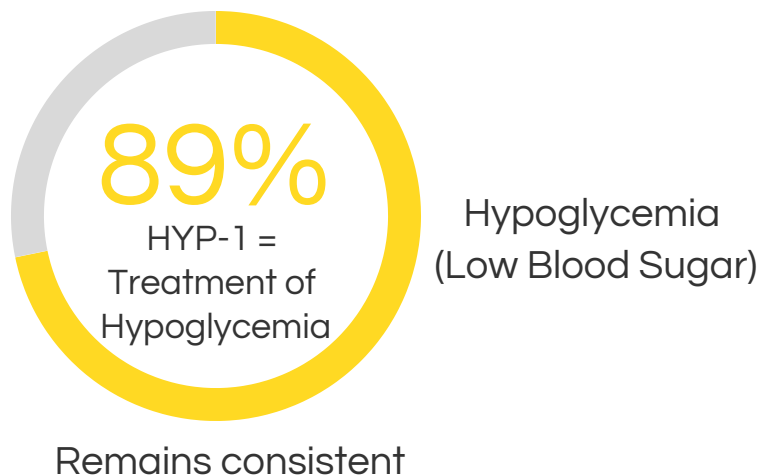
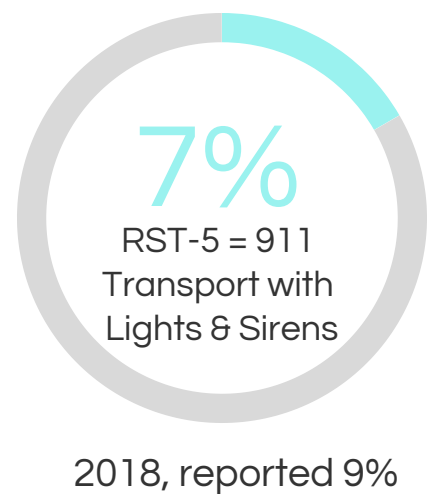
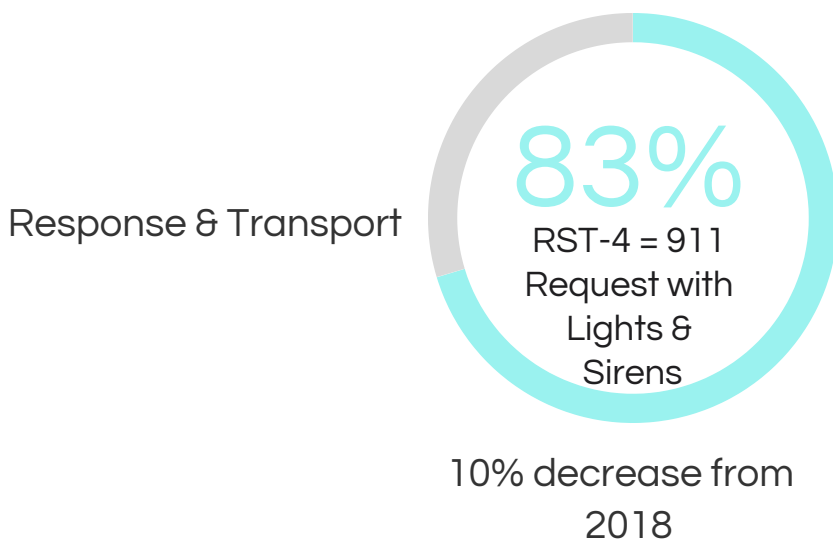
Quarterly QI Meetings are held in collaboration with our hospitals, emergency department physicians and nurses, specialists in emergency medicine, cardiology, neurology, trauma and pediatrics.



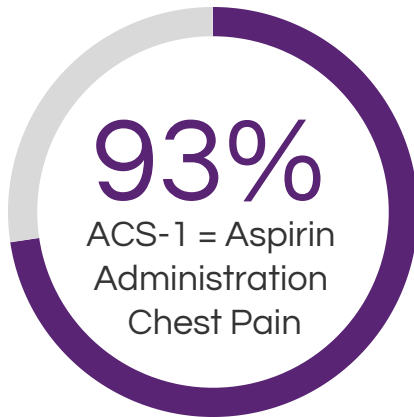
STATE CORE MEASURES

The California State Core Measures are a standard set of quality indicators in examining an EMS System. The State Core Measures are derived from a set of National indicators. Each Local EMS Agency across the State are measured and compared on their performance in these Core Measures.

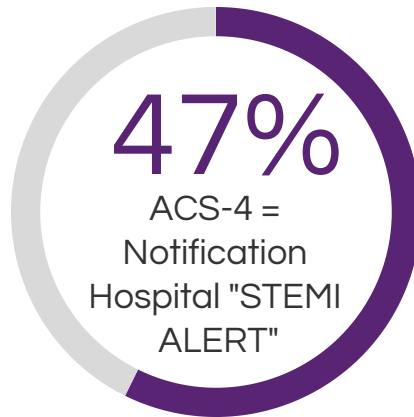
The Core Measure data is required annually to the State, who then publishes all 33 Local EMS Agencies data.



STATE CORE MEASURES



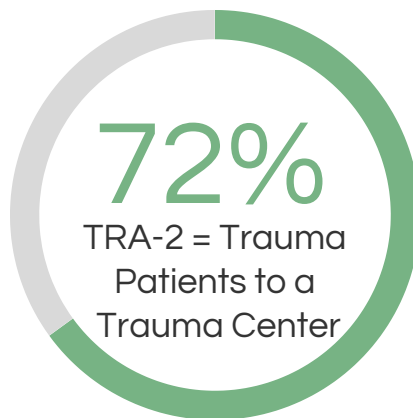
Improvement from 2018, up from 77%



Working to improve documentation standards for accurate reporting.

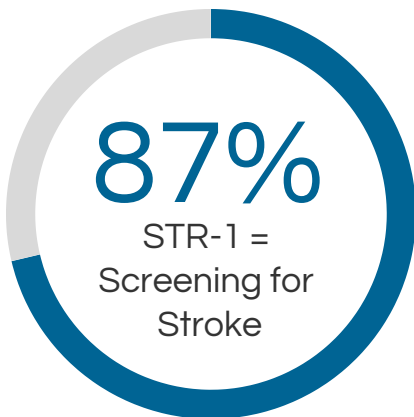
Acute Coronary Syndrome

Trauma

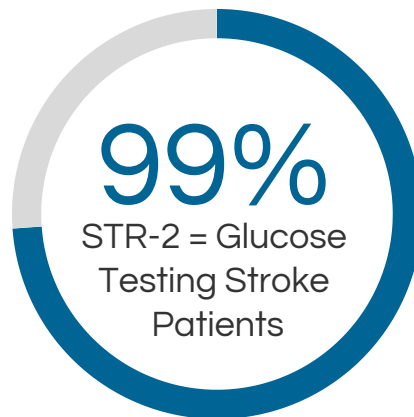


Crews must mark Trauma Center in chart. Q1 2020 education started with crews.

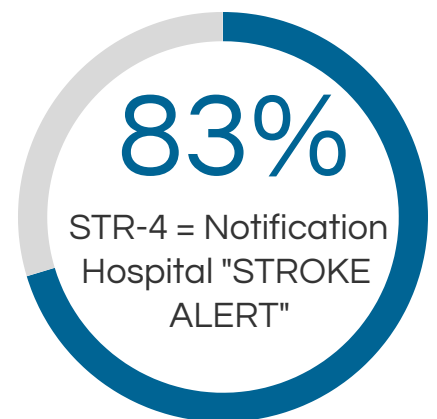
Stroke



Similar to previous years



Similar to previous years



Improvement from 2018, up from 66%

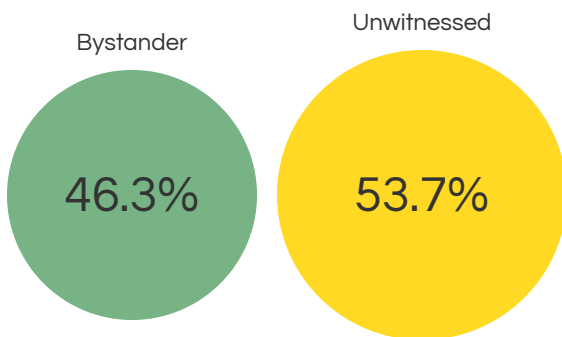
CARDIAC ARREST SYSTEM OF CARE

Cardiac Arrest Registry to Enhance Survival (CARES) data is used to provide a benchmark and to guide improvement of out of hospital cardiac arrest care performance. CARES allows Yolo County to regularly and confidentially review our statistics online and compare our performance to anonymous aggregated data at the local, regional, or national level.

Out of Hospital Cardiac Arrest

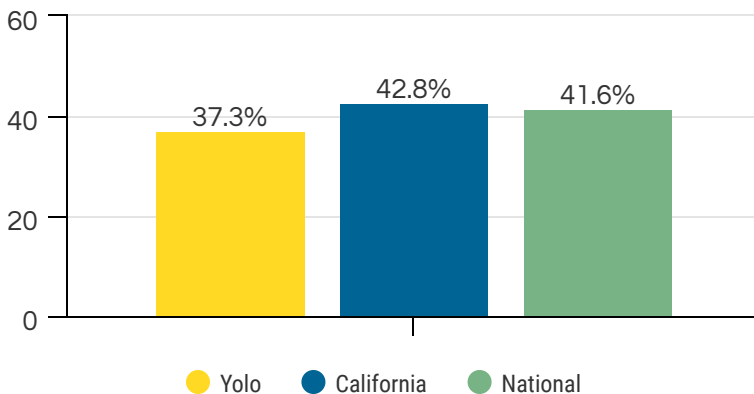
134

Cardiac Arrest Witnessed



Data collection within CARES is based on the Utsein style definitions - a standard template of uniform reporting guidelines for clinical variables and patient outcomes that was developed by international resuscitation experts.

Bystander CPR

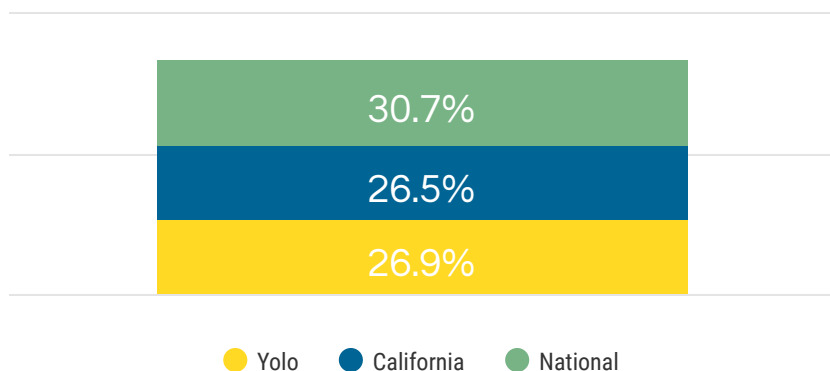


Public AED Use

10.3%

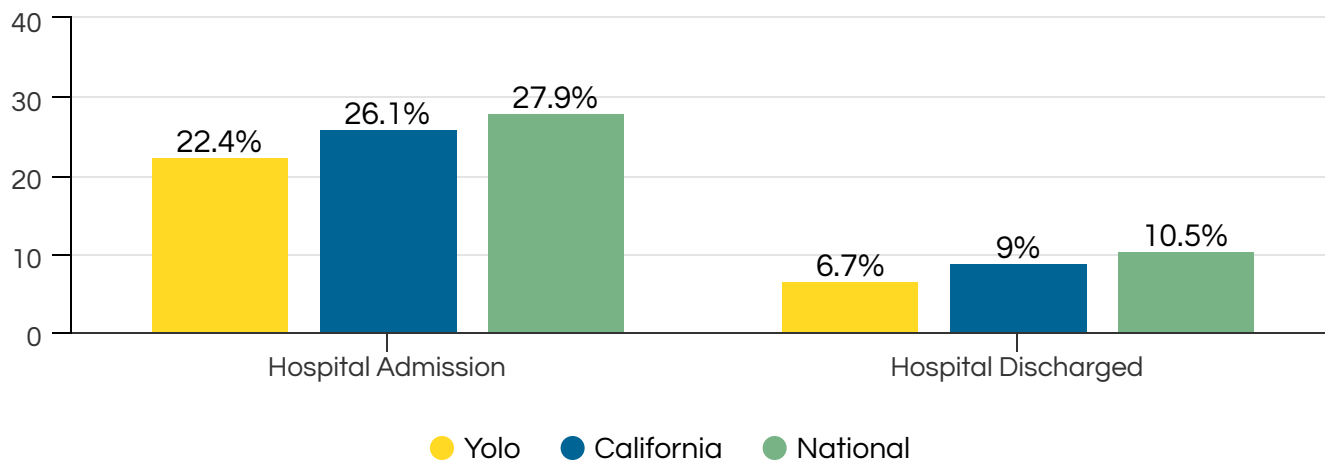
CARDIAC ARREST SYSTEM OF CARE

Sustained ROSC



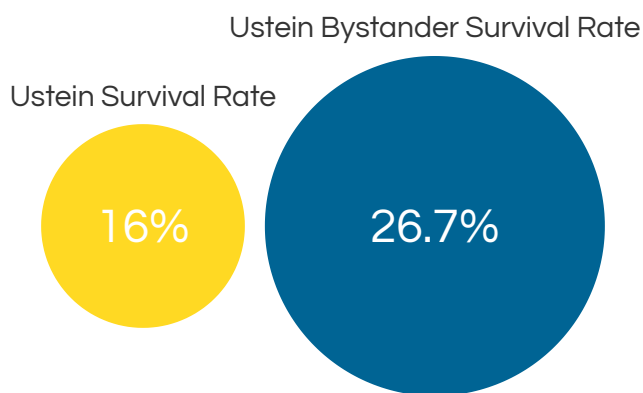
Return of Spontaneous Circulation (ROSC), is a return of breathing, coughing, or movement, and a palpable pulse or a measurable blood pressure.

Overall Survival %



Utstein bystander patients who received some bystander intervention [CPR and/or AED application]) are the most likely to survive their cardiac arrest vs the Ustein group that did not receive bystander interventions.

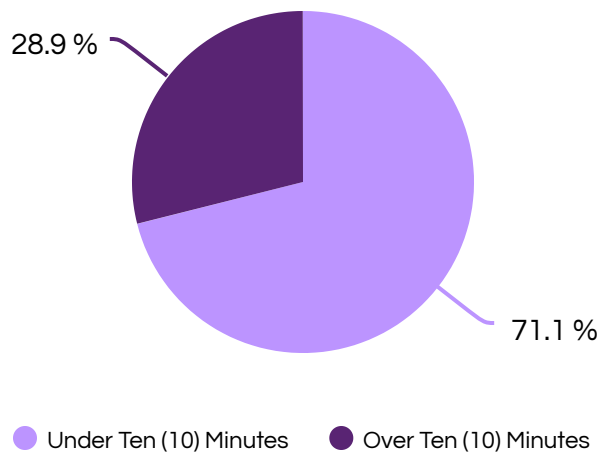
Survival Rate Yolo County Cardiac Arrest



STEMI SYSTEM OF CARE

ST-Elevation Myocardial Infarction (STEMI), also known as a heart attack, occurs when blood flow to part of the heart decreases or stops, resulting in damage to the oxygen-deprived heart muscle.

First Contact to 12-Lead ECG



12-Lead Electrocardiogram (ECG) is the process used to record the electrical activity of the heart. Paramedics in the field use this as a diagnostic tool to identify a heart attack.

Benchmark is under 10 minutes

Hospital Alerts & Activation's



- ✓ 70% Alerted hospital STEMI within 10 minutes of field STEMI recognition
- ✓ Cath Lab was activated 64% of the time due to our alerts

Door to Percutaneous Coronary Intervention (opening the arteries)



- AHA Benchmark is 90 minutes.
- ✓ Average door to PCI = 60 minutes

STEMI SYSTEM OF CARE

This is the 5th consecutive year Yolo has been recognized by Mission: Lifeline

American Heart Association's Mission: Lifeline® EMS awarded Yolo County Gold Plus Award for implementing quality improvement measures for the treatment of patients who experience severe heart attacks.



The Mission: Lifeline® program recognizes EMS Agencies and their efforts to improve systems of care in the rapid identification of suspected heart attack patients, prompt notification of the medical centers, and the corresponding early responses activated by the awaiting hospital personnel.

STROKE SYSTEM OF CARE

378 Stroke Alerts



Identified Stroke
85% in the field

With rapid identification of a stroke, it is 1.9 times more likely to have a favorable outcome

88%

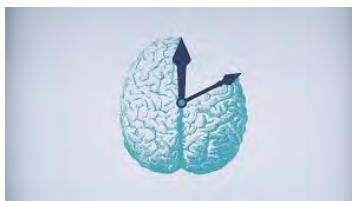
Last Known Well Time was known and documented

Door to CT 25 min

The benchmark is to initiate a CT scan (or MRI) within 25 minutes of arrival

Door to tPA 64 min

Benchmark is to achieve door-to-needle times within 60 minutes of arrival 75 percent of the time

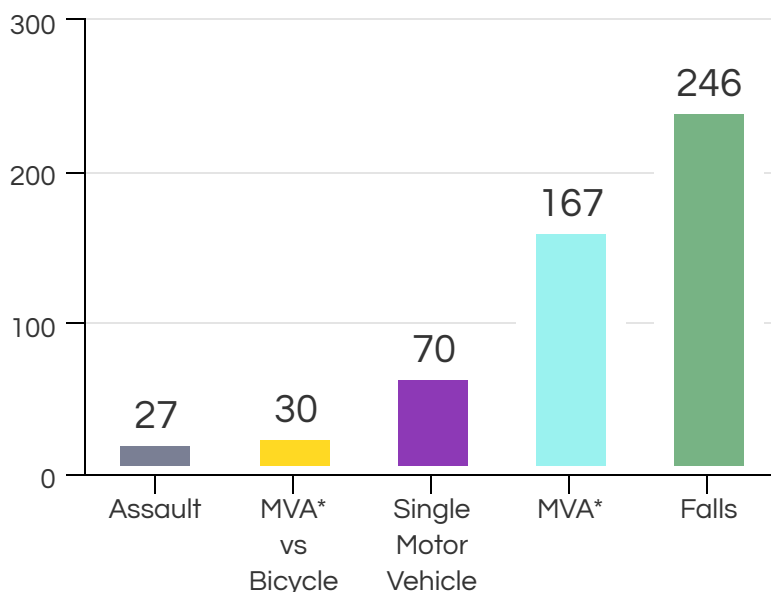


TRAUMA SYSTEM OF CARE

A Trauma System is designed to facilitate rapid identification, management, and transport of critical trauma patients to a designated Trauma Center. Time is an important component that directly correlates to increased morbidity and mortality.

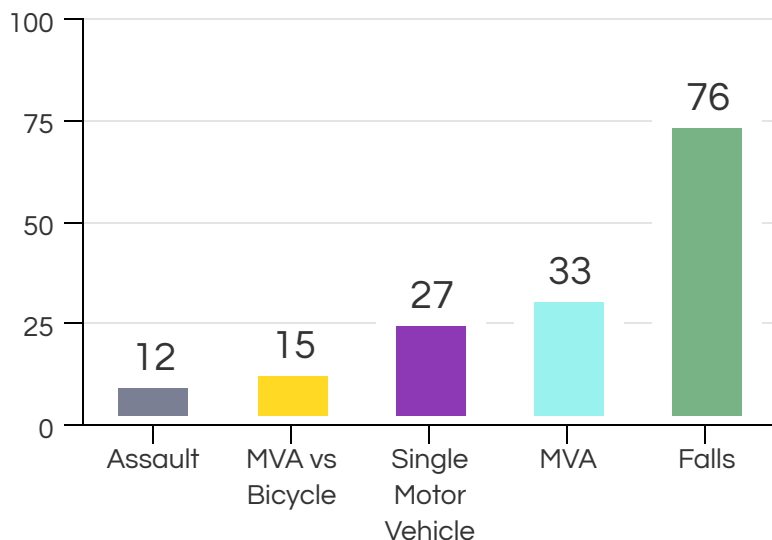


Top 5 Causes of Trauma



*(MVA) Motor Vehicle Accident

Top 5 Causes that met transport criteria to a Level I/II Trauma Center



A Level I/II Trauma Center is capable of providing total care for every aspect of injury.

LIFE SAVER AWARDS



On January 28, 2020, the Yolo County Board of Supervisors recognized and honored First Responders for their work in saving the lives of two community members who suffered Cardiac Arrest.

9-1-1 Dispatcher &
Dunnigan Fire Department
life-saving actions on
11/27/2019

Dispatcher
Laura Swink

Firefighters
Michael Urlaub
Michael Watson
Ryan Dockter
Elisha "Eli" John
Johnathan Burke
Michael Kennedy



Willow Oak Fire Department &
American Medical Response
life-saving actions on
12/16/2019

Firefighters
Kevin Brown
Oliver Tapalla
Ryan Mays
Adrian Vidal

AMR
Darin Lichty
Joel Karlin

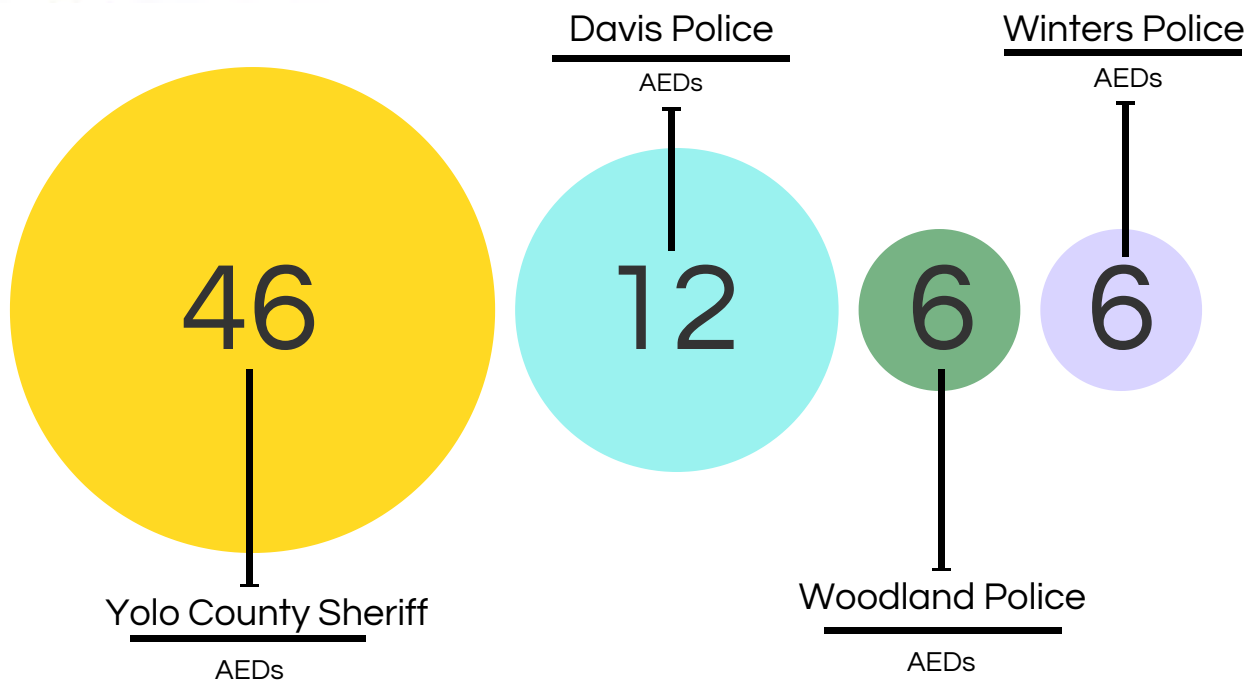
COMMUNITY

AEDs for Law Enforcement

An Automated External Defibrillator (AED) is an emergency medical device that can detect and recognize certain heart arrhythmias and can determine, without intervention by the operator, whether defibrillation should be performed. If defibrillation is appropriate, the AED automatically charges and requests the operator to deliver an electrical impulse to the patient's heart.



Defibrillation within three (3) minutes of sudden cardiac arrest increases the chances of survival to 70 percent. Shock within one (1) minute of collapse raises the survival rate to 90 percent.



These life-saving devices have been placed in patrol vehicles to be utilized by deputies and officers working in the field.

TRAINING & EXERCISES



On October 22-25, 2019, an Active Shooter Exercise took place at the Old Cinemark Movies 5 Theater in Woodland, California.

The three-day (3) exercise focused on Yolo County's response to an active shooter incident. A unified approach consisting of various scenarios were used to give First Responders an opportunity for realistic situations.



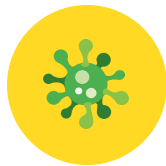
RESPONSE

In the event of a disaster or state of emergency, the Yolo County Medical Health Operational Area Coordinator (MHOAC) is responsible for coordinating movement of medical resources into and out of the Yolo County Operational Area (OA). The MHOAC also acts as the sole liaison between the Region IV Regional Disaster Medical Health Specialist (RDMHS), State Emergency Medical Services Authority (EMSA), and the California Department of Public Health (CDPH).

Stollwood Skilled Nursing COVID-19 Outbreak - April 2020



Created a formal
Donning and
Doffing Station for
the COVID Unit



COVID + Residents = 26
COVID + Staff = 32



Site Assessment
Infection Control
Procedures
Staffing & PPE Support



Yolo County EMS
Agency and the
California EMS
Authority arrived on site



Medical Health Support

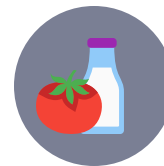


Staffing Support
14 Nurses
20 Paramedics
32 EMTs

From: EMSA, CDPH,
AMR, Yolo Hospice



Spiritual Support
Military Chaplin, Catholic
Priest, (on-call)
iPads, (family
Skype/Facetime with
residents)



2,494 Meals provided
to residents and
deployed medical
support staff



Face Shields = 4,000
Gloves = 20,000
Gowns = 7,000
N95's = 5,000
Surgical Masks = 1,200
Hand Washing Station

RESPONSE

COVID Personal Protective Equipment (PPE)

Distributed to Yolo County Medical Health System, including: Acute Care Hospitals, Long Term Care Facilities, Skilled Nursing Facilities, First Responders, Dentists and Clinics.

January - July 2020



7,973
Hand-sanitizer

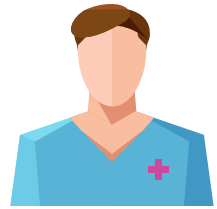
N95 Masks



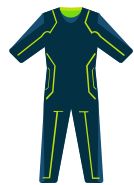
113,097

57,830

Medical Gowns



15
PAPRS



2,491
Coveralls

Medical Gloves

481,060

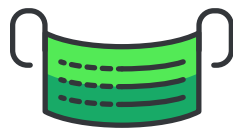


18,103

Face Shields

Surgical Masks

195,100



RESPONSE

Local Optional Scope of Practice Approval for COVID-19 Testing

The State of California sets the Scope of Practice for all EMT's and Paramedics. A Local EMS Agency like YEMSA can request for an additional Scope of Practice, called an Optional Scope to meet the needs of the County.

Due to the COVID-19 Pandemic and the anticipation of increased COVID-19 Testing, in June 2020 YEMSA submitted an application to temporarily allow EMTs and Paramedics to conduct Nasal and Oral Swabbing. To which the application was approved, allowing for a quick upstaffing of trained personnel to complete COVID-19 Testing.

16

EMT's

Trained to perform COVID-19
Nasal and Oral Swabbing

13

Paramedics

23

Testing Clinics

3,544

Swabbed

June & July 2020

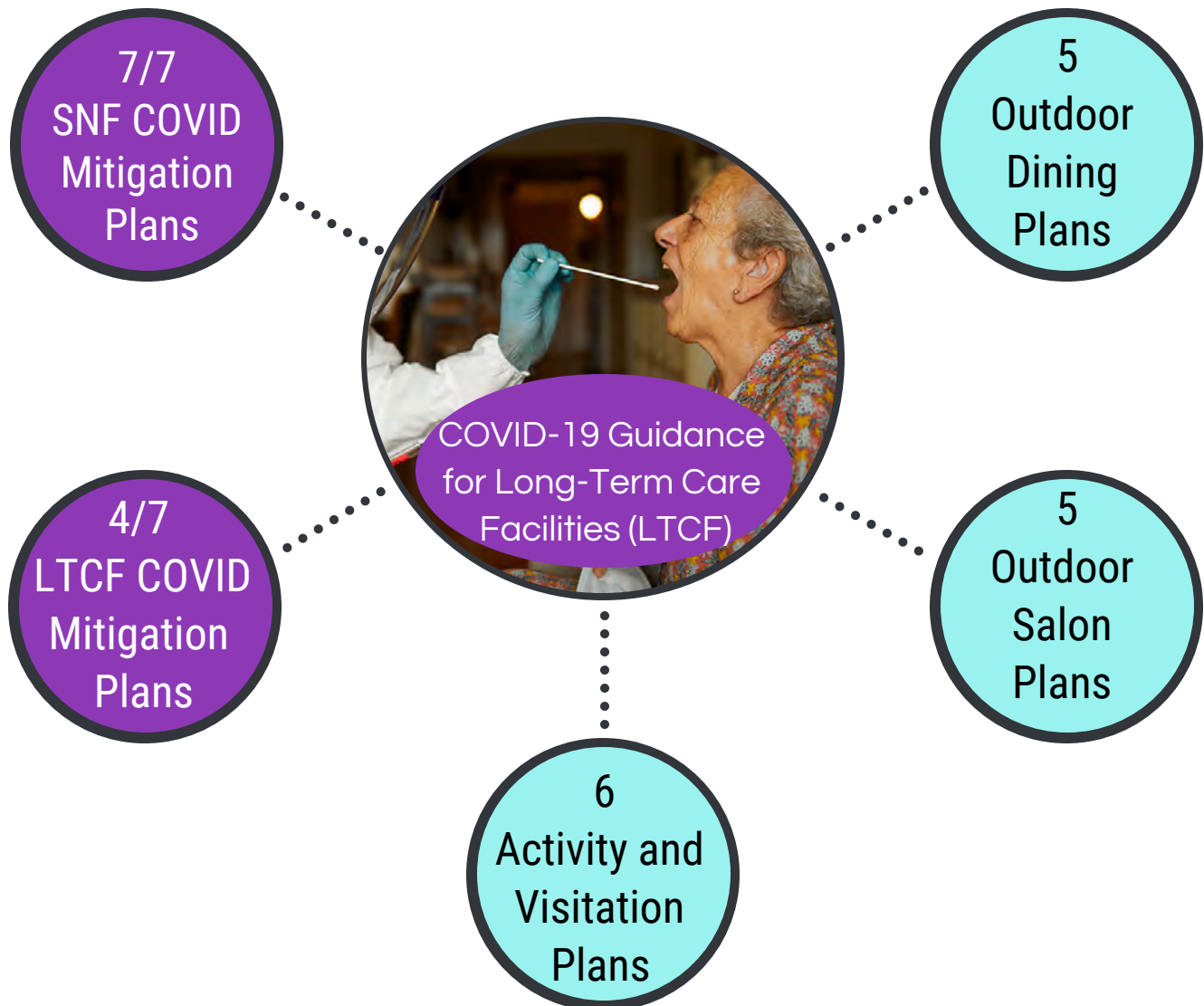


EMERGENCY PREPAREDNESS

Plans Created, Updated, and Reviewed

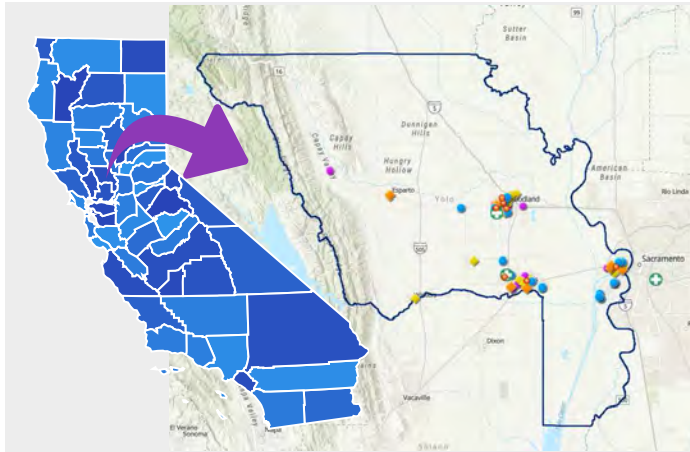


SNF/LTCF Plans Reviewed

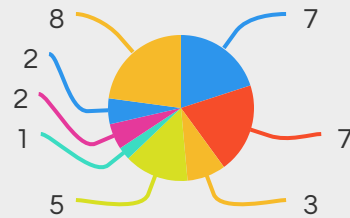


EMERGENCY PREPAREDNESS

Healthcare Preparedness Coalition (HPC)



Breakdown of HPC Members

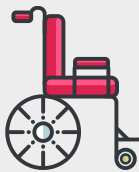


- Skilled Nursing Facilities (SNF)
- Long-Term Care Facilities (LTCFs)
- Hospitals
- Clinics
- Intermediate Care Facility (ICF)
- Hospice Agencies
- Dialysis Centers
- Other - AMR, ARC, Fire, IHSS Agencies, etc.



7/7 SNFs

Participate/Communicate regularly with Yolo EP



8/19 Assisted Living Facilities*

Participate/Communicate regularly with Yolo EP

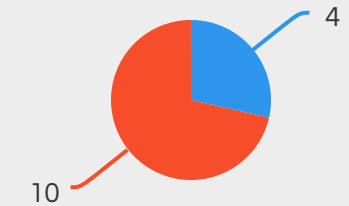
*Includes all DSS CCL Licensed RCFEs in Yolo County



15%

Increase in HPC Meeting Participation since COVID started

ReddiNet Usage



- SNFs/LTCFs using ReddiNet
- SNFs/LTCFs not using ReddiNet

HPC's response to the Coronavirus Pandemic:

March 2020

Conducted 13 on-site Infection Control Mitigation/Prevention visits at SNFs/LTCFs.



April/May 2020

Partnered with Dignity Woodland Memorial Hospital to conduct 11 on-site Infection Control Facility Assessments and PPE Donning/DoFFing Training.



May 2020

Distributed PPE Surge Supplies to 14 SNFs/LTCFs to ensure each facility has at least a 14-day supply of PPE. This was in addition to FEDERAL PPE Surge Supplies distributed to SNFs from Federal Health and Human Services.

Currently

Continue to assess Weekly PPE Needs, Testing compliance of HPC Staff, Mitigation Plans and Facility Attestation plans, and other Facility specific needs.



EMERGENCY PREPAREDNESS

Influenza Vaccination Clinics Fall 2019



PARTNERED WITH



Dignity Health
Woodland Healthcare



255

YOLO COUNTY
EMPLOYEES
RECEIVED
FLU VACCINE



56

HOMELESS
INDIVIDUALS
WERE
VACCINATED



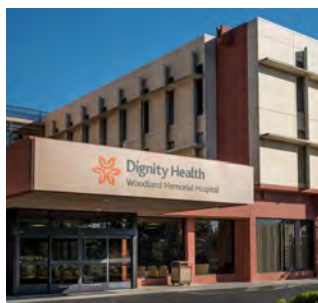
137

VACCINES FOR
HOMELESS:
FLU
HEP A
TDAP



64

INDIVIDUALS
RECEIVED FLU
VACCINE THROUGH
MOVIES ON MAIN POD



Dignity Health

Thank You to our System Partners for your continued support and collaboration in making it possible for our system to achieve impressive and sustained accomplishments.



YOLO COUNTY EMS & EP



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