

EMS System Annual Report 2019



Kern County Emergency Medical Services Program



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Since its inception, the Kern County Emergency Medical Services Program's mission has been to assure the safety and health of all Kern County residents. Our aim is to provide the best care possible for every patient by working collaboratively with public safety agencies, BLS and ALS providers, hospitals, educational partners, and our community members.

Our team recognizes that, like all areas of health care, pre-hospital emergency medicine is a constantly changing industry. In 2019, we continued the work we began in 2018. We created new protocols and procedures to assist our field providers, further developed our capacity for vigorous quality improvement, and forged stronger partnerships with all EMS stakeholders to provide life-saving educational campaigns for our communities. We purchased an emergency response vehicle to provide assurance to our stakeholders and the community that EMS can respond and provide leadership in any situation.

But we know our work doesn't end there. We continually strive to improve our responses, treatments, transports, and emergency preparedness capabilities in an effort to improve patient outcomes. We already have several changes and opportunities planned for 2020 and are excited about the changes ahead.

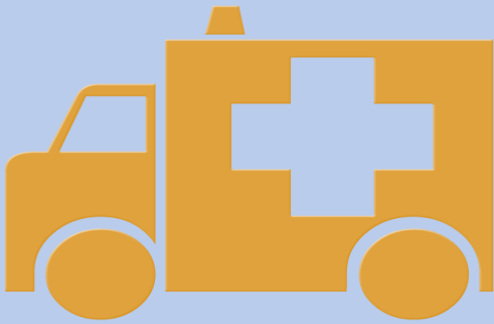
We truly feel privileged to be a part of all Kern County communities. Thank you for your support and we look forward to assuring that you received the best care possible.

Sincerely,

Jeff Fariss, EMS Program Manager

OUR MISSION

To assure the safety and health of Kern County residents by setting and enforcing standards



1 EMS provides training, outreach, and education to improve quality improvement in emergency medical services care

2 Implement a system of services to provide rapid response to serious medical emergencies, including immediate medical care and transport.

3 Implement policies and procedures to better suit the safety and health of the residents in Kern County.

Our services provide rapid response to and medical care for serious medical emergencies. These include:



Public safety dispatch



Fire, private ambulance, and law enforcement services



Hospitals and specialty care centers

OUR SERVICES



Emergency Medical Services is more than just an ambulance trip to the hospital. EMS is a highly collaborative system that connects public health, public safety, and health care. We partner with multiple agencies to ensure our communities receive the best emergency medical care possible. We also provide training for our providers and participate in citizen and medical advisory groups to make sure our system is responding to our communities' needs.

OUR EMS SYSTEM

OVERVIEW

Kern County is situated at the southern end of the California Central Valley. The county covers over 8,000 square miles of mountainous areas, high desert, and the valley floor. The largest city within the county is Bakersfield. Here is a brief



Population: **900202**



Emergency Receiving Centers: **10**



EMS Practitioners: **2285**



EMS Provider Agencies: **13**



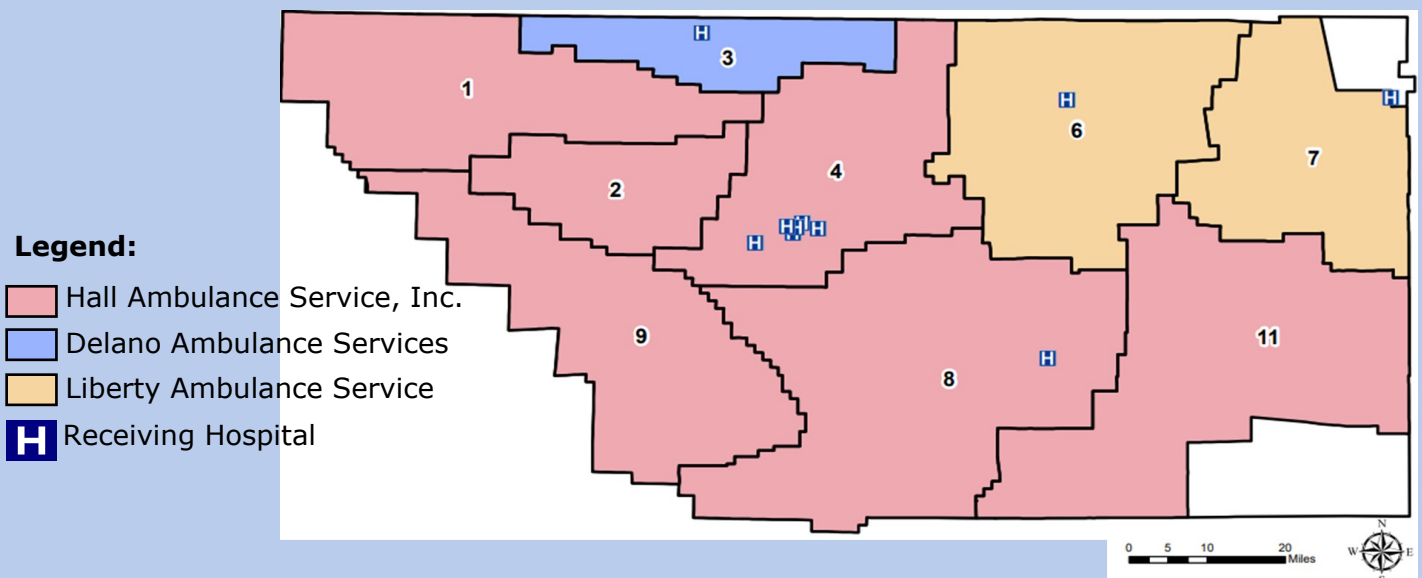
Kern County EMS Employees: **7**



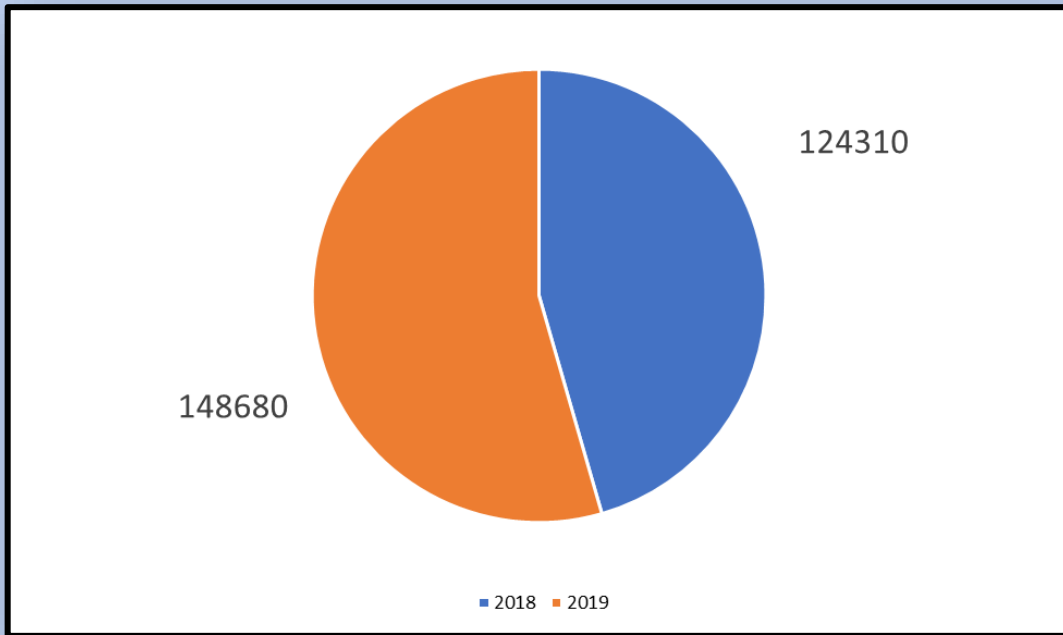
Training Programs: **28**

EMS PLAN

Every year, local EMS agencies submit their EMS plans to the State EMS Agency for approval. We are pleased to announce that our second submitted EMS plan was approved. Here is a map of our current ambulance exclusive operating areas (EOAs) and receiving hospitals:

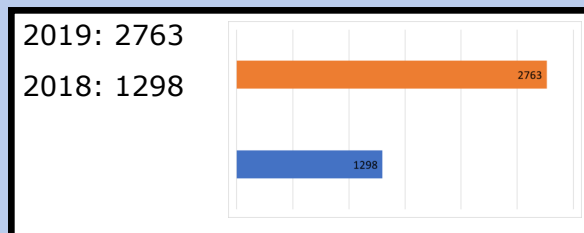


Call Volume Increase

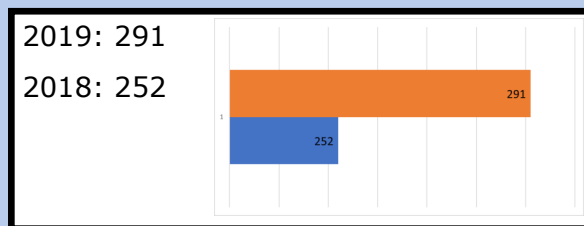


The call volume in Kern County has increased by 19.6% from 2018 to 2019.

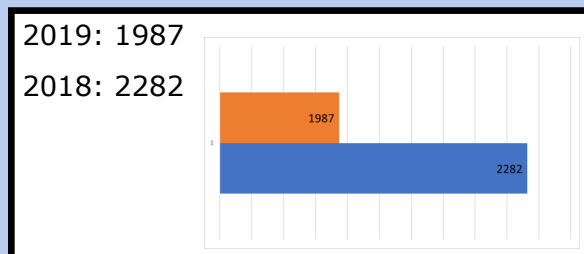
STEMI/ Angina



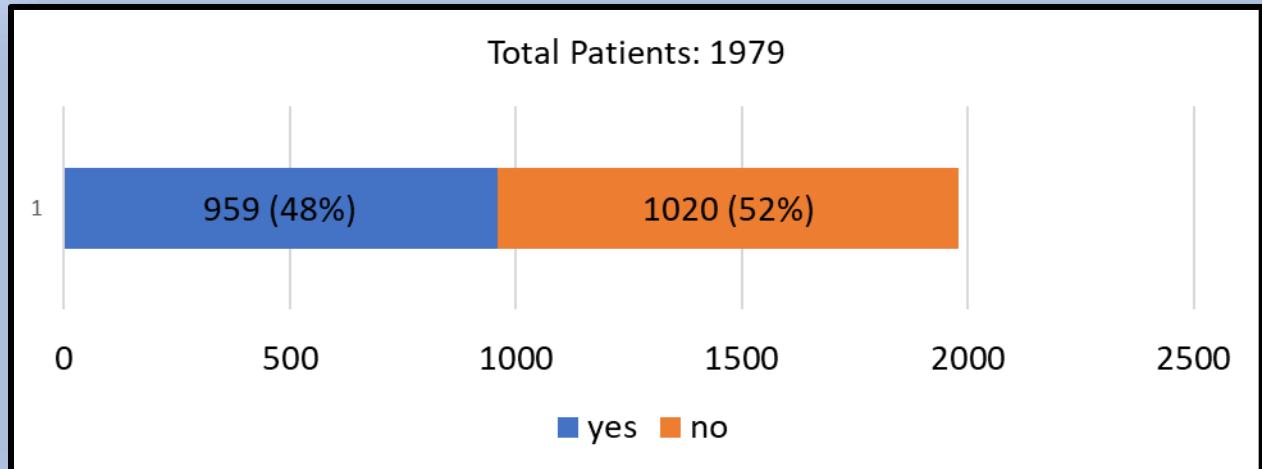
Burns



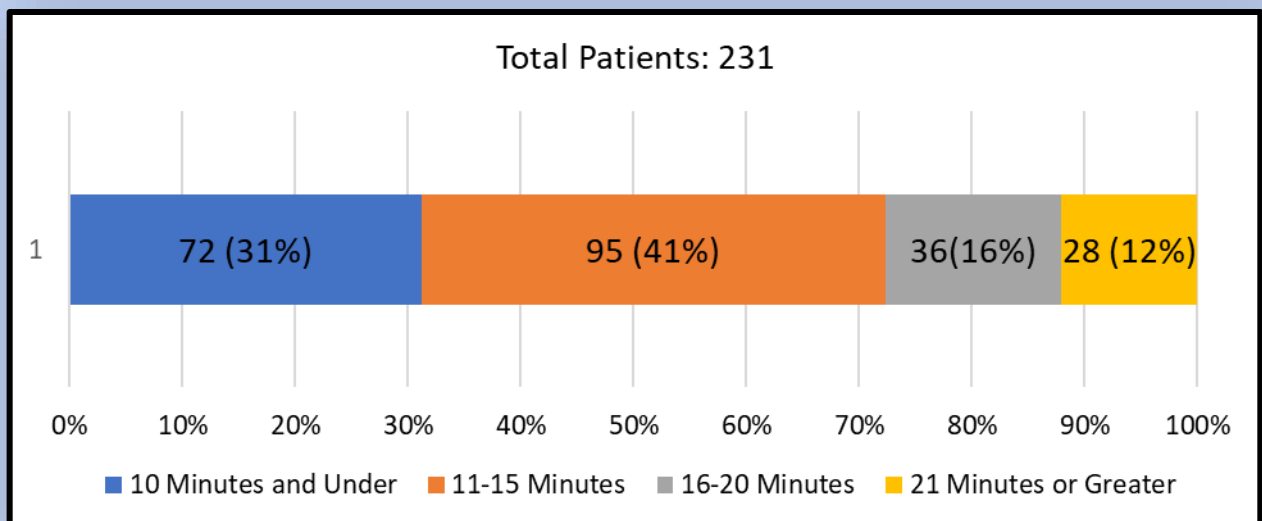
Stroke



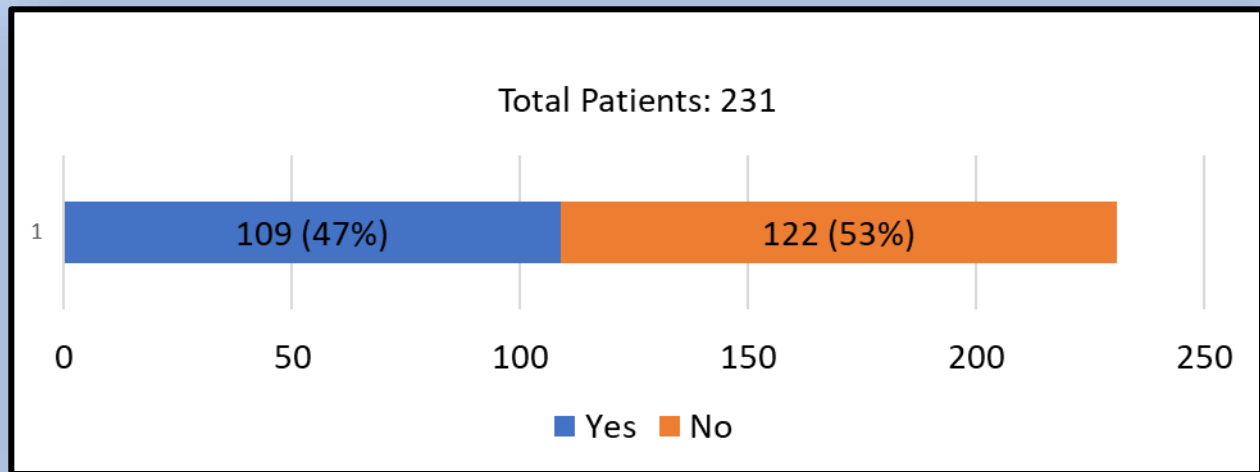
Aspirin Administration FOR Chest Pain



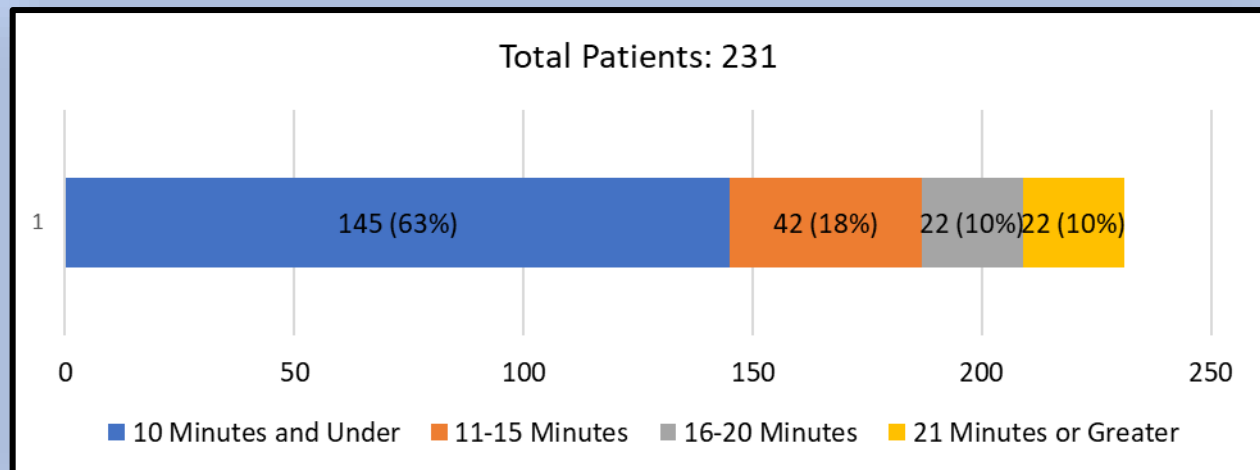
On Scene Time for STEMI Patients



Advanced Hospital Notification



Time to EKG from first Patient Contact



Core Measures

Each local EMS authority is responsible for collecting, analyzing, and reporting a set of standardized performance measures to the State EMS Authority. According to the California Emergency Medical Services Authority:

"The preliminary Core Measures are derived largely from a set of quality indicators developed through a project by the National Quality Forum. These core measures will begin to benchmark the performance of EMS systems, perform recommended treatments determined to get the best results for patients with certain medical conditions, transport patients to the most appropriate hospital....The measures are based on scientific evidence about processes and treatments that are known to get the best result for a condition or illness. Core Measures help emergency medical services systems improve the quality of patient care by focusing on the actual results of care."

Measure ID	Population	Reporting Value	Measure Description
TRA-2	1192	93%	Percent of trauma patients transported to trauma center
ACS-1	1979	52%	Aspirin administration for chest pain of suspected cardiac origin
ACS-4	235	47%	Percent of times hospital receives pre-alert for STEMI patients
HYP-1	2530	64%	Treatment administered for hypoglycemia
STR-1	1475	91%	Prehospital screening for suspected stroke patients
STR-2	1475	90%	Glucose testing for suspected stroke patients
STR-4	1475	36%	Percent of times hospital receives pre-alert for stroke patients
PED-3	723	74%	Respiratory assessment for pediatric patients in respiratory distress
RST-4	157692	97%	Requests for services that include a lights and/or sirens response
RST-5	87434	46%	Requests for services that include a lights and/or sirens transport

Ambulance Patient Offload Times (APOT-1)

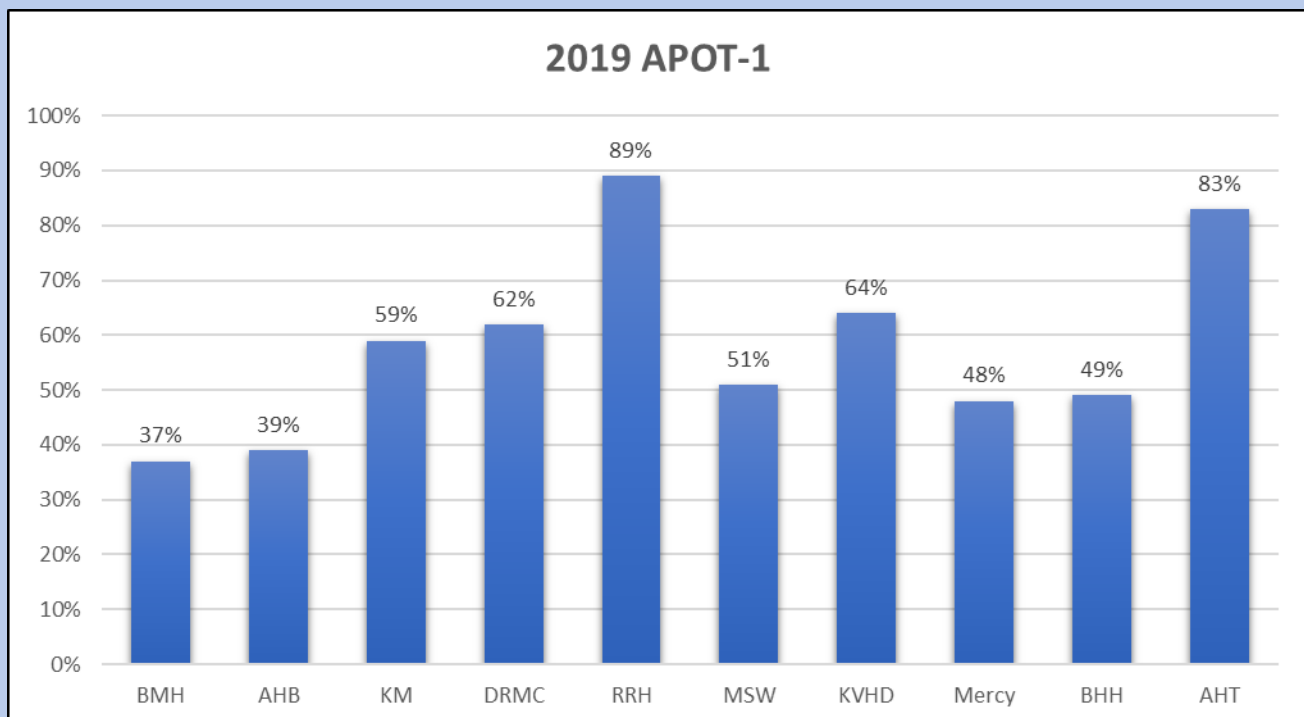
Ambulance patient offload time (APOT) is the elapsed time between the moment an ambulance arrives at a hospital and when patient care is transferred to hospital staff. The expectation is that 90 percent of the time patient care is transferred to hospital staff within 20 minutes.

In 2016, California Emergency Medical Services Authority approved legislation that required each local EMS agency to calculate and report APOT for each designated base hospital in their jurisdiction with the hopes that quality improvement could decrease these times².

The following is a summary of each Kern County designated base hospital and their APOT in 2019.

Our Goal: 90% of the time, patients should be offloaded within 20 minutes of arrival.

On average, patients were offloaded within 20 minutes only **58%** of the time.



Ambulance Patient Offload Times (APOT-2)

The following is a summary of APOT-2 criteria for each hospital in 2019:

Hospital	2.1	2.2	2.3	2.4	2.5	Total Transports
	%	%	%	%	%	
Adventist Health Bakersfield	34	56	9	1	0	21305
Bakersfield Memorial Hospital	37	51	9	2	1	19547
Kern Medical	59	40	1	0	0	12889
Mercy Downtown	48	48	4	0	0	7355
Mercy Southwest	51	43	5	1	0	7061
Delano Regional Medical Center	62	35	3	0	0	3174
Bakersfield Heart Hospital	49	43	5	1	1	3114
Ridgecrest Regional	89	10	1	0	0	2055
Adventist Health Tehachapi	83	16	1	0	0	1931
Kern Valley Hospital	64	33	2	0	0	1492

2.1: Defined by an offload time ≤ 20 min

2.2: Defined by an offload time of 21-60 min

2.3: Defined by an offload time of 61-120 min

2.4: Defined by an offload time of 121-180 min

2.5: Defined by an offload time of > 180 min

Special Events

OVERVIEW

In 2019, Kern County held multiple events with attendances reaching past 18,000. Kern County EMS recognized the need for a special event policy to maintain a safe and secure atmosphere for future events.

Lightning in a Bottle

Lightning in a Bottle was a 5 day music and arts festival that was held at the Buena Vista Campgrounds. Over 18,000 attendees came from around the world to participate in this visually stimulating and artistically creative event.

- Over 18,000 attendees
- 5 EMS Coordinators working around the clock during the 5 day event
- 900 people treated at the event with 6 transports

Wasteland Weekend

Wasteland weekend was a five day event that occurred in desert of California City. The event promotes a post-apocalyptic full immersion experience Based off the movie "Mad Max". The event is known to have multiple displays of fire, mock hand to hand combat, and high speed rat race.

- 4000 attendees
- 2 EMS Coordinators worked the event
- 200 people treated at the event with 5 transports

Ridgecrest Earthquake

OVERVIEW

On July 4th 2019 the township of Ridgecrest was struck by a 6.4 magnitude earthquake at approximately 1000. This event called for the immediate response action of the Kern County EMS Program. Kern County EMS activated the Department Operation Center (DOC) and implemented actions to facilitate with the successful evacuation of Ridgecrest Regional Hospital. The implemented actions had to be repeated as the 7.1 magnitude earthquake struck

IMPACT

- **Structural damage to Ridgecrest Regional Hospital**
- **Multiple injuries reported in the city of Ridgecrest**
- **Road damage and rock slides reported to main roads leading to limited access to the city of Ridgecrest**

Response

- **First Strike Team was requested and responded within the appropriate time as outlined in the ambulance strike team manual.**
- **Second Strike Team was requested and directed for rescuer fatigue relief**
- **22 patients were transported to other general acute facilities**
- **Support local shelter with MRCS with medical equipment and staffing**
- **Provide mental health services to both citizens and first responders through the mutual aid system.**

Mental Health Symposium

HIGHLIGHTS

The mental health symposium was an event held to bring awareness and combat PTSD in first responders. The event comprised 4 guest speakers including; a SDFD Ben Vernon who was stabbed multiple times while on duty. Mr. Vernon shared his recovery and dealing with PTSD.

- 300 attendees of various entities attended the event
- The event was organized through a committee of Kern County stakeholders- Bakersfield College, Ridgecrest Regional, ProSafety, KCFD, Kern County Behavioral Health
- Over 30 attendees sought out initial counseling provided by Kern Behavioral Health
- Continuing education credits were issued.



The event was a huge success and was received very well by Police, Fire, Probation, Paramedics, EMT's, Nurses



EMS Expanding

Through out 2019, Kern County EMS expanded its program by adding 2 additional EMS Coordinators to help assist in the workload and responsibilities that EMS is in charge of. Kern County EMS also saw the need to have its own response vehicle to better serve it's community.

1

Chris Parks was hired on April 29th 2019. He comes to the department bringing 15 years of experience in the medical field. Chris was given the responsibility to handle STEMI and Burn policies and will assist in enforcement.



2

Andrew Mattas was hired on July 29th 2019. He comes to the department bringing 15 years of experience in the medical field. Andrew was given the responsibility to handle Pediatrics and Training.



3

Kern County EMS purchased a new Duty Officer Vehicle equipped with ALS gear.



COMMUNITY OUTREACH

OVERVIEW

Sometimes, medical emergencies happen when you least expect them. However, there are things you can learn today to help prepare you for these situations: Hands-Only CPR and Stop the Bleed. These are national campaigns that teach life-saving skills to citizens when they are most needed. Our goal is to teach each and every community member these skills so you can help create healthier, more prepared communities.

Hands-Only CPR

This is CPR without the mouth-to-mouth contact. It is used on people who suddenly collapse in an out-of-hospital setting when it takes almost 9 minutes for EMS to respond.

544 Individuals trained in hands only CPR

Stop the Bleed

This program teaches community members how to identify life-threatening bleeding and basic ways to control it before EMS arrives.

310 Individuals trained to Stop the Bleed

START Triage

Kern County EMS trained over 50 medical staff at various Prisons on how to properly triage multiple patients

Narcan Training

Kern County EMS trained KCSO on the proper administration of Narcan during the multiple special events in 2019.

Thank You to Our Providers

Adventist Health Bakersfield
Adventist Health Tehachapi
Bakersfield Heart Hospital
Bakersfield Memorial Hospital
Delano Regional Medical Center
Kern Medical
Kern Valley Healthcare District
Mercy Hospital
Mercy Southwest Hospital
Ridgecrest Regional Hospital
Pro Safety

Bakersfield City Fire Department
California City Fire
China Lake Naval Weapons Station
Delano Ambulance Service
Edwards Air Force Base
Hall Ambulance Services, Inc
Kern County Fire Department
Kern County Sheriff Office
Liberty Ambulance Service
Mercy Air Service
US Borax
Trinity Safety

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