



Ventura County Public Health
Emergency Medical Services Agency



2020 ANNUAL REPORT



VENTURA COUNTY
PUBLIC HEALTH
A Department of Ventura County Health Care Agency



Ventura County Emergency Medical Services Agency

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VENTURA COUNTY
PUBLIC HEALTH



VENTURA COUNTY
HEALTH CARE AGENCY

VENTURA COUNTY EMERGENCY MEDICAL SERVICES AGENCY

A Division of Ventura County Public Health Department

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Ventura County EMS Agency (VCEMS) is pleased to provide our 2020 Annual System Report, reviewing the operations and performance of VCEMS and the Ventura County EMS System.

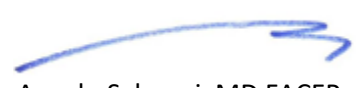
Through a highly coordinated system of public-private partnerships, our Ventura County EMS system providers responded to nearly 69,000 emergency medical responses in 2020, resulting in over 42,000 ambulance transports. 2020 proved to be an extremely challenging year for all of us as we endured the significant impacts from the worldwide COVID-19 pandemic. The Ventura County EMS System, along with our colleagues at the Public Health Department, local hospitals, public safety organizations and other healthcare providers responded to the evolving pandemic with courage and determination. The pandemic has emphasized the need for planning, coordination, communication and collaboration with our healthcare and EMS system stakeholders. It has given us the opportunity to strengthen partnerships with current system stakeholders and to develop new partnerships with representatives from various healthcare and public safety disciplines. Despite being tested as never before, our Ventura County EMS System has adapted to the ongoing challenges and continues to provide exceptional emergency medical care to our community.

Some notable EMS Agency activities during the pandemic include coordinating testing and vaccinations for first responders, developing pre-hospital COVID response guidelines, identifying first responder exposures, maintaining hospital status reporting, supplying our healthcare system partners with necessary PPE and other equipment when supplies were limited, coordinating information and data sharing among system partners, and coordinating movement of COVID positive patients from long-term care facilities who needed isolation. Of course, these efforts were in addition to our regular responsibilities providing system oversight, quality assurance and improvement, contract compliance, and personnel certification, accreditation, and authorization.

We would like to acknowledge the dedication and sacrifices and to say thank you to all our healthcare and public safety professionals, who continue to serve our community in these challenging times. Take care and stay safe.


Steve Carroll, Paramedic
EMS Administrator


Daniel Shepherd, MD
EMS Medical Director


Angelo Salvucci, MD FACEP
Assistant EMS Medical Director

Executive Summary

Ventura County is a geographically diverse region covering over 2200 square miles with a population of over 850,000. With 10 incorporated cities, a number of unincorporated communities, 43 miles of coastline, two offshore islands, two military installations, a variety of lakes and a large area of national forest and state park land, Ventura County offers a distinct mix of urban cities, rural sectors and wilderness.



The Ventura County EMS System is comprised of various disciplines, including fire departments, law enforcement, ambulance services, hospitals, and other provider agencies. These agencies respond to provide lifesaving care to those in need 24 hours a day, seven days a week. From the dispatchers who talk with 9-1-1 callers and the responders who provide care in the field and transport patients, to the emergency room staff who receive the patients, the EMS Agency ensures the highest quality pre-hospital care for those in need of emergency medical services in Ventura County through an integrated and coordinated system of services.

A division of the Health Care Agency Public Health Department, the EMS Agency monitors and evaluates the quality of advanced life support (ALS) and basic life support (BLS) emergency medical care provided to the residents of and visitors to Ventura County by authorized pre-hospital personnel, provider agencies, and hospitals. In this role, the EMS Agency:

- Serves as the lead agency for the emergency medical services system in the county and coordinates all system participants in its jurisdiction, encompassing both public and private sectors.
- Provides system guidance and direction through provider and community driven policy development aimed at establishing and maintaining standards for care.
- Monitors patient care through a comprehensive quality improvement program.
- Ensures medical disaster preparedness through the emergency planning process and coordinates response to local disasters and incidents with multiple casualties.
- Ensures prehospital personnel excellence through training, certification, accreditation and continuing education program review.

In FY 20-21, Ventura County EMS Agency had a budget of \$4,786,056, which includes a mix of service fees, provider charges and penalties, traffic fine collections, grant funding and county general funds. The EMS Agency also provides administration of the Maddy Fund, which reimburses physicians and emergency rooms for a portion of uncompensated care with traffic fine funding. \$1,340,076 was dispersed from the Maddy Fund in 2020 to settle the hospital and physician claims and for pediatric trauma funding.

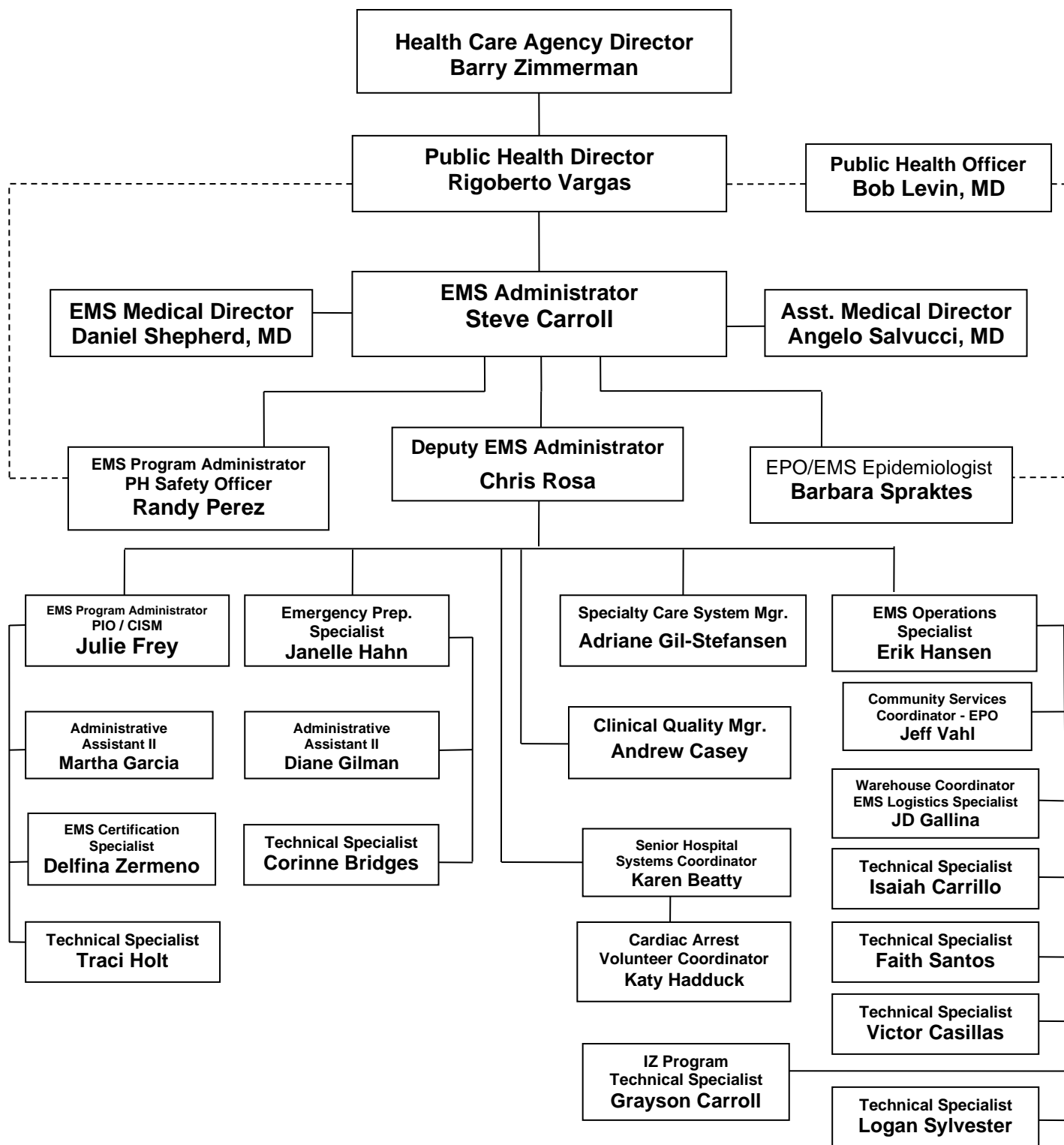


The EMS Agency is staffed with 16 full-time personnel, a half-time medical director and an assistant medical director. In addition to the medical directors, positions include EMS Administrator, Deputy Administrator, Specialty Care Systems Manager, Senior Hospital Systems Coordinator, Clinical Quality Manager, EMS Operations Specialist, Emergency Preparedness Specialist, Epidemiologist, two Program Administrators, Community Services Coordinator, EMS Logistics Specialist, two Administrative Assistants, and one EMS Certification Specialist. In addition, the EMS Agency has employed several Technical Specialists to assist with response to the COVID-19 emergency.

The EMS Agency is proud of its strong team of professionals that are called to action with every 9-1-1 call. This team is made up of people who care about serving the community while maintaining high standards in a demanding career. No matter the uniform, all team members strive for excellence each and every time they respond. Through a state-of-the-art communication system, ongoing training and modern equipment, Ventura County EMS providers can respond quickly and efficiently to the needs of the community.

The 2020 annual report is designed to provide an overview of the Ventura County EMS operations, specialty care and emergency preparedness programs, and provide updates on program activities and performance data.

Ventura County Emergency Medical Services Agency Organizational Chart 2020



EMS Agency Staff Responsibilities

Name	Title	Contact Info	Primary Responsibilities
Steve Carroll, Paramedic	EMS Administrator	Steve.carroll@ventura.org 805-981-5305	<ul style="list-style-type: none"> • EMS System Delivery and Emergency Preparedness oversight • Ambulance contract administration and compliance monitoring • Certification, accreditation, authorization and discipline oversight • Disaster Medical Health Operational Area Coordination • Agency operations oversight and fiscal management
Daniel Shepherd, MD	EMS Medical Director	Daniel.shepherd@ventura.org 805-981-5304	<ul style="list-style-type: none"> • EMS Medical direction and oversight, including development of local policies, procedures, protocols and treatment guidelines • Medical direction and oversight of specialty care systems, QI program, system wide committees and various EMS projects
Angelo Salvucci, MD, FACEP	Assistant EMS Medical Director	Angelo.salvucci@ventura.org 805-981-5301	<ul style="list-style-type: none"> • Medical direction and oversight, including maintaining various specialty care system programs and development and maintenance of local policies, procedures and protocols
Chris Rosa, MS, Paramedic	Deputy EMS Administrator	Chris.rosa@ventura.org 805-981-5308	<ul style="list-style-type: none"> • Assist with oversight of day-to-day EMS System operations • EMS data systems management • Countywide MCI program management • Oversight of prehospital education providers • Disaster Medical Health Operational Area Coordination Designee
Adriane Gil-Stefansen, Paramedic	Specialty Care Systems Manager	adriane.stefansen@ventura.org 805-981-5307	<ul style="list-style-type: none"> • Collection and monitoring of STEMI and Stroke data • Oversight of Stroke, STEMI and QI programs • Maintenance of policies for the QI, Stroke and STEMI systems
Karen Beatty, RN, EMT	Senior Hospital Systems Coordinator	Karen.beatty@ventura.org 805-981-5309	<ul style="list-style-type: none"> • Trauma and hospital systems preparedness oversight • Facilitates medical/health disaster preparedness and training efforts • Coordinates community preparedness initiatives
Andrew Casey, Paramedic	Clinical Quality Manager	Andrew.casey@ventura.org 805-981-5311	<ul style="list-style-type: none"> • Collection and monitoring of EMS Program data • Oversight of the Quality Improvement Program • Education and Training Oversight • Policy Development
Julie Frey	EMS Program Administrator/ CISM Coordinator	Julie.frey@ventura.org 805-981-5306	<ul style="list-style-type: none"> • EMD and CISM Program Coordinator • Community Paramedic Program Liaison • Prehospital Services Committee Coordinator
Randy Perez, Paramedic	AED Program Administrator/ PH Safety Officer	Randy.perez@ventura.org 805-981-5310	<ul style="list-style-type: none"> • Countywide AED Program Administrator • Ventura County Public Health Department Safety Officer • Countywide Sidewalk CPR Program Coordinator • PSFA Naloxone Program coordination
Barbara Spraktes	EPO/EMS Epidemiologist	Barbara.spraktes-wilkins@ventura.org 805-981-5279	<ul style="list-style-type: none"> • Epidemiological support for Public Health, EPO and EMS • Syndromic surveillance and outbreak response • Liaison to medical/health partners for public health monitoring
Janelle Hahn, MPPA	Emergency Preparedness Specialist	Janelle.leza@ventura.org 805-981-5335	<ul style="list-style-type: none"> • Coordination of HPP, PHEP, Pan Flu Grants • Ventura County Health Care Coalition Coordinator • Health care facilities' emergency contacts database • Coordinate preparedness outreach with partner agencies
Erik Hansen, EMT	EMS Operations Specialist	Erik.hansen@ventura.org 805-981-5322	<ul style="list-style-type: none"> • Emergency preparedness and communications coordination • Coordination of various EMS training programs • Medical volunteer management and CAHAN Administration • Stop the Bleed Program coordination
Jeff Vahl, EMT	EPO Community Services Coordinator	Jeffrey.vahl@ventura.org 805-981-5261	<ul style="list-style-type: none"> • Countywide medical/health logistics coordination • HCA Department Operations Center coordination • Disaster preparedness outreach
JD Gallina, EMT	EMS Logistics Specialist	JD.Gallinal@ventura.org 805-981-5301	<ul style="list-style-type: none"> • Countywide medical/health logistics coordination • HCA Department Operations Center coordination • Disaster preparedness outreach
Diane Gilman	EMS Administrative Assistant II	Diane.gilman@ventura.org 805-981-5331	<ul style="list-style-type: none"> • Fiscal accounting, processing and tracking • EPO grant tracking • Provide administrative support
Martha Garcia	EMS Administrative Assistant II	MarthaL.garcia@ventura.org 805-981-5303	<ul style="list-style-type: none"> • Certification, accreditation and authorizations of personnel • Monitor and audit personnel training requirements • Update and maintain databases • Provide administrative support
Delfina Zermeno	HCA Education and Training Assistant	Delfina.Zermeno@ventura.org 805-981-5301	<ul style="list-style-type: none"> • Certification, accreditation and authorization of personnel • Maintain database for EMTs, Medics and MMCI program • Provide administrative support

Certification/Accreditation/Authorization



EMT Certification

Emergency Medical Technician (EMT) - The EMT provides basic assessment and treatment to patients that access the Ventura County EMS System. The EMT is trained in basic life support skills including patient assessment and treatment of minor medical conditions and injuries. Once an EMT is certified by a Local EMS Agency, he/she is authorized to operate as an EMT anywhere in the State of California.

EMT ALS Assist – Local authorization level indicating that an EMT has met additional training requirements, and is now able to operate with a Level II Paramedic on a 911 ambulance that responds to medical emergencies. The ALS Assist training includes more in depth training on major medical emergencies such as cardiac arrest, and better prepares the EMT for working with a paramedic in an emergency setting.

Paramedic Accreditation and Authorization

Paramedic – The paramedic provides advanced emergency medical care for patients who access the Ventura County EMS system. The paramedic is highly trained in various aspects of patient care and assessment, and is continuously evaluated to ensure knowledge of skills and treatment modalities remains current. The paramedic operates under clearly defined medical control guidelines and protocol established by the VCEMS Medical Director.



Level I Paramedic – Local authorization level indicating paramedic has met requirements for initial accreditation, but is not yet authorized to function as the only paramedic at the scene of a medical emergency.

Level II Paramedic – Local authorization level indicating paramedic has met requirements for continued accreditation, and is authorized to function as the only paramedic at the scene of a medical emergency. Level II paramedics can function alone on a paramedic support vehicle, but may also function as the senior paramedic working on a two (or more) person team comprised of other EMTs or paramedics.

MICN Authorization



Mobile Intensive Care Nurse (MICN) – The MICN is a registered nurse authorized by the medical director of the Agency as qualified to communicate instructions to pre-hospital personnel according to EMS policy and procedures. In addition, MICNs are trained in certain aspects of multi-casualty incident management and act as destination

coordinators during a declared MCI, regardless of incident size.

Certification/Accreditation/Authorization Activity

VCEMS Certifications, Accreditations, and Authorizations Issued - 2020	
EMT Certifications	358
EMT Re-Certifications	569
Paramedic Accreditation	50
Paramedic Re-Accreditation	168
Authorized Level I Active in VCEMS System	20
Authorized Level II Active in VCEMS System	262
MICN Authorization	13
MICN Re-Authorization	53
Active MICNs in VCEMS System	135

EMS Education Programs

VCEMS Authorized Prehospital Training Programs - 2020	
EMT – Initial and Refresher	5
Paramedic Training Program	1

Additional information regarding CE Provider Programs, EMT, and Paramedic Training Programs can be found online at the California EMS Authority Education Database:

<http://www2.emsa.ca.gov/ShowTraining/TrainingPrograms/GroupByTrainingProgramsTable.aspx>

COVID-19 Incident Response and Coordination

In early March of 2020, Ventura County Public Health EMS and Emergency Preparedness staff were asked to respond to the County Emergency Operations Center (EOC) to work the Medical/Health Branch under Operations for the COVID-19 outbreak that was beginning to impact our community, including our hospitals and 911 system. On March 19, 2020, the State of California issued a state of emergency for the developing COVID-19 pandemic and also issued the first stay-at-home order. The EMS Agency staffed the EOC Medical/Health Branch at the EOC for the next 10 weeks. During this time, with the help of the Office of Emergency Services (OES), we developed a system to order, track, deliver, and pick-up personal protective equipment (PPE) supplies. This equipment was provided to our hospitals, first responders and other medical/health organizations, including long-term care, skilled nursing facilities, dental offices, medical offices, and others, who were requesting assistance with PPE, as normal supply chains were unable to deliver. We utilized our Medical Reserve Corp (MRC) volunteers to help process and distribute orders. Additional temporary staff were assigned to help with the warehouse and EMS PPE orders. In September, we began coordinating with the Immunization team at Public Health and created a COVID-19 Vaccine Task Force to determine how the vaccine would be distributed, who would receive the vaccine first, and what equipment might be needed to store the vaccine. Equipment was ordered before vaccination efforts began, this included Ultra Low Freezers, vaccine freezers and refrigerators, along with a large field tent that would become a vaccine administration POD. For the next several months, our COVID Task Force would spend several hours a day on State phone calls, trainings, zoom meetings, completing surveys, developing plans, and communicating to our stakeholders. Finally, in December, we were able to place our first order of COVID-19 Vaccine for the county. A total of 6,825 doses were delivered and the first vaccine administration was accomplished on December 16, 2020, where healthcare workers received vaccine. In late December, we started vaccinating our first responders and skilled nursing facilities staff at a drive-up COVID-19 vaccination POD at the South Oxnard Public Health parking lot. By the end of December, we had distributed over 4,762,000 pieces of PPE and had administered approximately 5,600 vaccinations. Notable COVID-19 activities include:

Program: EMS Logistics

- Coordinate EMS warehouse operations
- Personal Protective Equipment (PPE) distribution – hospitals, first responders, and other medical entities/providers
- Vaccine distribution and logistical support for vaccine points of distribution (PODs)
- Distribution of critical medical equipment to hospitals (ventilators, Powered Air Purifying Respirator (PAPR), emergency surge beds).
- Distribution of COVID therapeutics (Remdesivir, Monoclonal Antibodies) to hospitals and healthcare entities



Program: COVID-19 Data Analysis

- PH and EMS managed the integration of many data sources into one consolidated model to allow for internal COVID assessment, and publicly published COVID data.
- Established a patient record process early in the pandemic which allowed for much more detailed analysis of the hospitalized COVID population than was available from pre-existing sources.
- Established a patient record process for tracking admission and discharge of patients admitted to COVID-19 holding units.
- Established a model which identifies EMS incidents where a patient was laboratory confirmed COVID positive. This allowed for daily notification to provider agencies, confirmation of PPE utilized, and identification of providers who should be isolated to prevent additional spread of COVID.
- Established a process for measuring hospital and morgue capacity countywide.

Program: Public Health Department Operations Center

- Develop Incident Action Plan (IAP) for incident objectives
- Coordinate with group supervisors on COVID-19 response
- Coordinate weekly DOC meeting

Program: Ventura County Medical Reserve Corps

- Vaccine administration and support POD operations
- PPE distribution
- Phone bank operations
- Assisted local healthcare facilities with staffing during Fall/Winter surge



Program: Personal Protective Equipment (PPE) Distribution

- COVID PPE tracking and data reporting
- Coordinated with County OES to develop a process where medical and health entities can order PPE, and those orders could be tracked by EMS personnel.
- To date, 4.7 million (4,762,005) PPE items distributed to hospitals, first responder agencies, doctors, dentists, long term care facilities, clinics and more.



Program: Medical/Health Guidance, Coordination and Testing

- Developed COVID-19 specific treatment guidelines for prehospital personnel responding to 911 calls. The first iteration of these guidelines was released on January 24, 2020 – just as the first confirmed US cases were made public.
- Developed a process to rapidly identify first responder personnel exposed to confirmed/suspected COVID + individuals and provide them access to testing at a county clinic. Worked with agencies to ensure adequate isolation and quarantine measures were taken to limit additional exposure/spread.
- Coordinated weekly calls with all first responder agencies to ensure they were provided up-to-date information related to the ongoing public health emergency.
- Weekly calls with hospitals to share information and coordinate response to COVID surge.
- Provided early education content which allowed for paramedic and EMT level providers to administer COVID-19 tests and vaccines.
- Worked with local prehospital education programs to ensure they were able to continue offering classes during the prolonged public health emergency. Ensured that these operations were consistent with emergency guidelines issued by the California EMS Authority and VCEMS.



Program: Ventura County Health Care Coalition

- Long-Term Care Facility Guidance Development and Maintenance
- Established holding units for isolation of LTCF COVID positive residents unable to be properly isolated.
- COVID-19 Infection Control Education Campaign
- (EPO) Plan Updates (PanFlu & Pediatric Surge Annex)
- Vaccine Task Force VCHCC Partner Outreach and Communication
- Ongoing engagement with HCC partners regarding current COVID-19 guidance and all-hazards mitigation (e.g. wildfires and Public Safety Power Shutoff).



Ventura County Medical Reserve Corps



The Ventura County Medical Reserve Corps Unit 959 deployed in mid-March to support Ventura County Emergency Medical Services COVID-19 activities in Ventura County. The initial deployment was for logistical support and distribution of PPE to medical facilities within Ventura County. MRC volunteers filled requests for gloves, procedure masks, N-95 masks, goggles, face shields, disposable gowns, and hand sanitizer as needed. Requests for medical supplies were approved through the Ventura County Public Health Department Operation Center Logistics Section and the MRC organized orders for pick-up and notified facilities of their order status.

Medical professionals picked up supplies from two distribution sites: the EMS office and the EMS warehouse. The EMS office supported smaller sized orders while the EMS warehouse supported orders in larger volume. If you are interested in joining the Ventura County MRC, please contact the EMS office at 805-981-5301.



Ventura County MRC Unit 959 deployed an additional 10 members over a two-day period at the end of April to assist the Ventura Public Health Department with mobile COVID-19 testing of both staff and residents in



two skilled nursing facilities. Ventura County Emergency Medical Services deployed the Emergency Services Unit 1 (ESU1), a 40' emergency response mass casualty bus, that served as transportation of nurses and MRC volunteers to the sites as well as being the central area around which MRC volunteers established six COVID testing stations. Public Health Nurses and MRC members worked together to test nearly 400 staff and residents.

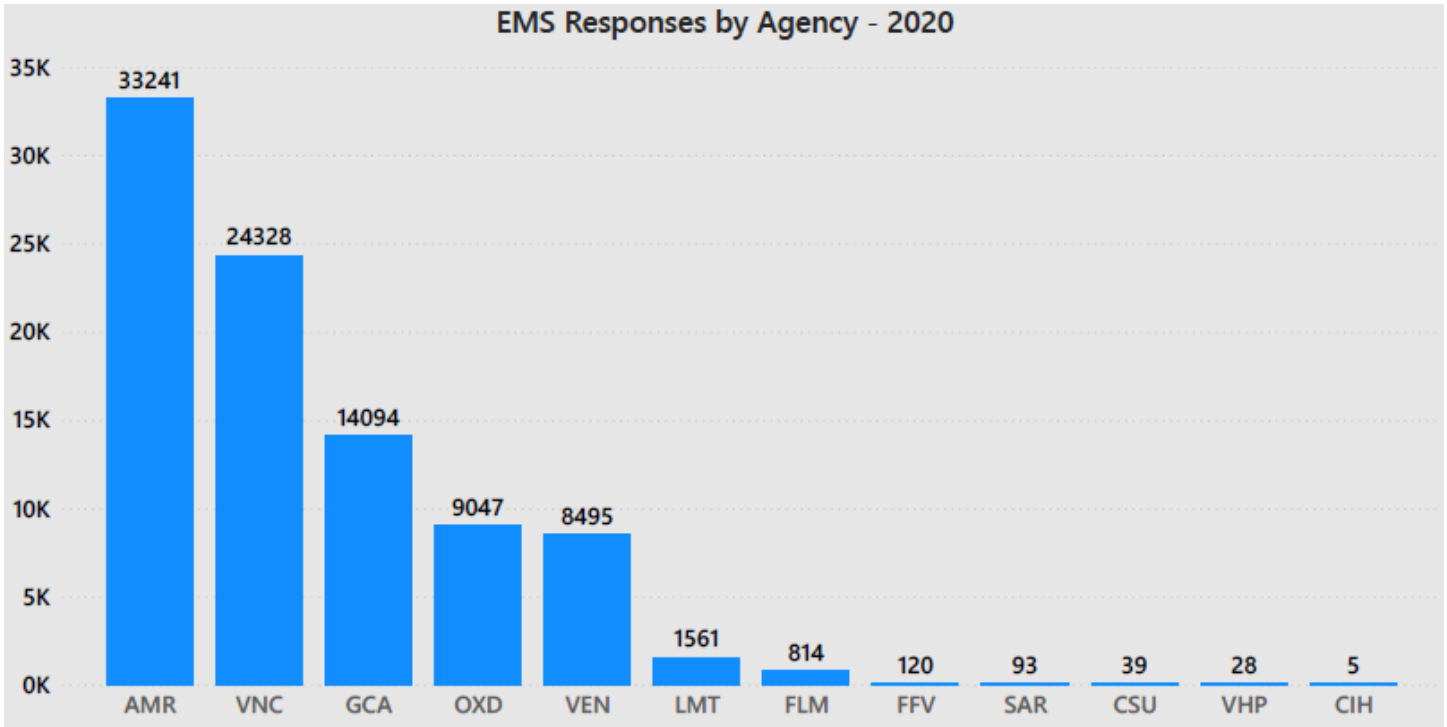
VCMRC was instrumental in the planning and implementation of influenza vaccination points of dispensing (PODs) throughout the County of Ventura. The MRC held three large drive through model PODs at Moorpark College, Oxnard College, and the Santa Paula Oil Museum. These PODs provided

valuable insight to how the county would administer COVID-19 vaccine in the coming months.

As of 12/31/2020, 55 MRC volunteers served a total of 2131 hours during the COVID-19 response. An economic impact report from the United States Department of Health and Human Services established an economic value of the Ventura County MRC response to be \$88,864.12



Ventura County EMS System Volume

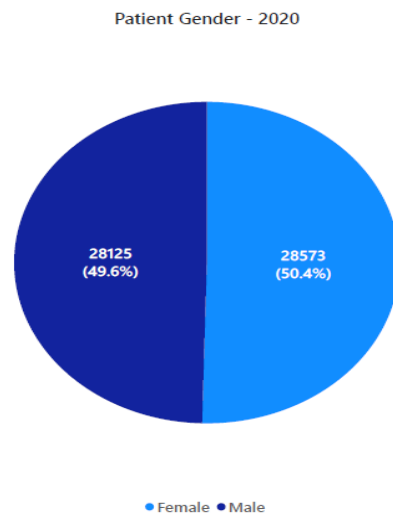
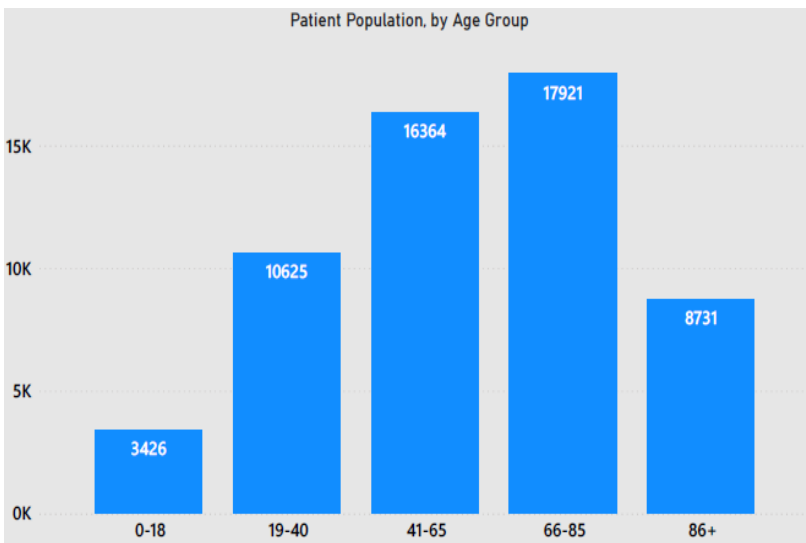


AMR = American Medical Response
 OXD = Oxnard Fire Department
 FLM = Fillmore Fire Department
 CSU = Cal State Channel Islands University PD

VNC = Ventura County Fire Protection District
 VEN = Ventura Fire Department
 FFV = Federal Fire Department – Ventura County
 VHP = Ventura Harbor Patrol

GCA = Gold Coast Ambulance
 LMT = Lifeline Medical Transport
 SAR = Ventura County Sheriff’s Search and Rescue Aviation Unit
 CIH = Channel Islands Harbor Patrol

Patient Demographics (transported only) – 2020



Medical Responses by Agency and Patient Demographic data is collected through the ImageTrend Electronic Patient Care Reporting System posted within the Ventura County EMS system and may differ slightly from other data sources due to collection process variances.

Emergency Medical Dispatch



The County of Ventura has 9 primary Public Safety Answering Points (PSAP), including California Highway Patrol (CHP), California State University Channel Islands (CSUCI), Naval Base Ventura County (NBVC), Oxnard Police Department (OPD), Port Hueneme Police Department (PHPD), Santa Paula Police Department (SPPD), Simi Valley Police Department (SVPD), Ventura City Police Department (VPD) and Ventura County Sheriff's Office (VCSO). When a primary PSAP receives a call for a medical or fire emergency, the call is transferred to the secondary PSAP at the Ventura County Fire Communications Center (FCC), where fire and ambulance resources are coordinated. All Fire and EMS resources in Ventura County are dispatched by FCC. This regionalized operation results in increased coordination and communication among response partners, reduced duplication, and closest unit response to emergencies regardless of geographic jurisdiction. FCC is the only Emergency Medical Dispatch (EMD) provider in Ventura

County. EMD is a program designed to provide predetermined medical protocols/medical instructions to victims and bystanders before the arrival of first responders. EMD trained personnel use Medical Priority Dispatch Systems ProQA Dispatch Software to help emergency dispatchers move smoothly through case entry and key questioning.

Quality Assurance - ProQA helps FCC maintain a consistently high level of service by improving call taker compliance to the International Association of Emergency Dispatcher (IAED) Protocols. ProQA automatically presents questions and instructions in the proper order. It automatically skips questions and instructions that are not appropriate for the specific circumstances of each case. This automation frees call takers to focus their attention on providing quality service. ProQA also saves every action taken by the call taker so that the information can be exported for use in Quality Assurance (QA) program software. All high risk calls and routine random sample calls from each dispatcher are reviewed for quality assurance by the medical professionals at the Ventura County Fire Department EMS Division.

**Ventura County Fire
Communications Center**



Emergency Medical Dispatch

Countywide Emergency Medical Dispatch Activity by Call Type

PROBLEM TYPE	2020 TOTAL INCIDENTS	PROBLEM TYPE	2020 TOTAL INCIDENTS
ABDOMINAL PAIN	1529	HEAT / COLD EXPOSURE	91
AIRCRAFT EMERGENCY	11	HEMORRHAGE / LACERATION	1740
ALLERGIES / ENVENOMATION	488	JUVENILE BEHAVIORAL TRANSPORT	57
AMBULANCE ONLY	203	LIFT ASSIST	776
ANIMAL BITES / ATTACKS	134	MEDICAL ALARM	2162
ASSAULT	1826	MOTORCYCLE COLLISION	154
ASSIST OTHER AGENCY MEDICAL	146	MUTUAL AID - MEDICAL	53
BACK PAIN	705	OBVIOUS OR EXPECTED DEATH	182
BEHAVIORAL EMERGENCY	1640	OVERDOSE / POISONING	1737
BREATHING PROBLEMS	6167	PENETRATING WOUNDS	11
BURNS / EXPLOSIONS	34	PREGNANCY RELATED EMERGENCY	153
CARDIAC / RESP ARREST	1140	REMOTE RESCUE	153
CHEST PAIN	4025	SICK PERSON	9038
CHOKING	405	STABBING	155
INHALATION EXPOSURE / HAZMAT	88	STEMI TRANSPORT	83
CONVULSIONS / SEIZURES	2353	STROKE (CVA)	1729
DIABETIC PROBLEMS	936	STROKE TRANSPORT	60
ELECTROCUTION / LIGHTNING	11	TRAFFIC COLLISION	4542
ENTRAPMENT NON VEHICLE	53	TECHNICAL RESCUE	13
EYE PROBLEMS / INJURIES	70	TRAUMA TRANSFER	50
FALLS	10622	TRAUMATIC INJURIES	1834
GUNSHOT	135	UNCONSCIOUS / FAINTING	4847
HEADACHE	356	UNKNOWN PROBLEM	5139
HEART PROBLEM	839	WATER RESCUE	94
TOTAL 2020 MEDICAL RELATED RESPONSES - 68769			

Fire Departments



Federal Fire Department – Ventura County

Covers all areas of Naval Base Ventura County, including San Nicholas Island, from four stations.



Fillmore City Fire Department

Covers the City of Fillmore from one station.



Oxnard Fire Department

Covers the City of Oxnard from eight stations.



Ventura City Fire Department

Covers the City of Ventura from six stations.



Ventura County Fire Department

Covers the cities of Simi Valley, Moorpark, Thousand Oaks, Camarillo, Port Hueneme, Ojai, Santa Paula and all unincorporated areas of Ventura County from 33 stations.

Sheriff's Air Rescue



Ventura County Sheriff's Department Aviation Unit

Covers all areas of the county, including remote wilderness within the Los Padres National Forest and Santa Monica Mountains National Recreation Area.

Ambulance Providers

American Medical Response

Covers the cities of Simi Valley, Moorpark, Thousand Oaks, Camarillo, Ventura, Santa Paula, Fillmore, and unincorporated areas within their contracted ambulance service zones.



Gold Coast Ambulance

Covers the cities of Oxnard and Port Hueneme, and unincorporated areas within their contracted ambulance service zone.



Lifeline Medical Transport

Covers the city of Ojai, as well as the unincorporated areas of Oak View, Meiners Oaks and Casitas Springs.



Law Enforcement / Harbor Patrol

California State University, Channel Islands

Covers first responder emergency medical services for the campus of the State University, as well as the communities immediately surrounding the campus.



Channel Islands Harbor Patrol

Covers the Channel Islands Harbor, as well as the ocean area surrounding the harbor.



Ventura Harbor Patrol

Covers the Ventura Harbor, as well as the communities immediately surrounding the harbor and the ocean area surrounding the harbor.



Ambulance Contract Administration and Oversight



Through “performance-based” ambulance service agreements, the Ventura County Emergency Medical Services Agency conducts comprehensive monitoring and evaluation of the EMS System to ensure compliance with standards, policies and procedures in order to provide our jurisdiction with the best possible prehospital emergency medical care.

In December 2004, the County entered into seven (7) agreements for continued provision of emergency ambulance service by its existing “grandfathered” providers, one for each of the seven Ventura County EMS service areas. One agreement is with Lifeline Medical Transport for Area 1; one with Gold Coast Ambulance Service for Area 6; and five are with American Medical Response (AMR) for Areas 2, 3, 4, 5 and 7.

The original term for each agreement was six (6) years, from January 1, 2005 through June 30, 2011, with review of contractor performance every two years per the Contractors Review Process outlined in the agreement. Contractor’s meeting or exceeding the minimum agreement requirements and expectations shall be entitled to a two-year extension of the term of this agreement. Reviews conducted in 2007, 2009, 2011, 2013 and 2015 resulted in approval of two-year extensions, with current agreements extending through 2021. Future updates to the ambulance contracts will be addressed in the 2021 report.

The ambulance agreements outline the services to be performed by the contracted providers including, but not limited to:

- Providing uninterrupted emergency ambulance service on a continuous 24/7 basis
- Collecting data utilizing the VCEMS electronic patient care record system
- Ensuring compliance with response time standards
- Participation in the Continuous Quality Improvement Program
- Providing staffing consistent with VCEMS policies and procedures
- Conducting required staff training and education
- Providing comprehensive fleet maintenance and scheduled ambulance replacement
- Conducting public information and education

All emergency ambulances in Ventura County are dispatched through contract with the Ventura County Fire Communications Center using the TriTech Computer Aided Dispatch system. Ambulances are deployed countywide based on established System Status Management plans and all are equipped with modern mobile dispatch computers and automatic vehicle location systems. All emergency ambulances are equipped with mobile and portable radios programmed to the County’s uniform channel listing, which allows all first responders and ambulance personnel to communicate on common radio frequencies.

Ambulance Contract Administration and Oversight

Response Time Performance Standards

Ambulance response time compliance is monitored through the FirstWatch Online Compliance Utility program. Contract performance standard is 90% monthly compliance in each ambulance zone. Compliance performance by exclusive operating zone is included in this report on subsequent pages. Response time criteria is measured monthly and varies based on population density and call priority. Metropolitan/Urban areas require an ambulance response time of 8 minutes for emergencies and 15 minutes for non-emergencies. Suburban/Rural areas require an ambulance response time of 20 minutes and certain low density and geographically remote areas are allowed an ambulance response time of 30 minutes. Highly remote "Wilderness" areas are contracted as "ASAP" zones and listed as 45 minute response zones in the data for reporting purposes only. Non-compliant responses, without an approved exemption, are assessed a financial penalty based on the contract guidelines. Area 4 is divided into four sub-zones for purposes of penalty assessment, however, contracted 90% requirement is based on total Area 4 compliance. In 2020, all response areas were fully compliant with the monthly 90% compliance requirements.

2020 Response Time Compliance

All Exclusive Operating Areas (EOA)

	LMT 1	AMR 2	AMR 3	AMR 4	AMR 5	GCA 6	AMR 7	Average
JAN	95.57%	96.81%	93.93%	91.22%	94.00%	94.50%	92.76%	94.11%
FEB	96.48%	96.00%	93.24%	91.45%	93.12%	93.34%	95.01%	94.09%
MAR	96.36%	96.83%	92.65%	91.24%	94.52%	94.80%	92.70%	94.16%
APR	97.67%	97.13%	91.86%	91.18%	91.73%	95.93%	93.04%	94.08%
MAY	97.47%	96.62%	93.10%	91.32%	90.32%	94.25%	93.83%	93.84%
JUN	96.73%	94.74%	92.17%	90.94%	91.76%	92.23%	91.75%	92.90%
JUL	95.86%	93.56%	91.95%	91.36%	90.43%	91.47%	93.52%	92.59%
AUG	97.10%	93.84%	91.35%	90.98%	93.73%	92.16%	92.66%	93.12%
SEP	96.45%	94.68%	93.46%	90.87%	92.40%	92.35%	91.06%	93.04%
OCT	96.90%	93.77%	92.60%	90.91%	93.27%	93.86%	91.77%	93.30%
NOV	92.73%	94.16%	93.81%	91.32%	93.04%	93.52%	92.71%	93.04%
DEC	96.84%	93.16%	92.48%	90.93%	92.82%	92.93%	93.62%	93.25%
Average	96.31%	94.99%	92.73%	91.14%	92.64%	93.42%	92.84%	93.46%

EOA Providers

AMR = American Medical Response
GCA = Gold Coast Ambulance
LMT = LifeLine Medical Transport

EOA Zones

1 = Ojai/Oak View
2 = Santa Paula/Fillmore/Piru
3 = Simi Valley
4 = Thousand Oaks/Moorpark
5 = Camarillo
6 = Oxnard/Port Hueneme
7 = Ventura

Area 4 Sub-Zones

MP = Moorpark
NP = Newbury Park
OP = Oak Park
TO = Thousand Oaks

Lifeline Medical Transport Exclusive Operating Area 1 Compliance

Comprised of the City of Ojai and the unincorporated areas of the Ojai Valley including Upper Ojai, Meiners Oaks, Mira Monte, Oak View, Casitas Springs and the Hwy. 33 and Hwy. 150 corridors.

2020		EOA1				
		08:00	15:00	20:00	30:00	45:00
Total Volume	1,845	1,342	353	92	11	47
At-Scene Time Not Documented	7	7	0	0	0	0
Compliant - Time Extension	97	97	0	0	0	0
Compliant - No Map	0	0	0	0	0	0
Gross Exceptions	205	176	22	7	0	0
Exemptions Requested	156	128	22	6	0	0
Exemptions Approved	137	109	22	6	0	0
Chargeable Late Responses	68	67	0	1	0	0
Compliance	96.31%	95.01%	100.00%	98.91%	100.00%	100.00%

American Medical Response Exclusive Operating Area 2 Compliance

Comprised of the Cities of Santa Paula and Fillmore and the unincorporated areas of the Santa Clara Valley including Piru, South Mountain, Bardsdale, and the Hwy. 126 corridor.

2020		EOA2				
		08:00	15:00	20:00	30:00	45:00
Total Volume	3,271	2,250	525	426	17	53
At-Scene Time Not Documented	4	2	1	1	0	0
Compliant - Time Extension	103	103	0	0	0	0
Gross Exceptions	254	223	17	14	0	0
Exemptions Requested	92	77	7	8	0	0
Exemptions Approved	90	75	7	8	0	0
Chargeable Late Responses	164	148	10	6	0	0
Compliance	94.99%	93.42%	98.10%	98.59%	100.00%	100.00%

American Medical Response Exclusive Operating Area 3 Compliance

Comprised of the City of Simi Valley and the surrounding unincorporated areas.

2020		EOA3				
		08:00	15:00	20:00	30:00	45:00
Total Volume	7,634	5,997	1,530	78	0	29
At-Scene Time Not Documented	11	9	2	0	0	0
Compliant - Time Extension	222	222	0	0	0	0
Gross Exceptions	865	824	41	0	0	0
Exemptions Requested	319	298	21	0	0	0
Exemptions Approved	310	290	20	0	0	0
Chargeable Late Responses	555	534	21	0	0	0
Compliance	92.73%	91.10%	98.63%	100.00%	0.00%	100.00%

American Medical Response Exclusive Operating Area 4 Compliance

Comprised of the Cities of Thousand Oaks and Moorpark and the unincorporated areas of the Conejo Valley including Newbury Park, Oak Park, Westlake, North Ranch and Lake Sherwood.

2020		EOA4				
		08:00	15:00	20:00	30:00	45:00
Total Volume	11,470	9,464	1,756	217	0	33
At-Scene Time Not Documented	38	29	7	2	0	0
Compliant - Time Extension	621	621	0	0	0	0
Gross Exceptions	1,241	1,159	77	5	0	0
Exemptions Requested	238	226	10	2	0	0
Exemptions Approved	225	214	9	2	0	0
Chargeable Late Responses	1,016	945	68	3	0	0
Compliance	91.14%	90.02%	96.13%	98.62%	0.00%	100.00%

American Medical Response Exclusive Operating Area 5 Compliance

Comprised of the City of Camarillo and the surrounding unincorporated areas including Somis, Santa Rosa Valley and the California State University Channel Islands.

2020		EOA5				
		08:00	15:00	20:00	30:00	45:00
Total Volume	6,721	5,325	1,245	149	0	2
At-Scene Time Not Documented	15	13	1	1	0	0
Compliant - Time Extension	305	305	0	0	0	0
Gross Exceptions	662	640	20	2	0	0
Exemptions Requested	168	162	6	0	0	0
Exemptions Approved	167	161	6	0	0	0
Chargeable Late Responses	495	479	14	2	0	0
Compliance	92.64%	91.00%	98.88%	98.66%	0.00%	100.00%

Gold Coast Ambulance Exclusive Operating Area 6 Compliance

Comprised of the Cities of Oxnard and Port Hueneme and the surrounding unincorporated areas including El Rio, Nyeland Acres, Silver Strand, Naval Base Ventura County, Point Mugu and Malibu.

2020		EOA6				
		08:00	15:00	20:00	30:00	45:00
Total Volume	16,591	13,301	2,866	360	38	26
At-Scene Time Not Documented	27	22	5	0	0	0
Compliant - Time Extension	220	220	0	0	0	0
Gross Exceptions	1,600	1,493	102	4	1	0
Exemptions Requested	518	464	52	1	1	0
Exemptions Approved	508	457	49	1	1	0
Chargeable Late Responses	1,092	1,036	53	3	0	0
Compliance	93.42%	92.21%	98.15%	99.17%	100.00%	100.00%

American Medical Response Exclusive Operating Area 7 Compliance

Comprised of the City of Ventura and the surrounding unincorporated areas
Including Saticoy, Montalvo, Rincon and La Conchita.

2020		EOA7				
		08:00	15:00	20:00	30:00	45:00
Total Volume	10,739	8,584	1,945	166	36	8
At-Scene Time Not Documented	21	20	0	0	1	0
Compliant - Time Extension	1,115	1,115	0	0	0	0
Gross Exceptions	1,269	1,166	91	10	2	0
Exemptions Requested	507	459	45	2	1	0
Exemptions Approved	500	453	44	2	1	0
Chargeable Late Responses	769	713	47	8	1	0
Compliance	92.84%	91.69%	97.58%	95.18%	97.22%	100.00%

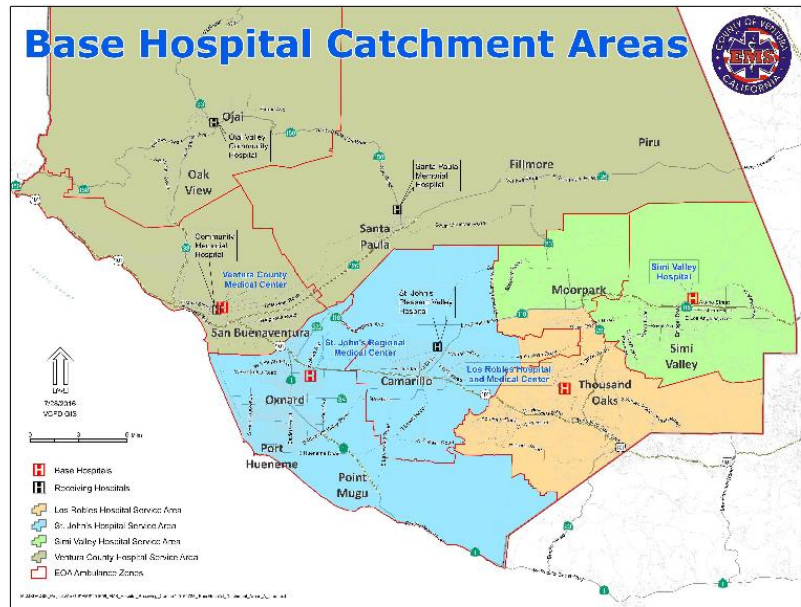


21 Ventura County Emergency Medical Services Agency
Ambulance Service Areas



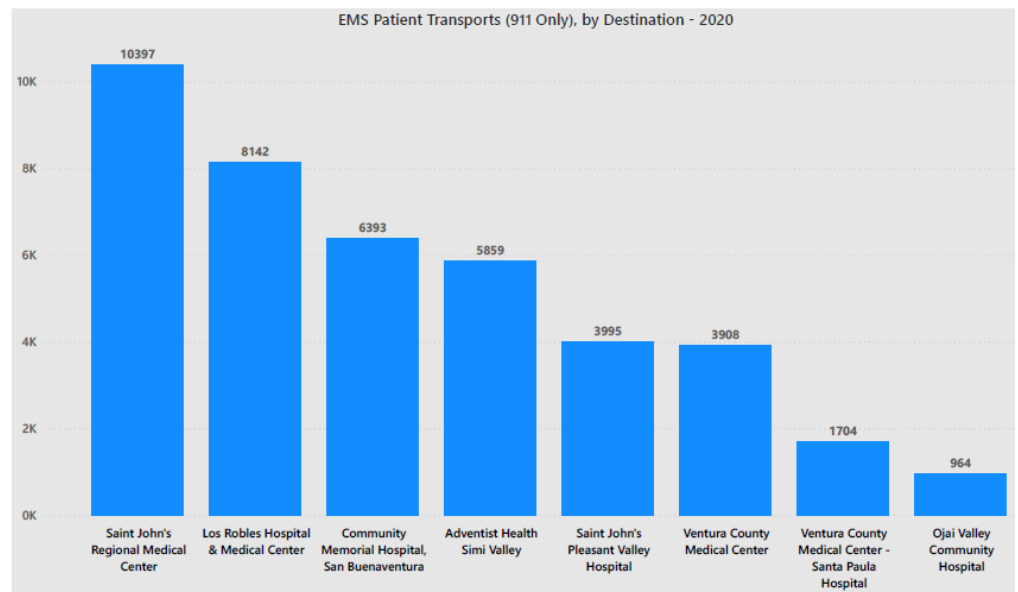
Ventura County Base and Receiving Hospitals

There are eight acute care hospitals in Ventura County, all of whom have emergency departments and receive ambulances with patients involved in prehospital incidents. Four of these hospitals are designated as Base Hospitals, providing oversight and direction to the county’s prehospital providers. Hospitals who provide specialty care services are recognized by EMS policy, and patients who triage into specialty criteria are preferentially directed to the closest, most appropriate hospital for care. A patient who arrives at a

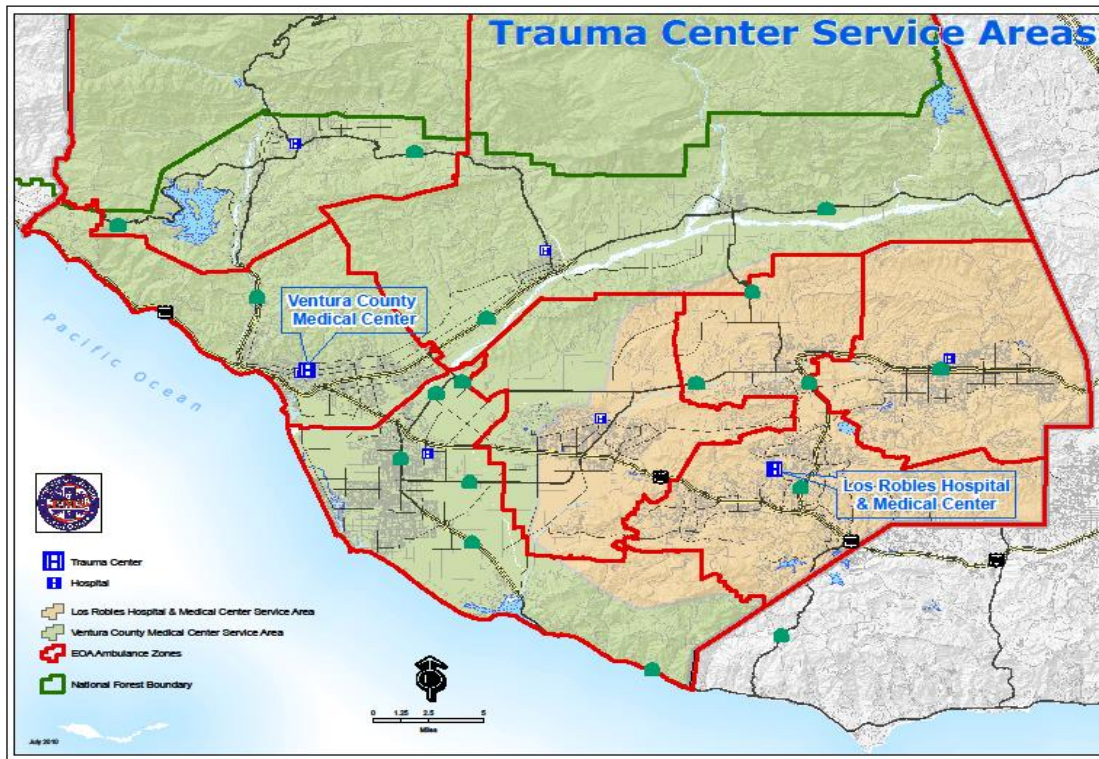


HOSPITAL CAPABILITIES	Receiving Hospital	Base Hospital	Level II Trauma Center	Acute Stroke Center	Thrombectomy Capable Acute Stroke Center	STEMI Receiving Center	Labor & Delivery
CMH	X			X		X	X
LRHMC	X	X	X	X	X	X	X
OVCH	Standby						
PVH	X			X			
SPH	X						X
AHSV	X	X		X		X	X
SJPMC	X	X		X	X	X	X
VCMC	X	X	X	X			X

hospital by private vehicle may be rapidly assessed, and if any specialty criteria is met, an ambulance may be summoned immediately to transfer the patient to a specialty hospital. Ventura County boasts one of the best systems in the nation for rapid assessment and re-triage to specialty care.



Ventura County Trauma System



Ventura County's trauma system was initiated in July 2010, and since then, has provided specialty trauma care to thousands of patients with traumatic injuries. The County's system of prehospital triage, rapid transport, and emergency department care has resulted in lives saved and reduction in disabilities associated with trauma.

Through prehospital triage and rapid emergency department assessment, patients with life-or-limb threatening injuries are rapidly identified and triaged to the closest, most appropriate trauma center. Patients who self-refer to a non-trauma center hospital may be rapidly triaged by the emergency department physician and immediately transferred to a trauma center by 911 ambulance.

There are two Level II Trauma Centers in the County, both of whom are County-designated and accredited by the American College of Surgeons (ACS): Los Robles Hospital & Medical Center and Ventura County Medical Center. Trauma Center catchment areas are assigned according to drive time from an incident to the trauma center. With the population centers and division of trauma destinations, most trauma patients from a 911 incident arrive at a trauma center within fifteen minutes after an ambulance departs the scene.

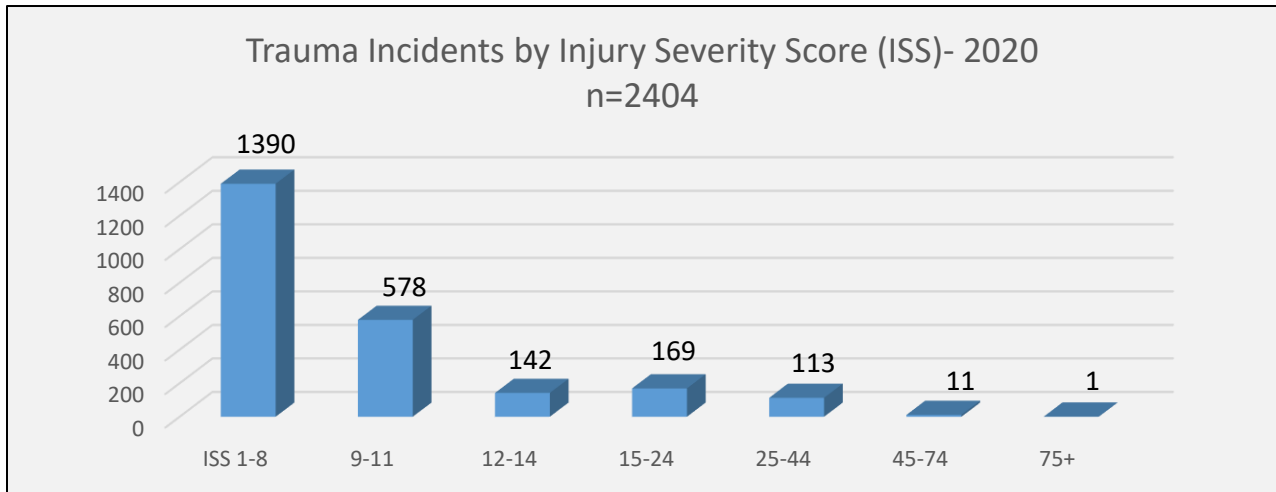
2020 Ventura County Trauma Destinations

Base Hospital Destination	Trauma Center	Step 1 TOTAL 274	Step 2 TOTAL 277	Step 3 TOTAL 443
VCMC Trauma Base Hospital Calls		178	212	303
Community Memorial Hospital		1	0	2
Henry Mayo Newhall Memorial Hospital		3	3	16
Ojai Valley Hospital		0	0	1
Santa Paula Hospital		0	0	0
St. John's Pleasant Valley Hospital		1	0	3
St. John's Regional Medical Center		0	0	18
Ventura County Medical Center (VCMC)		173	209	263
LRHMC Trauma Base Hospital Calls		96	65	140
Adventist Health Simi Valley		1	0	3
Los Robles Hospital and Medical Center (LRH)		94	58	134
Northridge Medical Center		0	2	2
Providence Holy Cross		1	5	1

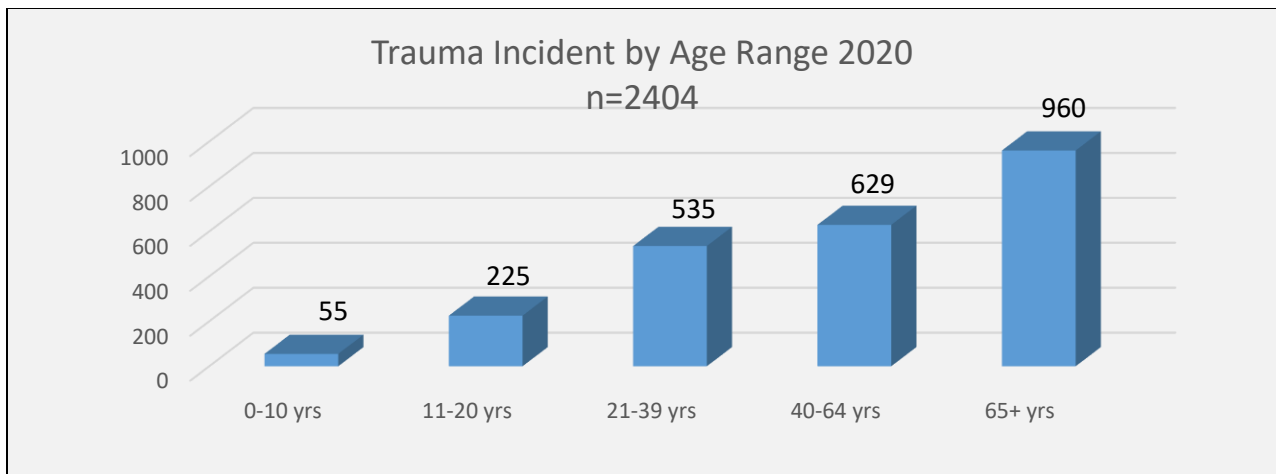
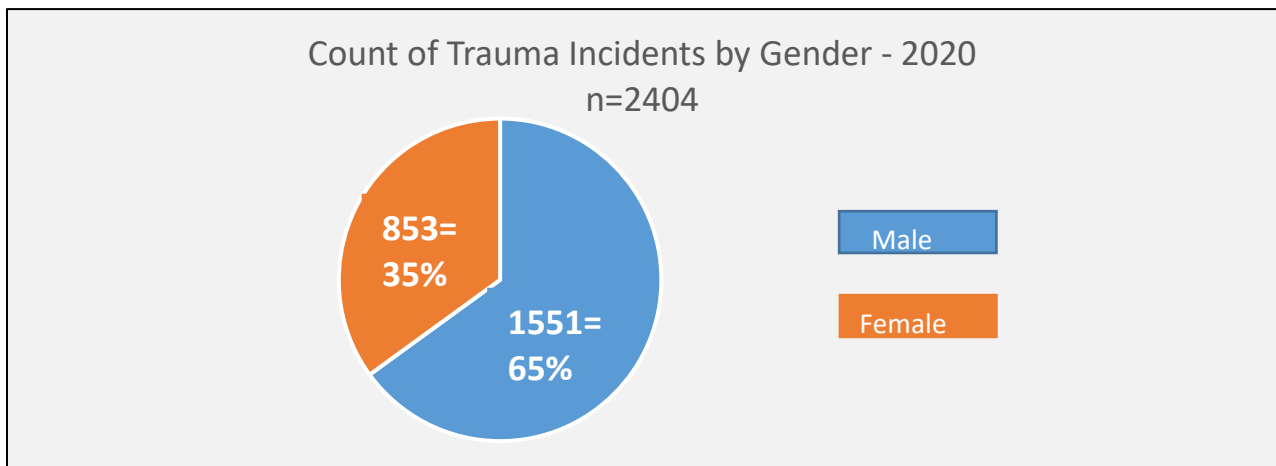
2020 Step 1-3 by Hospital	N
Adventist Health Simi Valley	4
Community Memorial Hospital	3
Henry Mayo Newhall Memorial Hospital	22
Los Robles Hospital and Medical Center (LRH)	286
Northridge Medical Center	4
Ojai Valley Hospital	1
Providence Holy Cross	7
Santa Paula Hospital	0
St. John's Pleasant Valley Hospital	4
St. John's Regional Medical Center	18
Ventura County Medical Center (VCMC)	645
TOTAL	994

2020 Step 4 by Hospital	N
Adventist Health Simi Valley	259
Community Memorial Hospital	408
Henry Mayo Newhall Memorial Hospital	8
Los Robles Hospital and Medical Center (LRH)	609
Ojai Valley Hospital	59
Santa Paula Hospital	47
St. John's Pleasant Valley Hospital	272
St. John's Regional Medical Center	541
Ventura County Medical Center (VCMC)	347
Woodland Hills Medical Center	2
West Hills Hospital & Medical Center	1
TOTAL	2553

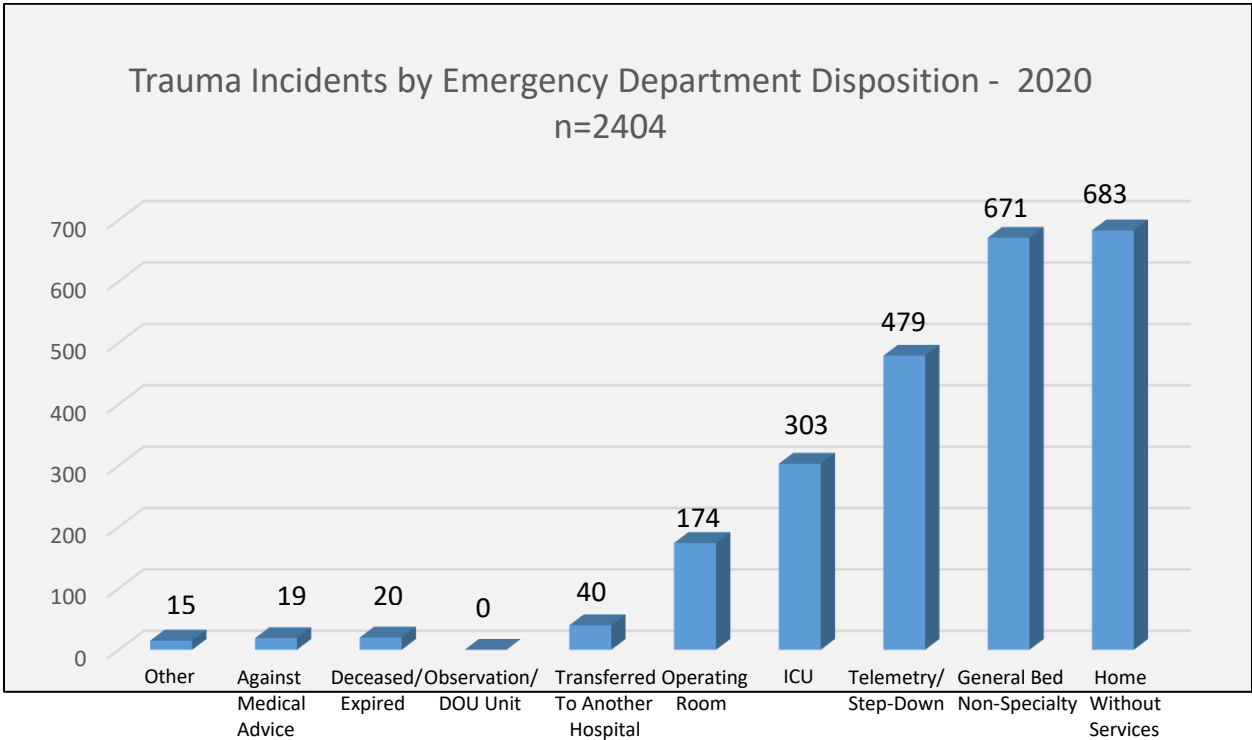
Ventura County Trauma System Statistics



The **Injury Severity Score (ISS)** is an established medical score to assess trauma severity. It correlates with mortality, morbidity, and hospitalization time after trauma, and is used to define the term “major trauma.” A major trauma is defined as the ISS being greater than 15.



Ventura County Trauma System Statistics

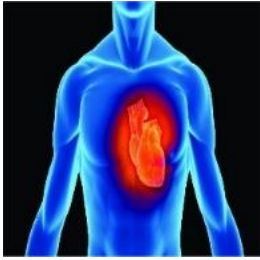


Ventura County established, and provides leadership for, two active committees that provide system oversight, policy review, and peer education. Due to COVID-19, we were unable to meet in person, however we still met through virtual meetings during the year.

The Tri-County Trauma Audit Committee (TAC) is a confidential, closed committee consisting of trauma surgeons, program managers and prehospital coordinators from three Level II, and two-Level III trauma centers, located in Ventura, Santa Barbara, and San Luis Obispo Counties. The committee provides a collaborative forum in which trauma cases that meet specific audit filter criteria may be discussed and reviewed. Representatives from all five trauma centers present cases for confidential peer review and bring an important perspective to Ventura County’s trauma system and regional trauma care.

The Trauma Operational Review Committee (TORC) is a confidential, closed committee consisting of representatives from the local EMS agency, first responder and transport provider agencies, non-trauma hospitals and trauma centers in Ventura County. The committee provides a collaborative forum in which system issues surrounding trauma care may be brought for discussion and improvement, such as prehospital destination determinations and interfacility transfers for trauma care.

VCEMS STEMI SYSTEM



Patients suffering from an ST Elevation Myocardial Infarction (STEMI) have the best chance of survival when they receive rapid assessment and transport to a receiving hospital with specialized equipment and personnel to treat these deadly heart attacks. The Ventura County STEMI System began in 2007 and currently has four STEMI Receiving Centers (SRC). STEMI system performance is based on standards developed by the American College of Cardiology, the American Heart Association, and the California Department of Public Health. In 2020, Ventura County's STEMI System received the *Gold Plus Level* recognition from the American Heart Association's Mission Lifeline program. This represents the sixth year in a row where Ventura County has attained Gold level or higher.

2021 Mission: Lifeline® EMS Recognition

The American Heart Association proudly recognizes

Ventura County Emergency Medical Services Oxnard, CA

Lead Agencies: American Medical Response, Fillmore Fire Department, Gold Coast Ambulance, Lifeline Medical Transport, Oxnard Fire Department, Ventura City Fire Department, Federal Fire Ventura County, Ventura County Fire Department, Ventura County Sheriff's Air Unit, California State Channel Islands Police Department

Mission: Lifeline®-EMS – GOLD PLUS
Joint Achievement Award – EMS Agency

The American Heart Association/American Stroke Association recognizes these EMS provider organizations that jointly serve their community as part of an integrated EMS team. This joint effort has demonstrated continued success in using the **Mission Lifeline®** program. Thank you for applying the most up-to-date evidence-based treatment guidelines to improve patient care and outcomes in the community you serve.*


Nancy Brown
Chief Executive Officer
American Heart Association

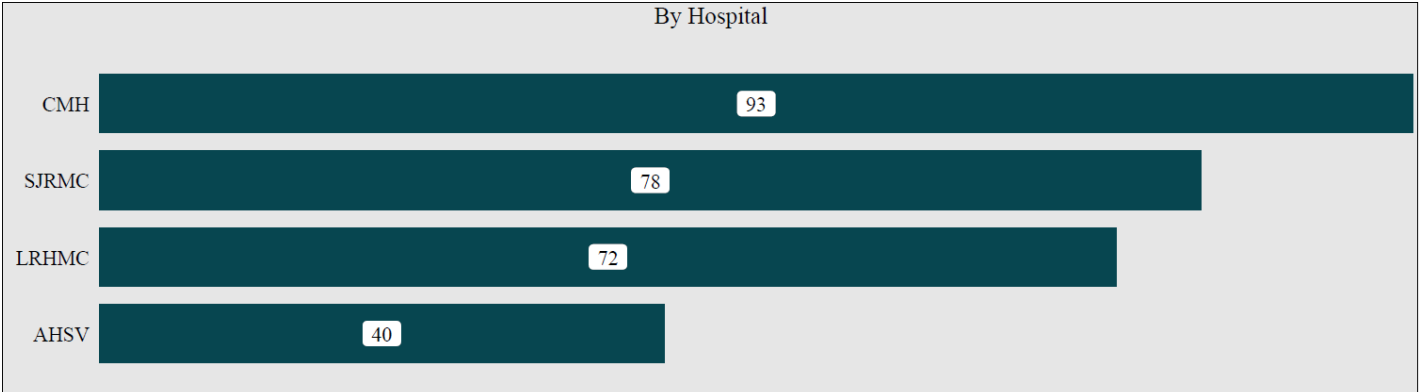

Donald M. Lloyd-Jones, MD, ScM, FAHA
President
American Heart Association

*For more information, please visit Heart.org/MissionLifeline

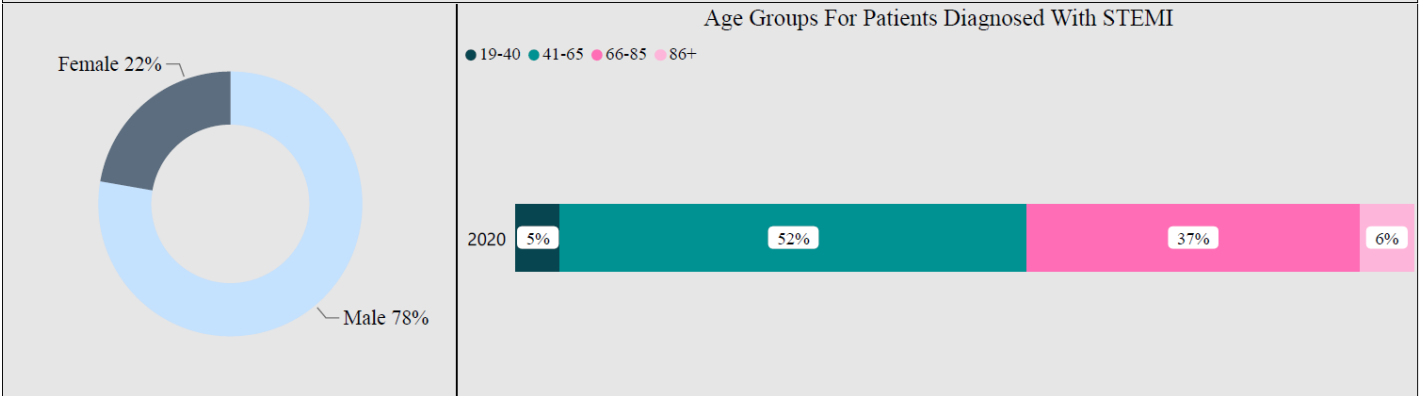


2020 STEMI PATIENT DATA

By Hospital

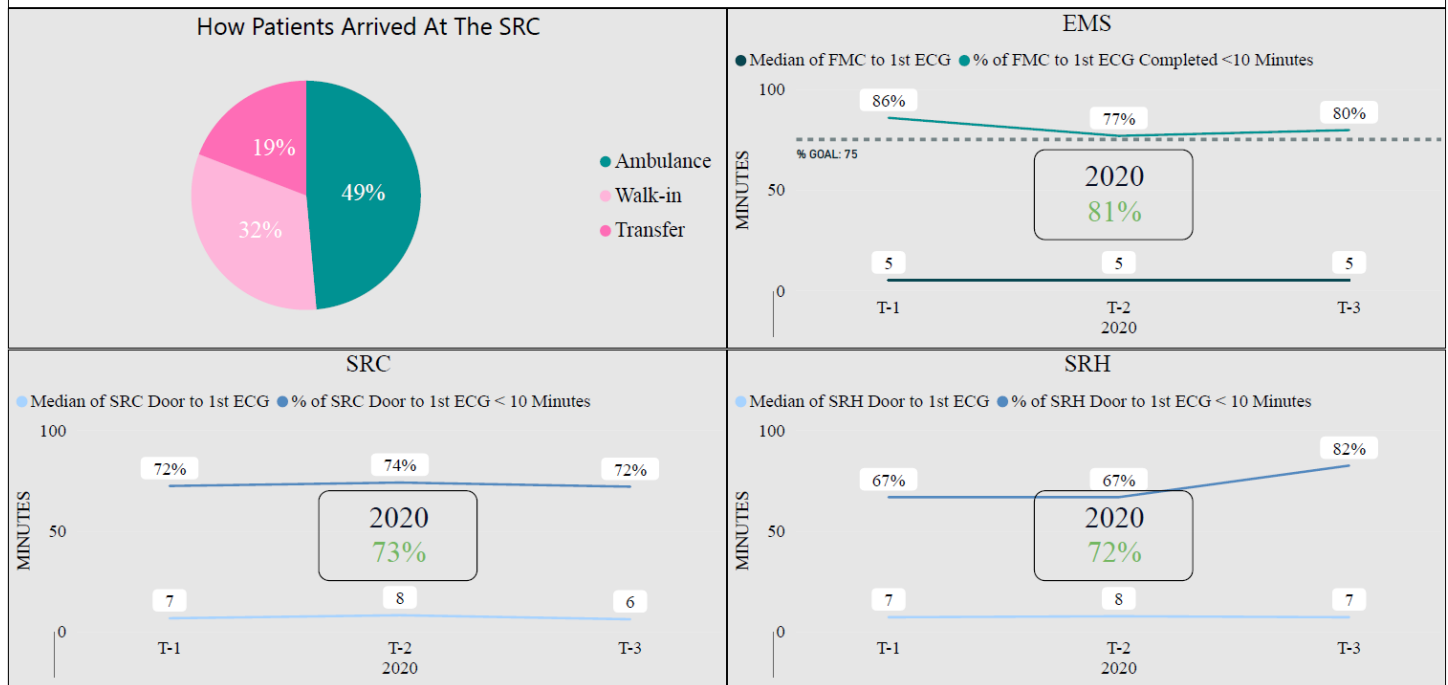


Age Groups For Patients Diagnosed With STEMI

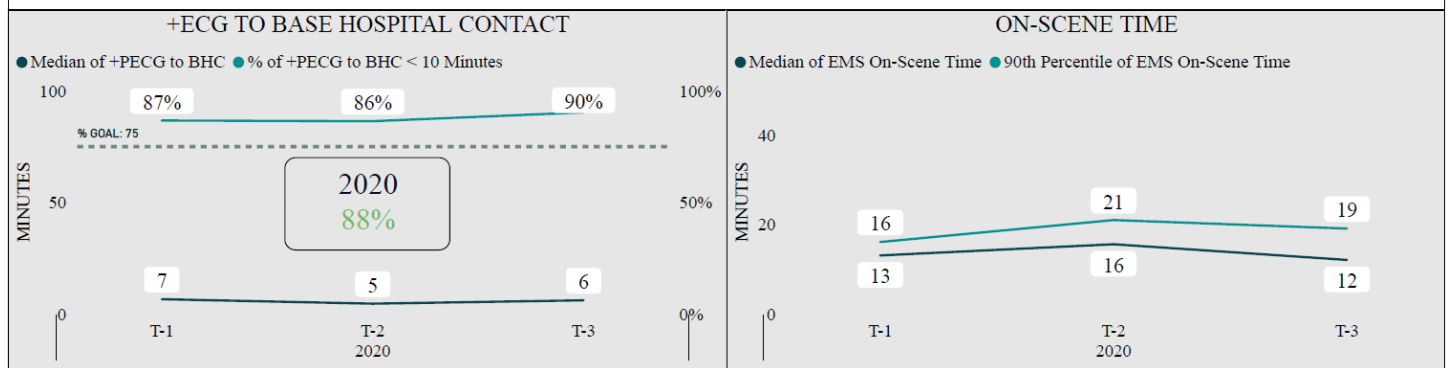


Patients arrive to STEMI Receiving Centers by Walk-In, EMS, or Transfer by EMS from a STEMI Referral Hospital (SRH). When a patient is a Walk-In at an SRH (not an SRC), the patient is emergently transferred to an SRC by EMS. One of the key measures is time to recognition that a patient is having a STEMI. This is accomplished by quickly performing a 12-Lead ECG.

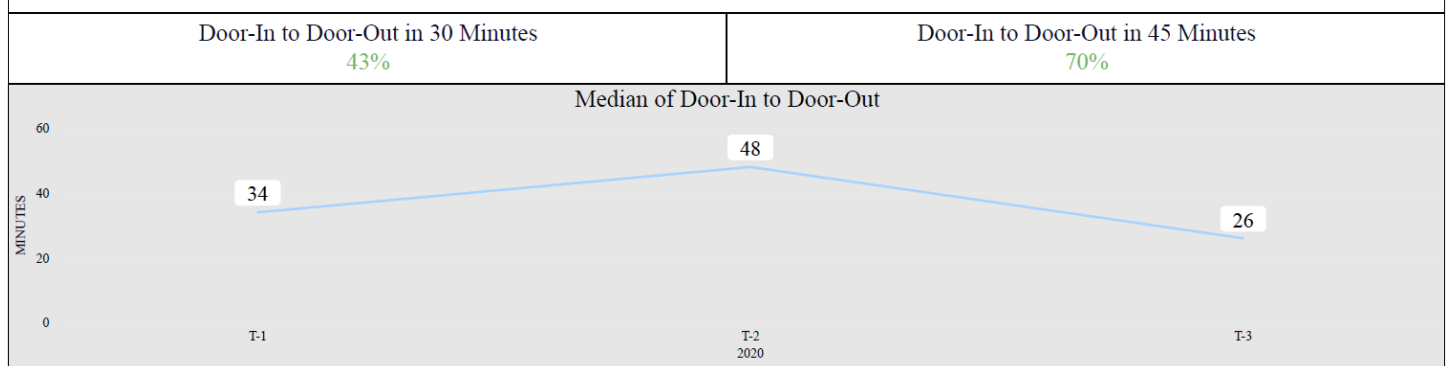
TIME TO 1ST ECG



EMS TIMES



TRANSFER TIMES



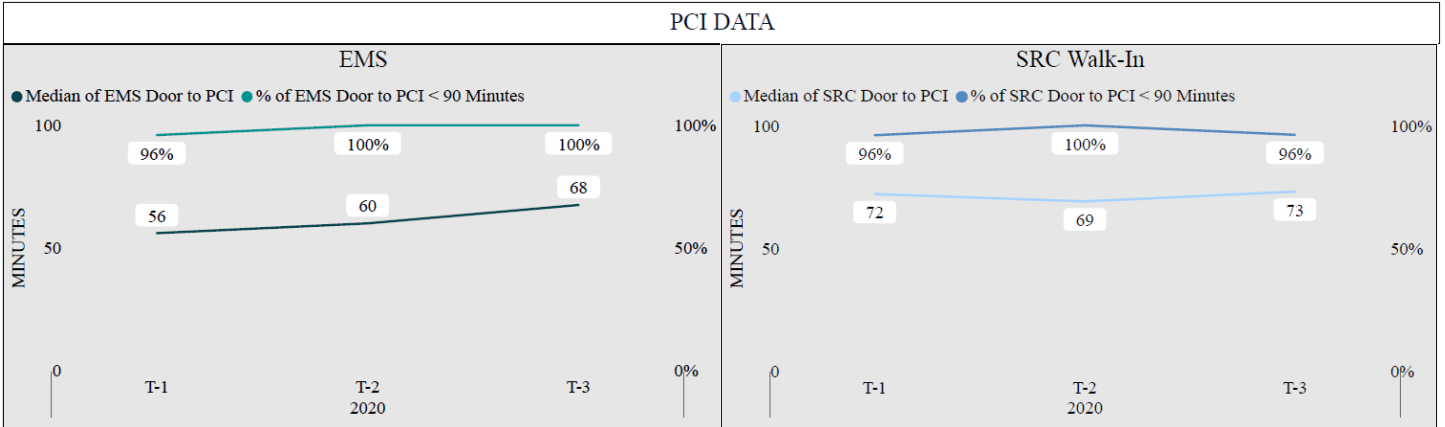
VCEMS STEMI SYSTEM



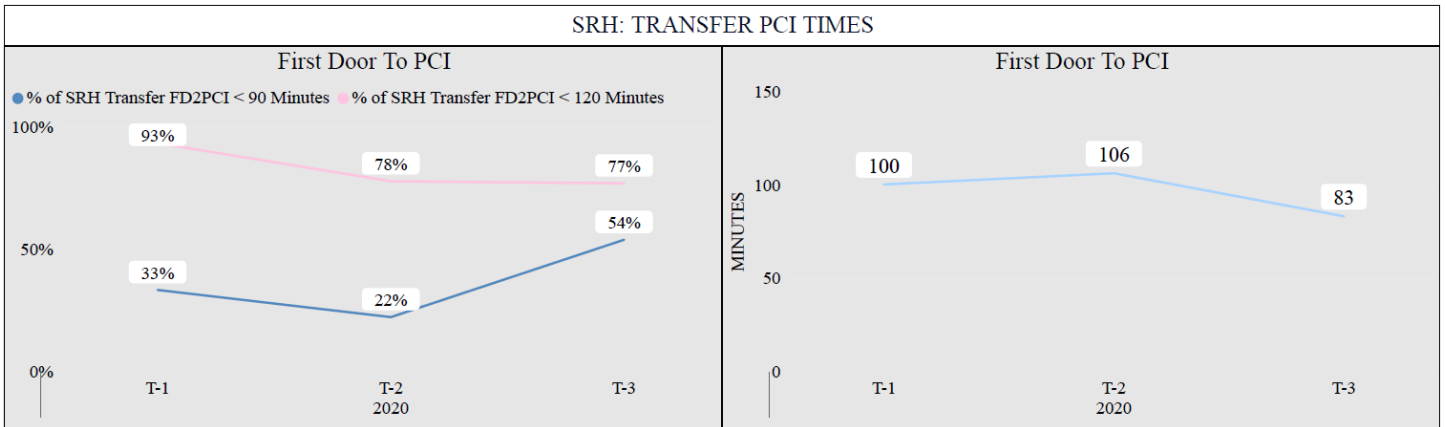
Once a STEMI is recognized, the goal is for the patient to receive timely Percutaneous Cardiac Intervention (PCI). PCI is a procedure to help restore blood flow to the heart and performed in a specialized Catheterization Lab, commonly referred to as a Cath Lab, at the SRC.

STEMI PCI DATA

PCI DATA

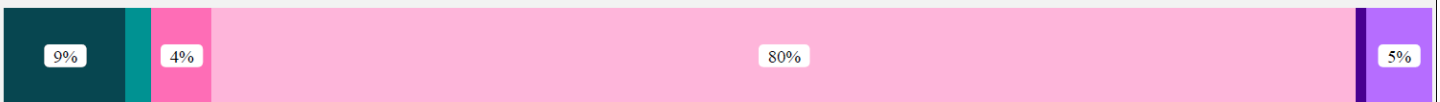


SRH: TRANSFER PCI TIMES



Patient Disposition

● Acute Care Facility ● AMA ● Expired ● Home ● Hospice ● Other Health Care Facility

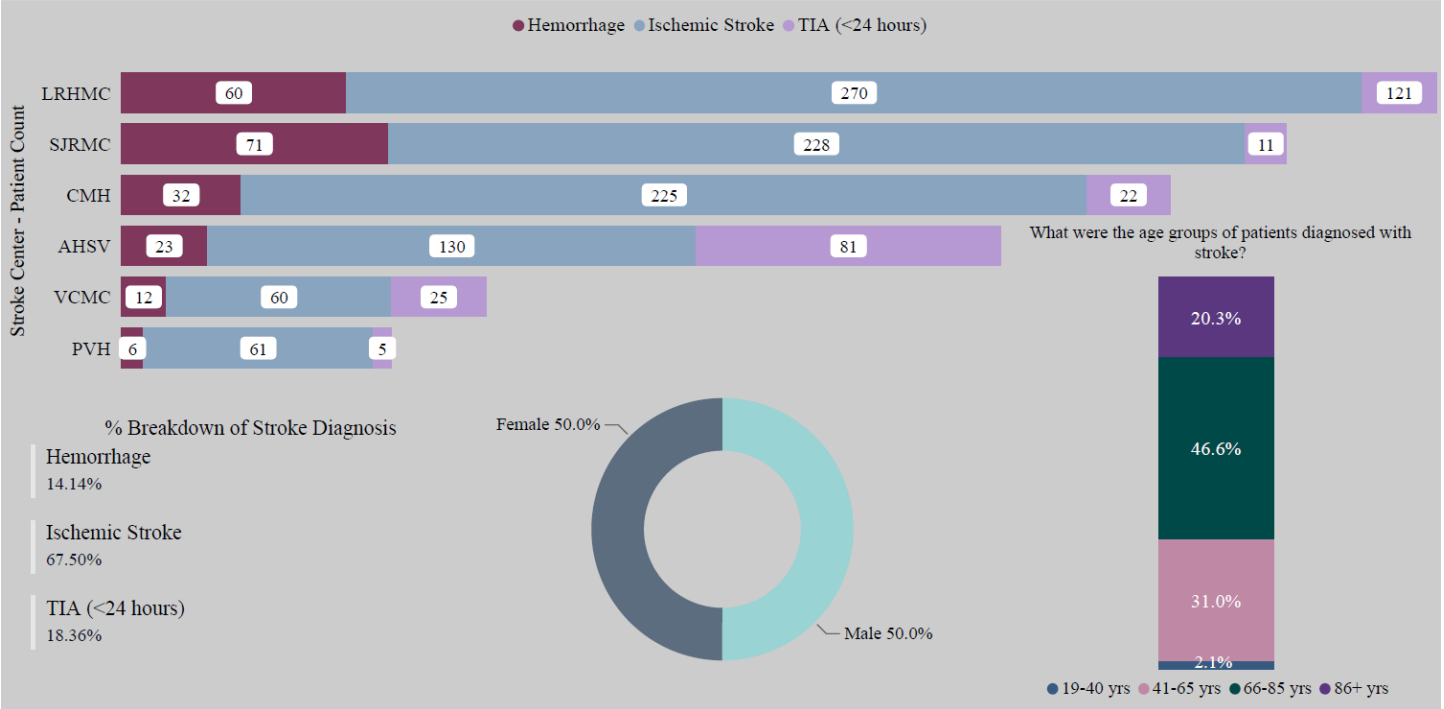


VCEMS STROKE SYSTEM

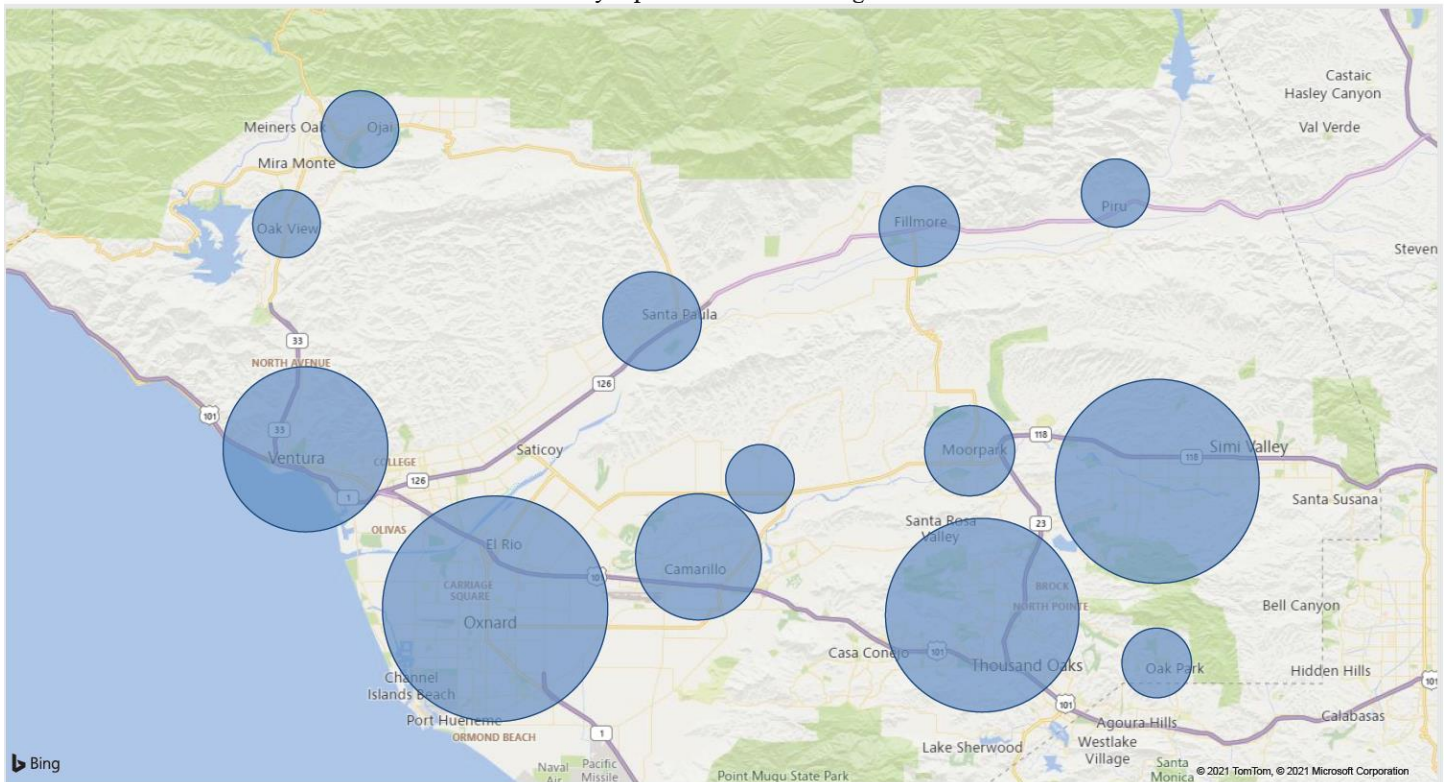


The Ventura County Stroke System is comprised of both pre-hospital providers (Paramedics and EMTs) and hospitals who specialize in the treatment of strokes. Strokes are the leading cause of serious long-term disability and the 5th leading cause of death nationally.

2020 STROKE PATIENT DATA



Patient Residence By Zip Code Who Were Diagnosed With Stroke

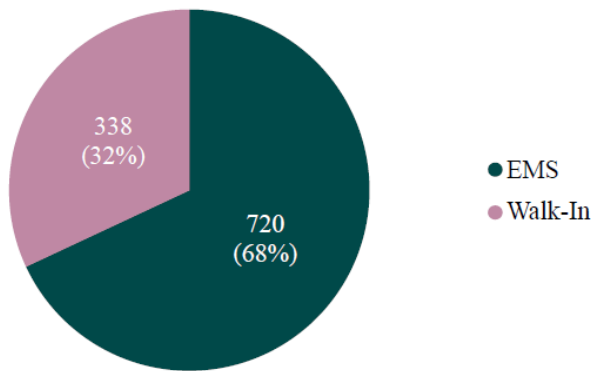




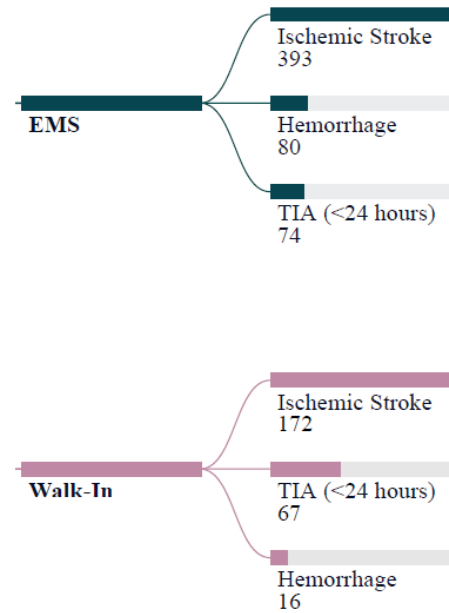
The primary objective of the stroke system is to coordinate timely care of patients who have a stroke. Patients are directed as “Stroke Alerts” to specialized Stroke Centers based on the results from 2 screening scales (Cincinnati Prehospital Stroke Scale and Ventura ELVO Score). The advantage of notifying hospitals of a “Stroke Alert”, is to give them time to mobilize needed resources prior to the patient’s arrival. Patients are often brought directly to the CT Scanner when they arrive. Patient Arrival to CT Initiated (CTI) and Reported (CTR) are key measures in evaluating system performance for quickly identifying candidates for time sensitive treatments/interventions.

EMS & WALK-IN STROKE ALERTS

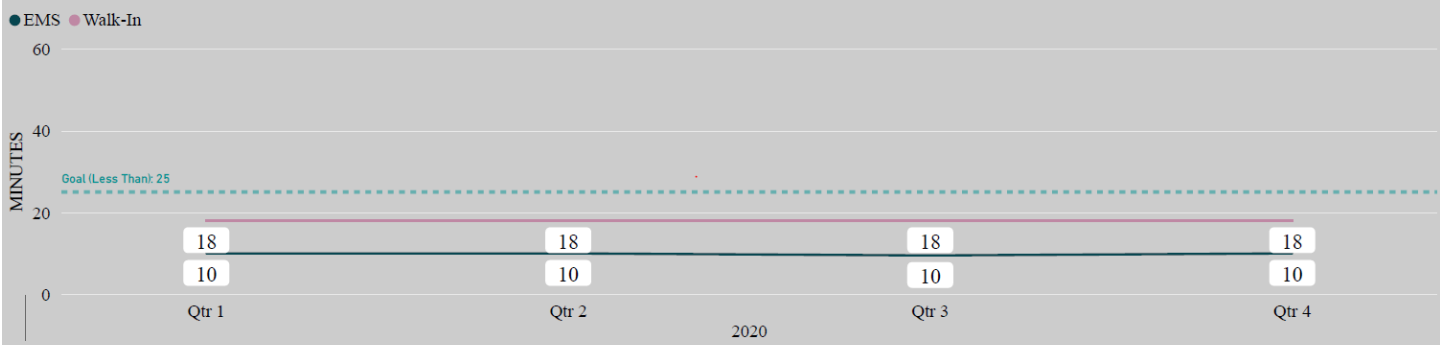
How Stroke Alert Patients Arrived To The Hospital



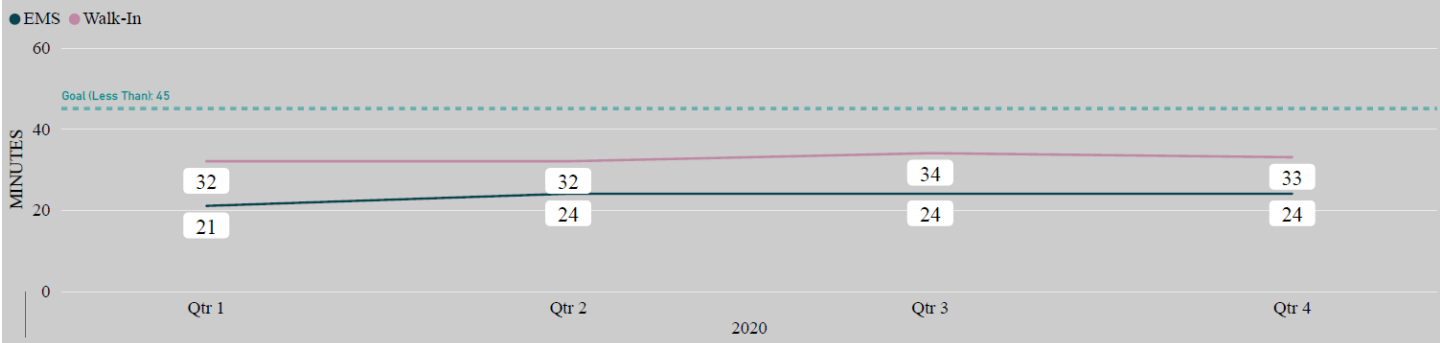
Stroke Alert Patients Diagnosed With Stroke



Stroke Alert: Patient Arrival to CT Initiated (Median)



Stroke Alert: Patient Arrival to CT Reported (Median)

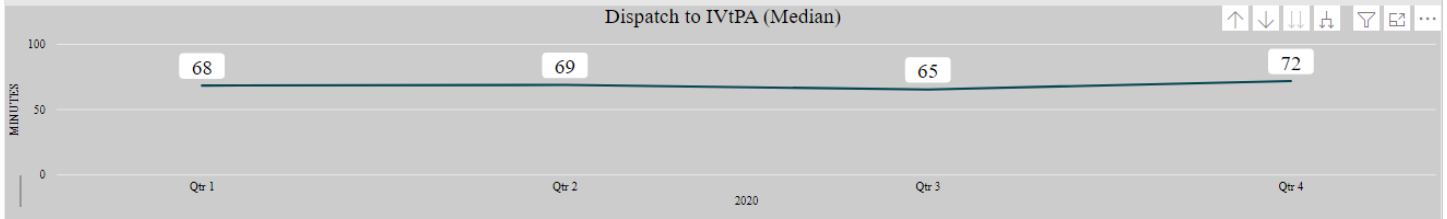


VCEMS STROKE SYSTEM

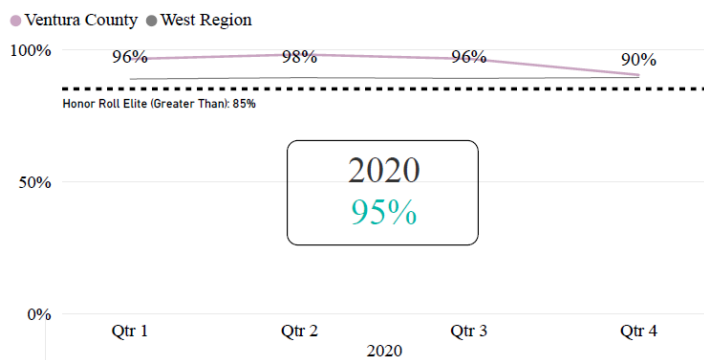


Treatment for strokes is time sensitive. If identified within specific time parameters, there is potential to treat with medication administration (IVtPA) and/or mechanical thrombectomy (clot removal for Large Vessel Occlusions). IVtPA is a medication administered at specialized Acute Stroke Centers. Mechanical thrombectomy for Large Vessel Occlusions is performed at Thrombectomy Capable Acute Stroke Centers (TCASC).

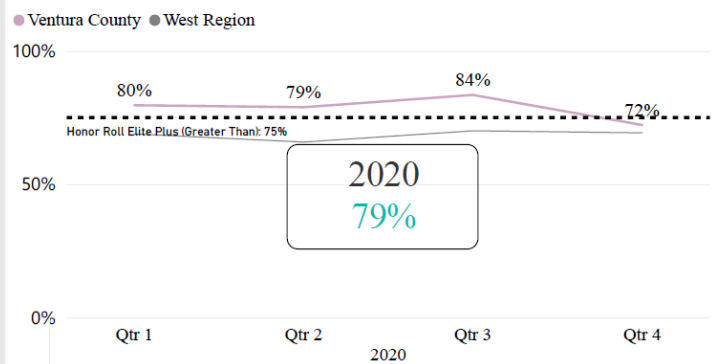
STROKE TREATMENT - IVtPA



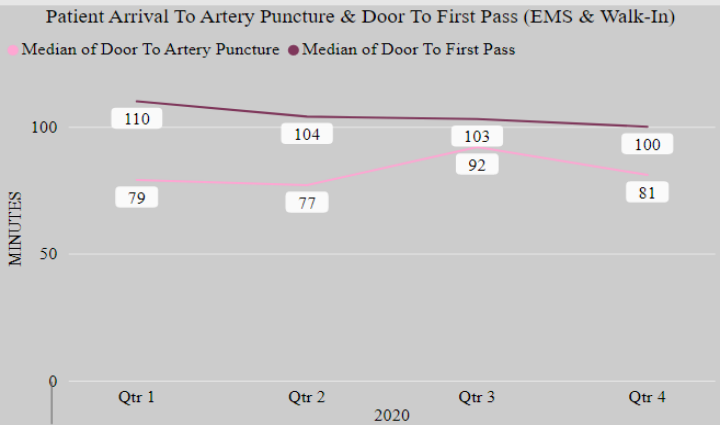
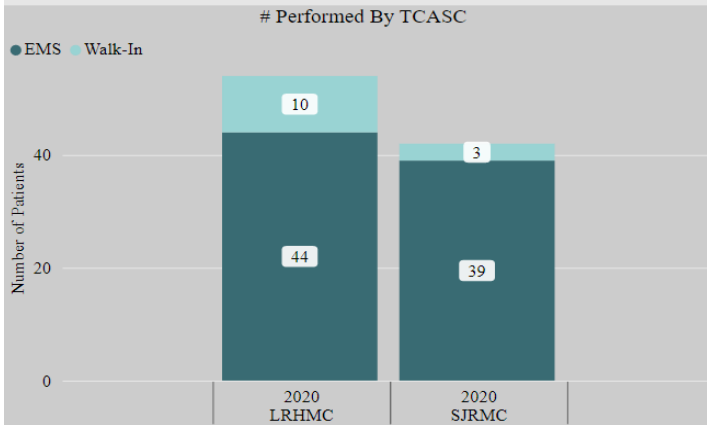
% of Patients With Door To IVtPA Within 60 Minutes



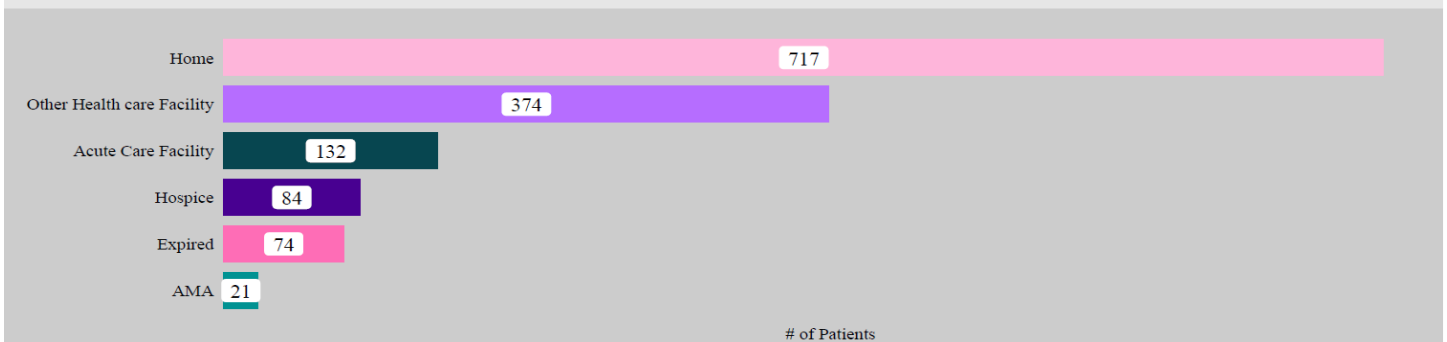
% of Patients With Door To IVtPA Within 45 Minutes



STROKE TREATMENT - MECHANICAL THROMBECTOMY



STROKE PATIENT DISPOSITION





Cardiac Arrest Management (CAM)

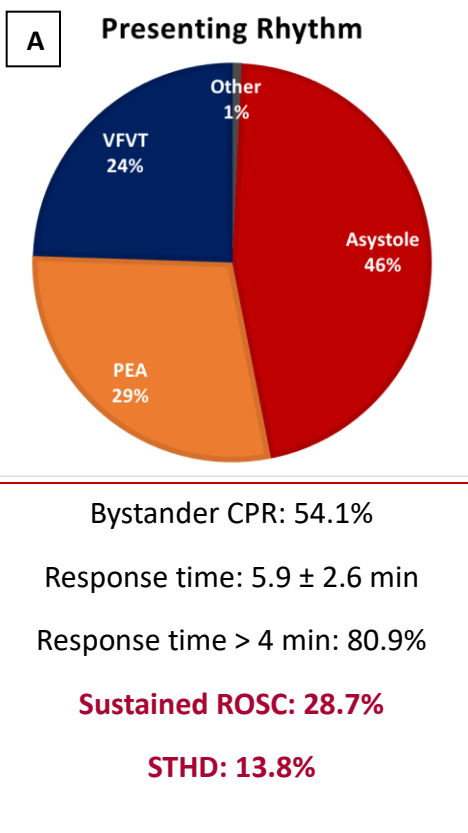
Cardiac Arrest Management (CAM) represents thirteen years of hard work from all our EMS Stakeholders. We have tracked our cardiac arrest statistics since 2007 and joined the national Cardiac Arrest Registry to Enhance Survival (CARES) Program in 2008, making a commitment to improve our survival rates. By using the “pit crew” technique combined with the latest resuscitation science, a prescribed set of actions were developed. Each first responder is trained with a job to do and understands their position’s responsibility when arriving on scene of a patient who is not breathing and does not have a pulse. Because of COVID-19, we have seen a decrease in our bystander CPR rates possible due to the unavailability of our community education “hands only” CPR classes and the fact less people were out and about to witness cardiac arrests. We still utilize “Pulse Point” application for our cardiac arrest response, however due to COVID-19, less people were having cardiac arrests in public. 2020 saw a decrease in survival to hospital discharge for all cardiac arrest patients, including the Utstein subset. We have reviewed our data thoroughly and found that this is likely due to multiple factors. Cardiac arrest patients in 2020 were less likely to have a witnessed arrest, less likely to receive bystander CPR, and were less likely to be in a shockable rhythm. Delayed presentations, deferred primary care, and other sequelae of the COVID 19 pandemic likely contributed to the decreased survival. During the first quarter of 2021, we are seeing an increase in Survival to Hospital Discharge from 22.2% to 34.8%.

Performance Data

ALL CARDIAC	2018	2019	2020
Presumed Cardiac Etiology	362	419	469
Bystander CPR Provided	51.5%	55.1%	53.5%
Survival to Hospital Discharge	15.2%	12.6%	8.5%
<i>CARES National Benchmark for survival to Hospital Discharge</i>	9.5%	9.8%	8.0%
UTSTEIN			
Bystander Witnessed, Shockable Rhythm	66	63	54
Bystander CPR Provided	68.2%	74.6%	64.8%
Survival to Hospital Discharge	50%	49%	22.2%
<i>CARES National Benchmark for survival to Hospital Discharge</i>	32.4%	33.4%	28.8%

P.R.E.S.T.O. Study Update

The **PRE**diction of **S**udden death in **m**u**l**Ti-ethnic **c**o**mm**unities **S**tudy represents six plus years of hard work from all our EMS Stakeholders. We have tracked all Ventura County residents who suffered cardiac arrest and had resuscitation attempted since Feb 1, 2015. For each such case a blood sample is drawn by paramedics as specified in the protocol. This serves as the basis for the research conducted by the PRESTO group to improve the prediction of cardiac arrest by analysis of pre-hospital records, lifetime clinical history, and blood samples.



Performance Data for Feb 1, 2015-Jan 31, 2021

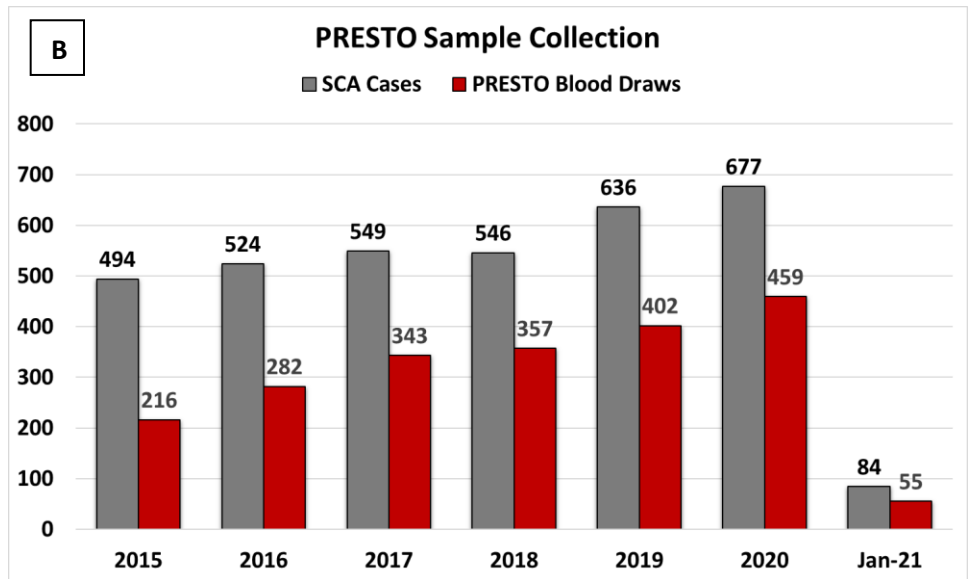


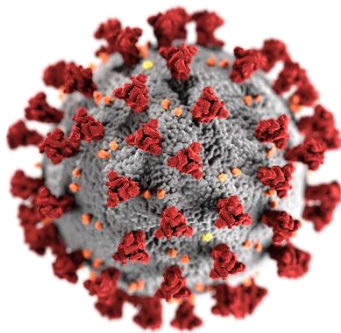
Figure A summarizes main findings of resuscitation outcomes since Feb 2015 among Ventura county residents who suffered a cardiac arrest related to heart disease. Overall, these results are significantly better than the national average. Figure B shows yearly trends in sample collection for the PRESTO study by Ventura EMS among overall cardiac arrest cases. There is a steady annual increase in rates of sample collection since 2015. These positive performance trends from EMS stakeholders continue to facilitate the PRESTO study goals.

New PRESTO research findings have been published: The PRESTO group performed an analysis on the sudden cardiac arrest incidence rates, survival rates, and clinical profiles across racial and ethnic groups. These results were published in an open access scientific journal in July 2021 (*Journal of the American Medical Association Network Open*). In Ventura County, the rates of cardiac arrest were similar between Whites and Hispanics, but lower in Asians. Survival outcomes were similar between racial and ethnic groups, despite higher prevalence of hypertension, diabetes mellitus, and chronic renal insufficiency in Asians and Hispanics compared to Whites. These findings may have important public health implications and may help guide future policy development.

The Ventura County Health Care Coalition (VCHCC) kicked off 2020 thankful that we were able to focus on preparedness activities at the start of the calendar year, as opposed to recent years past that involved disaster recovery efforts or postponed activities due to disasters. We executed corrective actions from our 2019 Full-Scale Exercise, implemented enhancements to preparedness tools, conducted the annual, community-based Hazard Vulnerability Analysis (HVA), and addressed many other preparedness topics. Little did we know that January 8th would be the last time we met in-person throughout the entire year of 2020.



The COVID-19 pandemic response efforts began in February 2020 with our initial alert to the VCHCC partners sent on the third day of the month via a new communication system that went live a mere two days prior. The VCHCC partners were kept apprised of situation updates through this communication modality and reminded of the emerging infectious disease response activities practiced in the 2018/2019 Statewide Medical and Health, community-based exercise – Nonpharmaceutical Interventions, staff succession planning due to illness, access to health alert network notifications, and processes for submitting laboratory specimens and reporting cases to the Ventura County Public Health Department (VCPH). The email communication situation updates increased to a daily cadence in the month of March and remained at that frequency through the end of the year and into 2021.



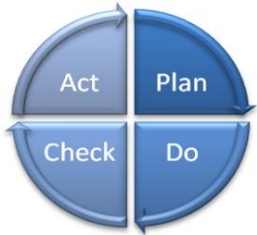
Our Ventura County Public Health Officer, Dr. Robert Levin, declared a health emergency on March 12th followed by a Health Officer Order that supported several subsequent guidance documents and letters issued throughout the year. The VCHCC had a unique role in advising and co-authoring many of these guidance documents and letters; using pre-established working relationships with the VCHCC partners to ensure the guidance was well informed and operational despite the barriers with which the VCHCC partners faced (e.g., testing supply shortages and lengthy testing turnaround times).

Our focus was quickly attuned to populations most vulnerable to this novel virus, serving a role in the County of Ventura's Disabilities Access and Functional Needs (DAFN) Task Force and working closely with the VCPH Communicable Disease Program to form a Long-Term Care Facility (LTCF) dedicated team. Throughout the year, we coordinated to enhance Ventura County's readiness including but not limited to the following activities:

- Conducted Public Health Nurse onsite infection control visits at the onset of the pandemic.
- Provided ongoing technical assistance with implementation of COVID-19 guidance.
- Per Health Officer Order, established a COVID-19 hospital holding unit program as an innovative means to limit transmission in the congregate settings of LTCFs. This program afforded time for VCPH to ready the Skilled Nursing Facilities (SNF); raising their level of preparedness to provide care for COVID-19 positive patients. Just prior to the winter surge, we stood up three (3) SNF COVID-19 holding units.

- Hosted VCPH Health Officer Conference Calls and Virtual Town Halls with SNFs and LTCFs.
- In collaboration with the Hospital to Home Alliance of Ventura County, co-facilitated weekly conference calls with SNFs, home health/hospice agencies, hospital case management personnel, and professional organizations (California Association of Long-Term Care Medicine, Health Services Advisory Group).
- Participated in weekly California Department of Public Health (CDPH) Licensing and Certification (L&C) District Office tri-county conference calls to discuss LTCF outbreaks, local guidance, and other healthcare facility status updates.
- Provided ongoing support of Personal Protective Equipment (PPE) for VCHCC partners: informed of vendors with current inventory during supply chain shortages, provided guidance regarding the most current Cal/OSHA standards and CDC capacity strategies, provision of PPE and fit test kits via MHOAC resource requests.
- Assisted with staffing support during times of crisis through MHOAC resource requests in collaboration with CDPH L&C District Office.
- Provided guidance on healthcare associated infections to facilities who were sending staff to assist other facilities facing staffing crises.
- Explored innovative staffing solutions to assist facilities facing staffing crisis.
- Connected the VCHCC partners with available housing resources for their employees requiring quarantine/isolation from household contacts due to exposure at the facility.
- Assisted SNFs with finding dialysis units equipped to dialyze patients who were currently positive. Coordinated transportation when patients currently under isolation precautions were denied transit by non-emergency medical transportation providers.
- Coordinated collaboration calls with facility, VCPH Communicable Disease, and licensing to support LTCFs during challenging outbreaks.
- Requested CDPH HAI Rapid Response Infection Prevention assessments for LTCFs in need.
- Provided COVID-19 outbreak management in-service to LTCF staff.
- Implemented an infection control education campaign through videos and educational memes in an effort to engage the VCHCC partners' front-line staff.
- Submitted a successful proposal to the County of Ventura testing task force to support testing of SNF staff upon the implementation of required screening testing in the midst of supply chain shortage and high demand for SARS-CoV-2 testing equipment.
- Worked with SNFs to ensure that 100% of those operating in Ventura County were registered for the CDC Pharmacy Partnership Program. When two facilities were wrongfully deemed ineligible by CVS, worked with Vons to provide onsite vaccination.
- Coordinated with licensing to ensure that 100% of the Long-Term Care Facilities received the VCHCC messages regarding access to County of Ventura vaccination sites as soon as limitations with the CDC Pharmacy Partnership Program began to arise.
- Collaborated with SNFs to enhance readiness to administer monoclonal antibody (mAb) therapeutics to qualifying residents in their facility.

We are thankful for the strong working relationships that we have with state and local VCHCC partners and are humbled by their ongoing commitment to those whom they serve as we all continue to respond to the COVID-19 pandemic despite an exhaustion felt like never before.



Quality Improvement Program

The Ventura County EMS Quality Improvement Program uses patient care data from our stakeholders to evaluate system performance. Hospitals submit data through IQVIA Get With The Guidelines Registry (GWTG) for our Stroke Program, Cardiac Arrest Registry to Enhance Survival (CARES) for our Sudden Cardiac Arrest Program, Trauma Registry for our Trauma System, and Get With The Guidelines-Coronary Artery Disease (GWTG-CAD) for our STEMI data. Countywide EMS providers use the Image Trend electronic patient care record system (e-PCR), and dispatch data is collected through the County Fire Department TriTech Computer Aided Dispatch system and Medical Priority Dispatch System (MPDS). Data is collected from our pre-hospital agencies and hospitals in order to follow a patient from a 911 call to activities done in the hospital.

We developed and distributed to our stakeholders a complete annual EMS Systems Performance Report along with posting it on our EMS website for the public to review.

The American Heart Association awarded our EMS Agency, along with 10 other first responder agencies, the 2020 Mission Lifeline Gold Plus Level Award for outstanding performance in STEMI data measures. In reviewing our Sudden Cardiac Arrest data, we saw a decrease in our survival rate percentages from 49% to 22%, along with a decrease in our bystander CPR from 75% to 65%. This decline was seen across the nation due to COVID-19 impacts of preventing in-person “hands only” CPR classes, and more people having cardiac arrests at home versus the public where they could receive quicker attention. During the first quarter of 2021, we are seeing an increase in Survival to Hospital Discharge from 22.2% to 34.8%, and we hope this trend will continue.

We follow the American Heart Association (AHA) recommendations for the care of our Stroke patients. We exceed the benchmarks for many of the measures put forth by the AHA.

We participate in Ventura County’s Fall Prevention program by gathering data on patients that have fallen or have a potential to fall and are *not* transported by EMS to the hospital. We answer a set of questions that are sent to the fall prevention coordinator along with leaving educational material about fall prevention at the home. We meet quarterly to discuss the data and areas of improvement. The Fall Prevention Committee had two community outreach symposiums in 2020, including one presented in Spanish. Due to COVID-19, we had to switch the in-person symposium to a virtual symposium. This included videotaped presenters and a live panel discussion. We were able to reach many more residents this way and will most likely continue this forum.

Due to COVID-19, Ventura County EMS moved from in-person paramedic skills lab training to an on-line educational platform. In addition, various critical procedures, such as advanced airway, transcutaneous pacing, and intraosseous infusion are monitored regularly through the First-Watch data surveillance software. Ventura County’s two Trauma Centers also actively participate in data collection, which helps to identify severity index scores on EMS patients. We can analyze this data and use it for injury prevention education in the community. Data measures are patient focused and implementation for improvement is timely and sustainable through the collaboration of our key stakeholders.

Ventura County Emergency Medical Services Agency

Prehospital Services Committee

The purpose of this committee shall be to provide input to the VC Emergency Medical Services (EMS) Medical Director and VC EMS administration on matters pertaining to emergency medical services, including, but not limited to, dispatch, first responders, ambulance services, communications, medical equipment, training, personnel, facilities, and disaster medical response. Membership is composed of two representatives, as appointed by the organization administrator from each of the following organizations:

Type of Organization	Member	Member
Base Hospitals	PCC	PLP
Receiving Hospitals	ED Manager	ED Physician
First Responders	Administrative	Field (provider of "hands-on" care)
Ambulance Companies	Administrative	Field (provider of "hands-on" care)
Emergency Medical Dispatch Agency	Emergency Medical Dispatch Coordinator (1 representative selected by EMD Agency coordinators)	
Air Units	Administrative	Field (provider of "hands-on" care)
Paramedic Training Programs	Director (1 representative from each program.)	

EMS Advisory Committee

The EMS Advisory Committee is a panel comprised of five members designated by the Board of Supervisors and two members designated by VCEMS. The EMS Advisory Committee reviews the ambulance contractor performance at least every two years and provides other EMS system evaluation and oversight as needed.

William Gallaher	–	Representing District 1 Supervisor Matt LaVere
Diane Starzak	–	Representing District 2 Supervisor Linda Parks
Craig Stevens	–	Representing District 3 Supervisor Kelly Long
Bob Brooks	–	Representing District 4 Supervisor Bob Huber
Michael O'Malia	–	Representing District 5 Supervisor Carmen Ramirez
Audra Strickland	–	EMS Agency Appointed Representative
Daniel Shepherd, MD	–	EMS Agency Appointed Representative



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VENTURA COUNTY
PUBLIC HEALTH



VENTURA COUNTY
HEALTH CARE AGENCY

VENTURA COUNTY EMERGENCY MEDICAL SERVICES AGENCY

A Division of Ventura County Public Health Department

A Department of Ventura County Health Care Agency