



Ventura County Public Health  
Emergency Medical Services Agency



# 2023 ANNUAL REPORT





# Ventura County Emergency Medical Services Agency

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# Table of Contents

Administration Message.....	1
Executive Summary.....	2
EMS Agency Organizational Chart .....	3
EMS Agency Staff Responsibilities.....	4
EMS Certification/Accreditation/Authorization.....	5-6
Logistics Support and Training Summary.....	7
Stop the Bleed and Public Health Training.....	8
Medical Reserve Corps.....	9
EMS System Volume and Demographics.....	10
Emergency Medical Dispatch .....	11-12
EMS Providers.....	13-14
Ambulance Response Time Compliance.....	15-16
Ambulance Service Area Map.....	17
Base and Receiving Hospitals.....	18
Trauma System.....	19-22
STEMI Program.....	23-25
Stroke System.....	26-28
Cardiac Arrest Management.....	29
PRESTO Update.....	30
Health Care Coalition.....	31-32
Quality Improvement.....	33
Prehospital Services Committee and EMS Advisory Committee.....	34

## Administration Message

Ventura County EMS Agency (VCEMS) is pleased to provide our 2023 Annual System Report, reviewing the operations and performance of VCEMS and the Ventura County EMS System. We hope you find the information in this year's report informative and inspirational.

Through a highly coordinated system of public-private partnerships, our Ventura County EMS system providers responded to over 80,000 emergency medical responses in 2023, resulting in over 52,000 ambulance transports.

Coming out of the COVID pandemic, in 2023 our EMS system continued to respond to the everyday emergency medical needs of our communities and the EMS Agency maintained our normal EMS system operations, including provider and personnel oversight, quality assurance, and contract compliance. In 2023, EMS Agency personnel participated in COVID-19 After Action Reviews, collaborated with an industry consultant to develop a Request for Proposal process for ambulance services, implemented a new learning management system for EMS provider education through Prodigy, and implemented Pulsara, an electronic program to link hospitals with field providers at the scene of cardiac emergencies. We also reinstated in-person Stop-the-Bleed and Naloxone training programs and we were the only California recipient of a national grant to support and expand our Medical Reserve Corps (MRC).


National Emergency Medical Services Week 2023 was recognized on May 21 – 27, 2023, under the theme, "Where Emergency Care Begins". Ventura County EMS professionals continued to rise to the challenge by providing important out of hospital care, preventative medical education and activities, lifesaving and time critical interventions and acute and non-acute medical services.

In March of 2023, EMS Agency personnel, MRC and many of our local EMS providers teamed up to provide medical support for the Point Mugu Air Show. This event attracts tens of thousands of participants and spectators daily over a long weekend. In August, we participated with the Human Services Agency in their Operation Trident mass sheltering exercise. In October, we collaborated with the California EMS Authority and various Southern California partners to participate in CalMAT's Southern Region Field Exercise.


In mid-December, we said goodbye to our long-term and valued colleague Diane Gilman. Diane retired after working for the County of Ventura for nearly 21 years, initially in the CEO's office and then with Public Health for the last 15 years, where she worked in the EMS and Emergency Preparedness offices. Through the years, she worked with many of our EMS and Health system stakeholders, on a variety of projects, training programs, and emergency events. Tragically, she passed away just a few weeks later after a sudden unexpected illness. Diane is greatly missed and will always be remembered for her great sense of humor and her wonderful smile.



Despite the ongoing challenges, our EMS system perseveres and evolves. We continue to appreciate the dedication, compassion and professionalism of our EMS Agency staff and our EMS system providers. Thank you.

  
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.

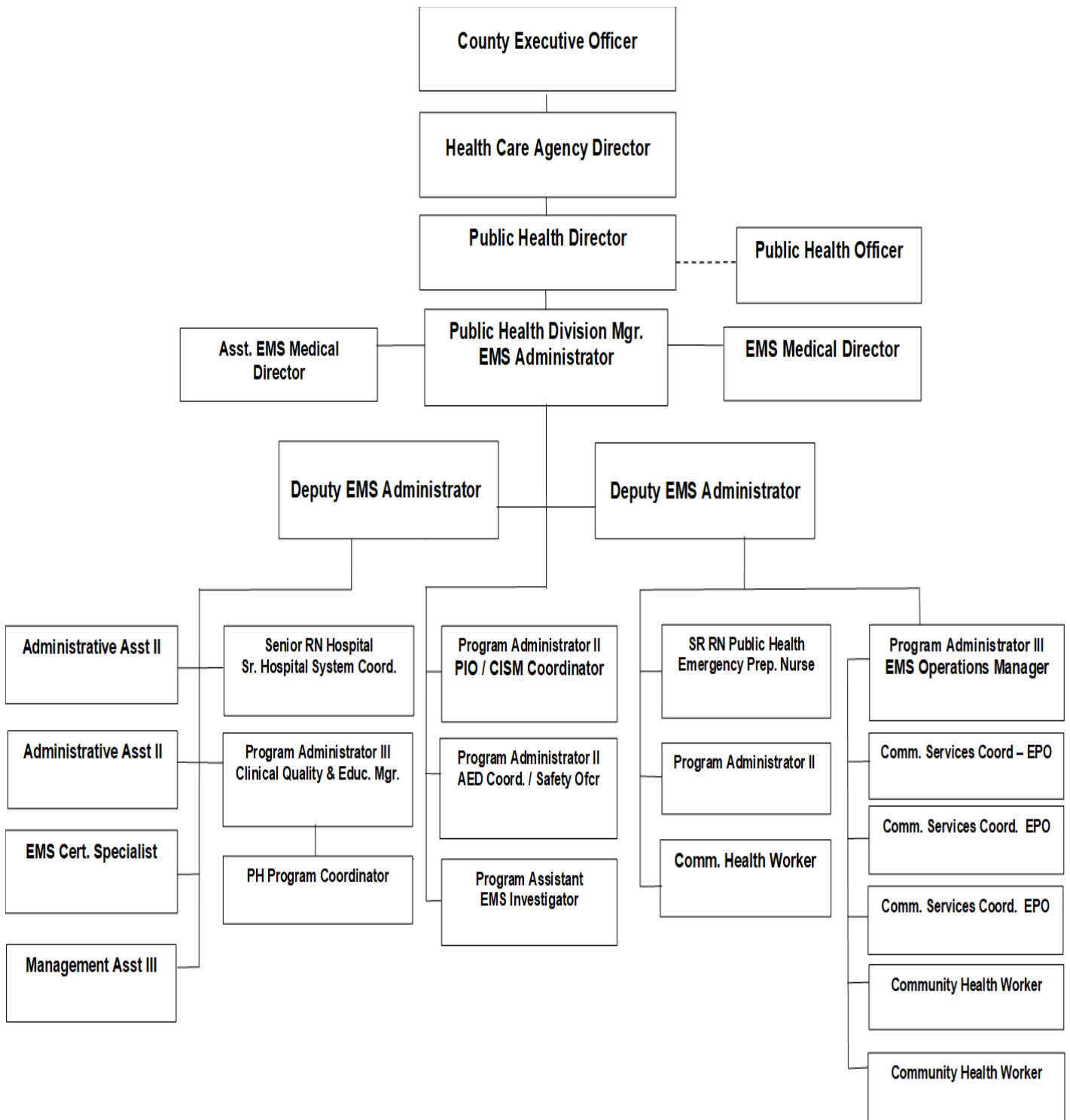
In FY 23-24, Ventura County EMS Agency had a budget of \$6,888,091, which includes a mix of service fees, provider charges and penalties, traffic fine collections, grant funding and county general funds. The EMS Agency also provides administration of the Maddy Fund, which reimburses physicians and emergency rooms for a portion of uncompensated care with traffic fine funding. \$1,723,505 was dispersed from the Maddy Fund in 2023 to settle the hospital and physician claims and for pediatric trauma funding.

The EMS Agency is staffed with 19 full-time personnel, a medical director and an assistant medical director. Positions include EMS Administrator, two Deputy Administrators, Senior Hospital Systems Coordinator, Clinical Quality Manager, four Program Administrators, Program Assistant, three Community Services Coordinators, EMS Logistics Specialist, two Administrative Assistants, Management Assistant III, EMS Certification Specialist and one Community Health Worker. In addition, the EMS Agency has employed several additional Community Health Workers to assist with logistics and warehouse support.

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 2023 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 2023



# EMS Agency Staff Responsibilities

Name	Title	Contact Info	Primary Responsibilities
Steve Carroll, Paramedic	EMS Administrator	<a href="mailto:steve.carroll@ventura.org">steve.carroll@ventura.org</a> 805-981-5305	<ul style="list-style-type: none"> <li>EMS System Delivery and Emergency Preparedness oversight</li> <li>Ambulance contract administration and compliance monitoring</li> <li>Agency operations oversight, fiscal management and MHOAC</li> </ul>
Daniel Shepherd, MD	EMS Medical Director	<a href="mailto:daniel.shepherd@ventura.org">daniel.shepherd@ventura.org</a> 805-981-5304	<ul style="list-style-type: none"> <li>Medical direction and oversight of EMS and specialty care systems, QI program, system wide committees and various EMS projects</li> <li>Local policy, procedure and protocol development and maintenance</li> </ul>
Angelo Salvucci, MD,	Assistant EMS Medical Director	<a href="mailto:angelo.salvucci@ventura.org">angelo.salvucci@ventura.org</a> 805-981-5301	<ul style="list-style-type: none"> <li>Medical direction and oversight, including development and maintenance of local policies, procedures and protocols</li> </ul>
Chris Rosa, Paramedic	Deputy EMS Administrator	<a href="mailto:chris.rosa@ventura.org">chris.rosa@ventura.org</a> 805-981-5308	<ul style="list-style-type: none"> <li>Assist with oversight of day-to-day EMS System operations</li> <li>Oversight of Emergency Preparedness and MHOAC designee</li> <li>Oversight of prehospital education providers and data systems</li> </ul>
Adriane Gil-Stefansen, Paramedic	Deputy EMS Administrator	<a href="mailto:adriane.stefansen@ventura.org">adriane.stefansen@ventura.org</a> 805-981-5307	<ul style="list-style-type: none"> <li>Assist with oversight of day-to-day EMS System operations</li> <li>Oversight of Specialty Care Systems and QI programs</li> <li>Maintenance of policies for the QI, Stroke and STEMI systems</li> </ul>
Karen Beatty, RN, EMT	Senior Hospital Systems Coordinator	<a href="mailto:karen.beatty@ventura.org">karen.beatty@ventura.org</a> 805-981-5309	<ul style="list-style-type: none"> <li>Trauma and hospital systems preparedness oversight</li> <li>Facilitates medical/health disaster preparedness and training efforts</li> <li>Coordinates community preparedness initiatives</li> </ul>
Kyle Culkin, MSN, RN, PHN	Emergency Preparedness Nurse	<a href="mailto:kyle.Culkin@Ventura.org">kyle.Culkin@Ventura.org</a> (805) 981-5279	<ul style="list-style-type: none"> <li>Provide CPR and skills training to all VCPH nursing staff</li> <li>Develop/update emergency preparedness plans and exercises</li> <li>Audit VCPH vaccine storage locations to maintain compliance</li> </ul>
Andrew Casey, Paramedic	Clinical Quality Manager	<a href="mailto:andrew.casey@ventura.org">andrew.casey@ventura.org</a> 805-981-5311	<ul style="list-style-type: none"> <li>Collection and monitoring of EMS Program data</li> <li>Oversight of the Quality Improvement Program</li> <li>Education and Training Oversight and Policy Development</li> </ul>
Julie Frey	EMS Program Administrator/ CISM Coord.	<a href="mailto:julie.frey@ventura.org">julie.frey@ventura.org</a> 805-981-5306	<ul style="list-style-type: none"> <li>EMD and CISM Program Coordinator</li> <li>Community Paramedic Program Liaison</li> <li>Prehospital Services Committee Coordinator</li> </ul>
Randy Perez, Paramedic	AED Program Administrator/ PH Safety Officer	<a href="mailto:randy.perez@ventura.org">randy.perez@ventura.org</a> 805-981-5310	<ul style="list-style-type: none"> <li>Countywide AED Program Administrator</li> <li>Ventura County Public Health Department Safety Officer</li> <li>PSFA Naloxone, CPR and Stop the Bleed Program coordination</li> </ul>
Traci Holt, EMT	MRC Program Administrator	<a href="mailto:traci.holt@ventura.org">traci.holt@ventura.org</a> 805-981-5294	<ul style="list-style-type: none"> <li>Medical/health disaster preparedness coordination</li> <li>Medical Reserve Corps Coordination</li> </ul>
Peter Grimm	EMS Investigator	<a href="mailto:peter.grimm@ventura.org">peter.grimm@ventura.org</a> 805-204-9580	<ul style="list-style-type: none"> <li>Investigates certification eligibility and coordinates discipline</li> <li>Monitors probation compliance and conducts program audits</li> </ul>
Haley Ebert	Data Coordinator	<a href="mailto:haley.ebert@ventura.org">haley.ebert@ventura.org</a> 805-981-5375	<ul style="list-style-type: none"> <li>Assist EMS, CD and Epidemiology with data analysis</li> <li>Monitors and evaluates program activities and statistical data</li> </ul>
Erik Hansen, EMT	EMS Operations Manager	<a href="mailto:erik.hansen@ventura.org">erik.hansen@ventura.org</a> 805-981-5322	<ul style="list-style-type: none"> <li>Emergency preparedness and Logistics management</li> <li>Medical volunteer, communications and CAHAN Administration</li> </ul>
Jeff Vahl, EMT	Community Services Coord.	<a href="mailto:jeffrey.vahl@ventura.org">jeffrey.vahl@ventura.org</a> 805-981-5261	<ul style="list-style-type: none"> <li>Medical/health logistics and disaster preparedness coordination</li> <li>HCA Department Operations Center coordination</li> </ul>
Alphonso Rivera, EMT	Community Services Coord.	<a href="mailto:alphonso.rivera@ventura.org">alphonso.rivera@ventura.org</a> 805-981-5267	<ul style="list-style-type: none"> <li>Medical/health logistics and disaster preparedness coordination</li> <li>HCA Department Operations Center coordination</li> </ul>
Martha Garcia	EMS Admin. Assistant II	<a href="mailto:marthaL.garcia@ventura.org">marthaL.garcia@ventura.org</a> 805-981-5303	<ul style="list-style-type: none"> <li>Certification, accreditation and authorizations of personnel</li> <li>Monitor and audit personnel training requirements</li> </ul>
Sherylyn Andaya	EMS Admin. Assistant II	<a href="mailto:sherylyn.andaya@ventura.org">sherylyn.andaya@ventura.org</a> 805-981-5301	<ul style="list-style-type: none"> <li>Certification, accreditation and authorization of personnel</li> <li>Provide administrative support</li> </ul>
Veronica Ayala	Management Assistant III	<a href="mailto:veronicaM.Ayala@ventura.org">veronicaM.Ayala@ventura.org</a> 805-981-5301	<ul style="list-style-type: none"> <li>Certification, accreditation and authorization of personnel</li> <li>Provide administrative support</li> </ul>
Delfina Zermeno	EMS Certification Specialist	<a href="mailto:delfina.Zermeno@ventura.org">delfina.Zermeno@ventura.org</a> 805-981-5301	<ul style="list-style-type: none"> <li>Certification, accreditation and authorization of personnel</li> <li>Provide administrative support</li> </ul>
Kristinna Swilling	Comm. Health Worker	<a href="mailto:kristinna.swilling@ventura.org">kristinna.swilling@ventura.org</a> 805-981-5376	<ul style="list-style-type: none"> <li>VCHCC and disaster preparedness coordination</li> </ul>
Eduardo Herrera	Comm. Services. Coordinator	<a href="mailto:eduardo.herrera@ventura.org">eduardo.herrera@ventura.org</a>	<ul style="list-style-type: none"> <li>Medical/health logistics and disaster preparedness coordination</li> </ul>
Logan Sylvester	Comm. Health Worker	<a href="mailto:logan.sylvester@ventura.org">logan.sylvester@ventura.org</a>	<ul style="list-style-type: none"> <li>Medical/health logistics and disaster preparedness coordination</li> </ul>
Gregory Teran	Comm. Health Worker	<a href="mailto:gregory.teran@ventura.org">gregory.teran@ventura.org</a>	<ul style="list-style-type: none"> <li>Medical/health logistics and disaster preparedness coordination</li> </ul>

## Certification / Accreditation / Authorization

### 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.

<b>VCEMS MICN Authorizations - 2023</b>	
MICN Authorization	27
MICN Re-Authorization	71
Number of Active MICNs in VCEMS System	147

### 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.

<b>VCEMS EMT Certifications - 2023</b>	
EMT Certifications	462
EMT Re-Certifications	974
Number of Certified EMT's in VCEMS System	2343



## Certification / Accreditation / Authorization

### Paramedic Accreditation

**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.

<b>VCEMS Paramedic Accreditations - 2023</b>	
Number of Accredited Paramedics in VCEMS System	298



### EMS Education Programs

<b>VCEMS Authorized Prehospital Training Programs - 2023</b>	
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:

[Training Programs \(ca.gov\)](https://www.cems.ca.gov/training-programs)

## Logistics Support / Warehouse Operations

In 2023, the EMS Logistics team continued to support the Medical and Health Operational Coordination (MHOAC) program. The EMS Warehouse is the primary receiving location for federal resources including Medical Countermeasures and disaster medical resources from CDPH (California Department of Public Health).

### EMS Logistics

- Medical Countermeasures Receipt, Staging and Storage
- County-wide medical/health incident support
- Immunization program support / distribution of Influenza and T-Dap vaccinations
- Ventura County Laboratory renovation support
- Public Health community outreach support
- Public Health Emergency Preparedness disaster supply maintenance.
- Hospital Preparedness Program inventory control
- Distribution of COVID testing kits to hospitals and healthcare entities
- Personal Protective Equipment (PPE) distribution – hospitals, first responders, and other medical entities/providers



## Coordination & Training

The VCEMS Training Cadre worked closely with leaders from various organizations to conduct training exercises and increase emergency preparedness capabilities. The Training Cadre focused on Health Department mission areas and Countywide workforce development initiatives including:

- Emergency Service Unit deployment exercise
- Wings Over Camarillo and NBVC Naval Airshows
- Oxnard Airport Operations Table-Top Exercise
- Stop the Bleed Training
- Public Health Emergency Preparedness Training (PHEP-T)





## Public Health Emergency Preparedness & Nurse Skills Training



Utilizing lessons learned from incidents such as the COVID-19 pandemic, emergency preparedness planning and ongoing annual training has been implemented for all Ventura County Public Health (VCPH) nursing staff. The exercises and training efforts enable VCPH to be better prepared for a multifaceted response to a variety of large-scale incidents. Training focuses on improving and maintaining critical skills while including special considerations for at-risk populations such as the elderly, children, and those with disabilities, access, and functional needs.

In addition, using the COVID-19 Improvement Plan, all Public Health Staff must complete the Public Health Emergency Preparedness Training (PHEP-T). Employees will gain essential skills for effective response during emergencies, familiarize themselves with the Roles and Responsibilities of Public Health during disasters, and learn the fundamentals of working within the Department Operations Center (DOC).



## Stop the Bleed Training

Stop the Bleed is a national awareness campaign and call-to-action. Stop the Bleed is intended to cultivate grassroots efforts that encourage bystanders to become trained, equipped, and empowered to help in a bleeding emergency before professional help arrives. Uncontrolled bleeding is a major cause of preventable deaths. Approximately 40% of trauma related deaths worldwide are due to bleeding, establishing hemorrhage as the most common cause of preventable death in trauma. A person who is bleeding can die from blood loss within five minutes, so quickly stopping the bleeding is critical. The ability to recognize life-threatening bleeding and the ability to intervene effectively can save a person's life. Whether a bleeding injury is the result of a shooting or a home accident, one person who is on the scene, at the right time, and who has the right skills can make a life-or-death difference.



The program consists of educating the public in lifesaving skills required within the first few minutes of major trauma and strategically installing "Bleeding Control Kits" in government buildings throughout Ventura County. In 2023, VCEMS, in collaboration with local hospitals and fire department personnel, taught multiple Stop the Bleed classes focusing on these lifesaving skills. Additionally, bleeding control training was provided to law enforcement officers and members of the department's specialty teams.







## Ventura County Medical Reserve Corps



The Ventura County Medical Reserve Corps (MRC) Unit 0959 included 67 unpaid volunteers composed of physicians, physician assistants, nurse practitioners, registered nurses, paramedics, emergency medical technicians, and non-medical professionals in 2023. This was a special year to celebrate many of our volunteers reaching their 5-, 10- and 15-year service awards.

MRC started the year supporting emergency deployments by staffing local area hospitals' emergency departments throughout the COVID-19/RSV/Influenza surge and shelter operation support during the series of atmospheric river events.

Special programs included the Ventura County Medical Center's HOPE Summer Explorer Program as hospital docents and mentors for the many students who aspire to have medical careers, Ventura County Homeless Count, vaccinating at various TDaP / Influenza PODs, Backpack Medicine Healthcare for the Homeless Program, Pleasant Valley Parks Public Access Defibrillator AED Unveiling, Sleep Matter Initiative Mental Health Train the Trainer, and the County's 150th Anniversary performing Health Screenings with Public Health.

Our volunteers participated in several community outreach events demonstrating STOP THE BLEED, Sidewalk CPR, emergency preparedness, COVID-19 test kit distribution, and careers in EMS at various events throughout the county that included the NAS Point Mugu Air Show Medical Shelter, All for One Downtown Oxnard Car Show, MS Bike Ride supporting 7 first aid stations, Oxnard PALs Kids Fest, Food Share Pop-up Food Distribution events, Ventura County Fair CPR demonstrations with VCFD, Public Safety Community Block Party with Ventura Fire/Police, 13 Souls Memorial Run First Aid Station, National Night Out (Simi Valley / Ojai / Oxnard / Moorpark), Wings Over Camarillo Air Show, Ventura PRIDE Festival, Underwood Farm's Public Safety Weekend, and ABC7 Spark of Love Toy Drive!



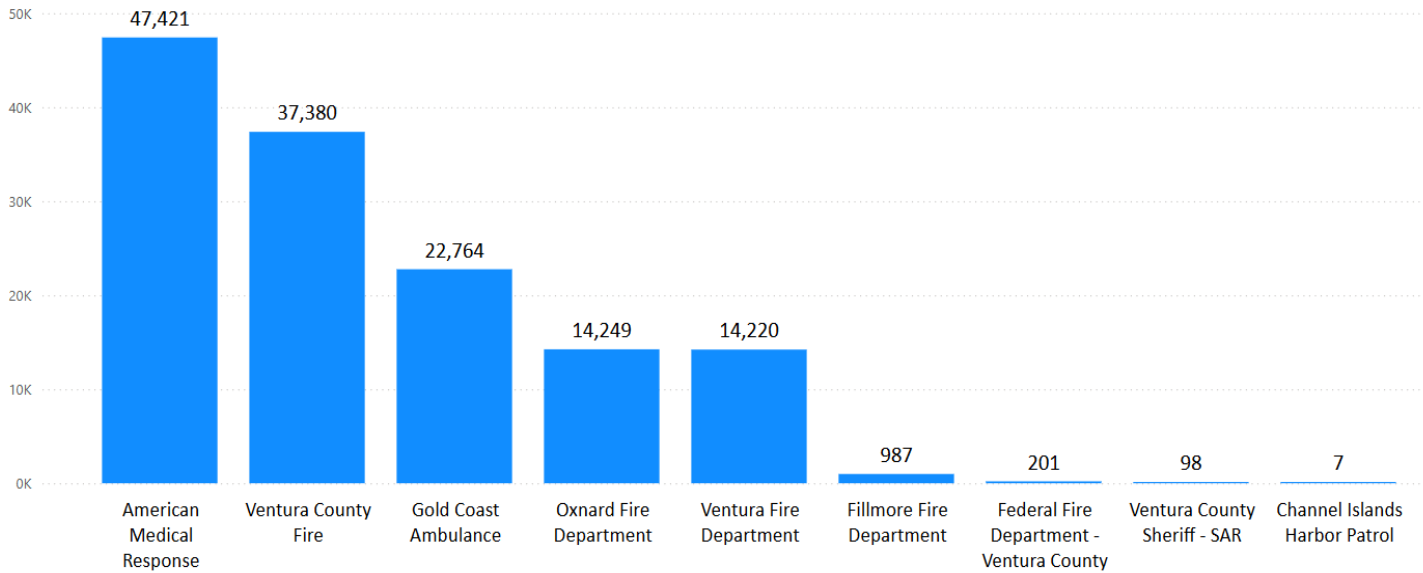
Year-long our volunteers keep up skills training and are included in county-wide exercises. In 2023, MRC participated in Public Health's Annual Nursing Skills Days, the Operation Trident Tsunami Drill/Exercise, the Mass Surge Response Pediatric Exercise, the CalMAT FTX Southern Region Field Exercise, and the VCISO EOC Exercise. Special lecture attendance included Ventura County Behavioral Health's 8th Annual Suicide Prevention Forum, and TSUNAMIS: The Risks to Our Coast, and Communities.

In 2023, new MRC funding included the ASPR MRC-STTRONG - State, Territory and Tribal Nations, Representative Organizations for Next Generation Award, and NACCHO ORA - Operational Readiness Awards. This was tremendous for the team and allowed them to expand community outreach, and provide valuable training, training supplies, literature, new uniforms, medical carts, CPR certifications, a/v equipment, and a new response trailer.



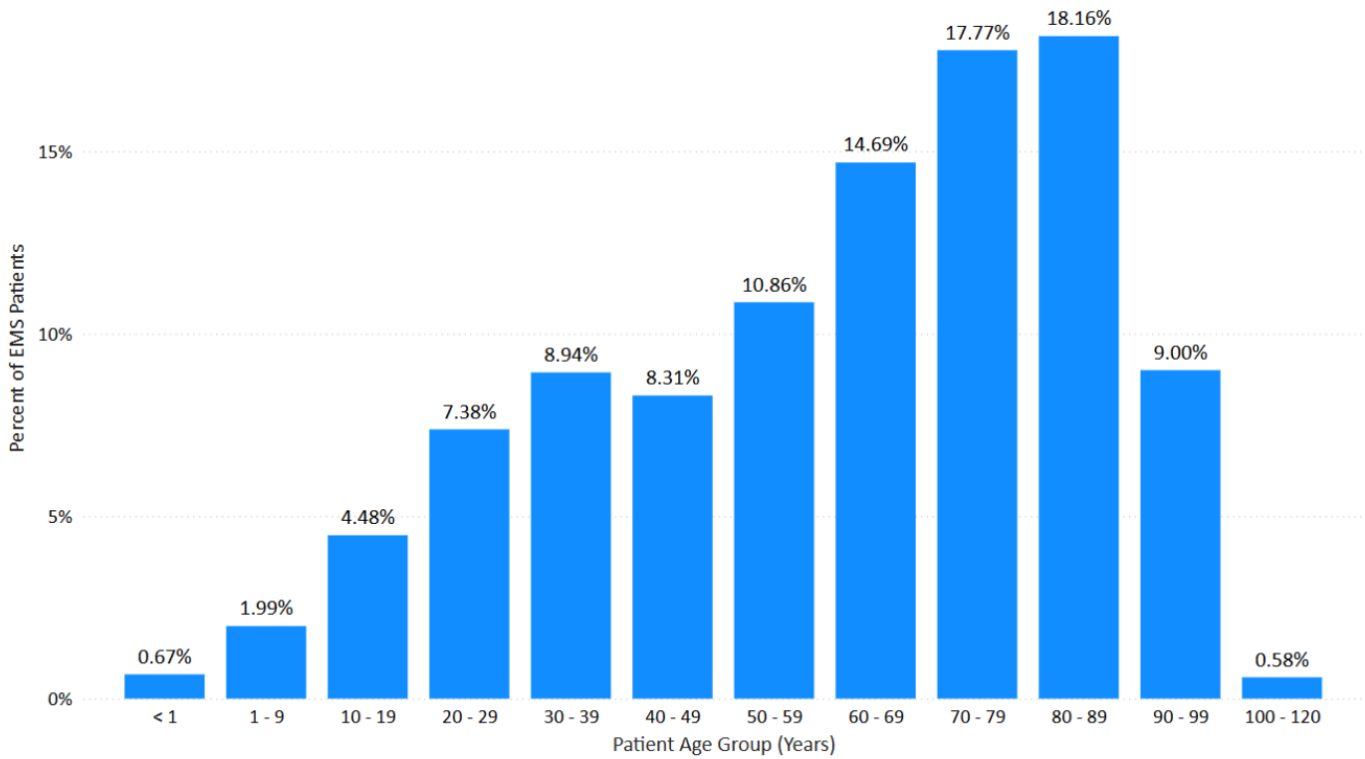
## Ventura County 911 System Call Volume

Distinct number of 911 EMS incidents in calendar year 2023 shown by the agencies that responded to each incident.



## Ventura County 911 System Patients

Patient age in years shown in 10-year groups as the percent of all EMS incidents in calendar year 2023.



## 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. Ventura County Fire Department has contracted with Priority Dispatch to review high risk calls and random sample calls from each dispatcher for quality assurance.

**Ventura County Fire  
Communications Center**





# Emergency Medical Dispatch

## Countywide Emergency Medical Dispatch Activity by Call Type

PROBLEM TYPE	2023 TOTAL INCIDENTS	PROBLEM TYPE	2023 TOTAL INCIDENTS
ABDOMINAL PAIN	1,998	INHALATION EXPOSURE / HAZMAT	134
AIRCRAFT EMERGENCY	9	LIFT ASSIST	836
ALLERGIES / ENVENOMATION	559	MASS CASUALTY INCIDENT	2
ANIMAL BITES / ATTACKS	148	MEDICAL ALARM	1,419
ASSAULT	1,985	MOTORCYCLE COLLISION	119
BACK PAIN	824	OBVIOUS OR EXPECTED DEATH	199
BEHAVIORAL EMERGENCY	1,831	OVERDOSE / POISONING	2,196
BREATHING PROBLEMS	6,807	PENETRATING WOUNDS	10
BURNS / EXPLOSIONS	50	PREGNANCY RELATED EMERGENCY	160
CARDIAC / RESP ARREST	1,166	RESCUE RELATED	146
CHEST PAIN	4,445	SICK PERSON	11,695
CHOKING	409	STABBING	127
CONVULSIONS / SEIZURES	2,905	STEMI TRANSFER	88
DIABETIC PROBLEMS	1,158	STROKE (CVA)	2,142
DROWNING	16	STROKE TRANSFER	53
ELECTROCUTION / LIGHTNING	12	TRAFFIC COLLISION	5,634
EYE PROBLEMS / INJURIES	87	TRAIN RELATED INCIDENT	11
FALLS	13,588	TRAUMA TRANSFER	58
GUNSHOT	152	TRAUMATIC INJURIES	2,017
HEADACHE	427	UNCONSCIOUS / FAINTING	5,900
HEART PROBLEM	1,181	UNKNOWN PROBLEM	5,049
HEAT / COLD EXPOSURE	109	WATER RESCUE RELATED	113
HEMORRHAGE / LACERATION	2,248	OTHER	689
<b>TOTAL 2023 MEDICAL RELATED INCIDENTS - 80,911</b>			

## Fire Departments



### Federal Fire Department – Ventura County

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



### Fillmore 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 exclusive operating areas 2, 3, 4, 5 and 7.



### Gold Coast Ambulance

Covers the city of Ojai, as well as the unincorporated areas of Oak View, Meiners Oaks and Casitas Springs designated and exclusive operating area 1 and covers the cities of Oxnard and Port Hueneme, and the surrounding unincorporated areas designated as exclusive operating area 6.



### All Town Ambulance

All Town Ambulance provides non-emergency basic life-support ambulance service countywide.



## 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



On July 1, 2021, the County entered into a new three-year agreement with the existing “grandfathered” providers for the provision of emergency ambulance service in the seven Ventura County EMS exclusive operating areas (EOA). The agreement also provides the opportunity for two one-year extensions. Gold Coast Ambulance Service serves Area 1 and Area 6; and American Medical Response (AMR) serves Areas 2, 3, 4, 5 and 7.

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.

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

- Providing 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 ambulance replacement
- Conducting public information and education

### 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

All emergency ambulances in Ventura County are dispatched through contract with the Ventura County Fire Communications Center using the Central Square 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

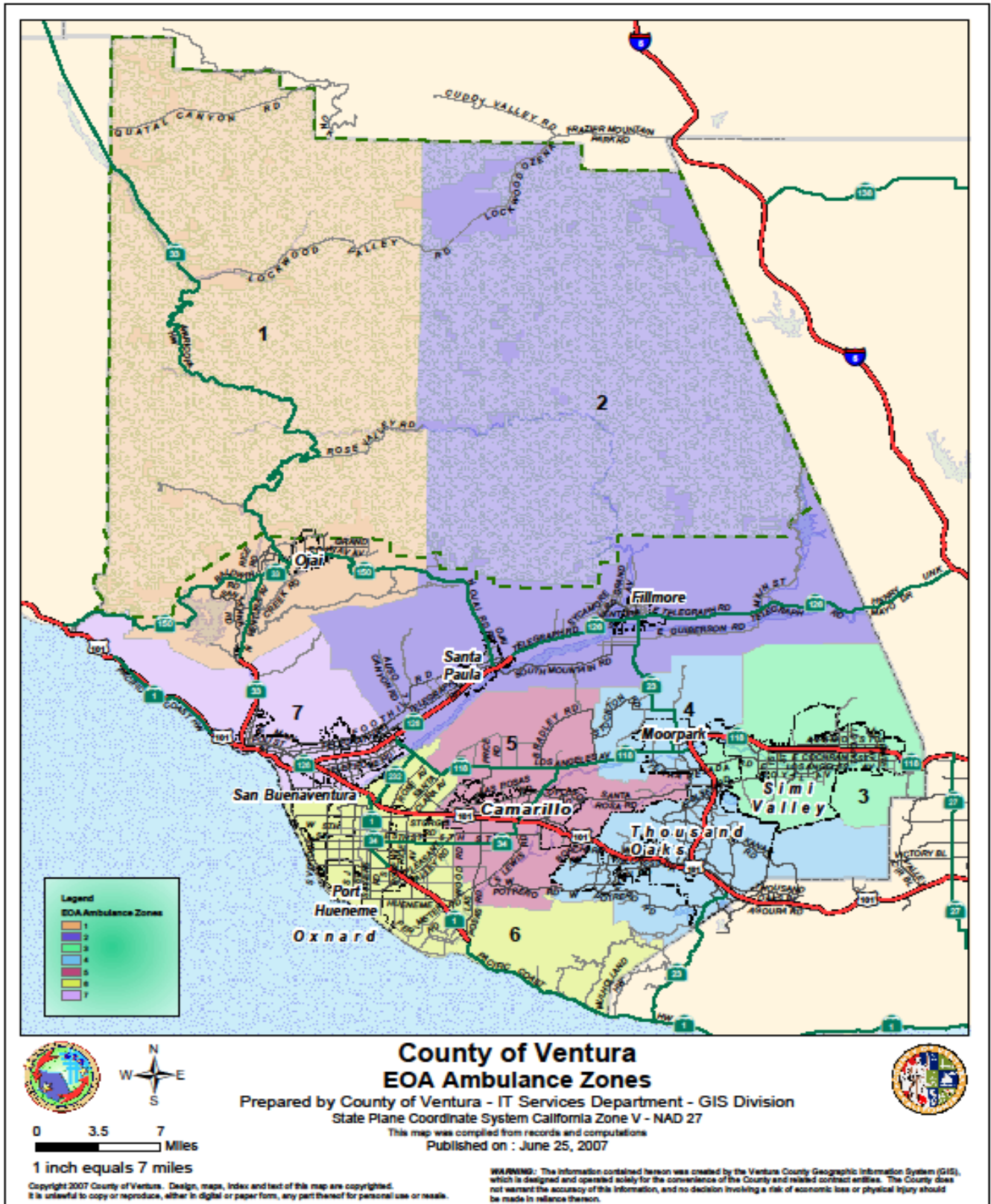
Ambulance response time compliance is monitored through the FirstWatch Online Compliance Utility program. Contract performance standard is 90% monthly compliance in each ambulance zone. Response time criteria is measured monthly, and requirements vary based on population density and call priority. Metropolitan/Urban 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. Certain low density and geographically remote areas are allowed an ambulance response time of 30 minutes and highly remote "Wilderness" areas are contracted as "ASAP" zones. Non-compliant responses, without an approved exemption, are assessed a financial penalty based on contract guidelines. In 2023, all other areas were fully compliant with the monthly 90% compliance requirements.

The FirstWatch system was updated in July 2021 to provide additional capability. The updated system now shows pre-exemption compliance data known as "raw compliance" and allows for the ambulance provider to provide a corrected arrival time for responses that were verified "on-scene" through GPS by the ambulance automatic vehicle location device. Monthly compliance reporting is available at [EMS System Performance \(vchca.org\)](https://www.vchca.org/EMS-System-Performance).

<b>2023 Annual Response Time Compliance Report</b>																
Reporting Period 01/01/2023 - 12/31/2023																
Zone	Total Incidents	On Time	Late	Do Not Count	Cancelled Enroute Compliant	Adjusted Total Incidents	Adjusted Late	Raw Compliance	Time Corrections Approved (Compliant)	Time Corrections Approved (Late)	Raw Compliance with Time Correction	Exemptions Requested	Exemptions Approved	Compliance Calculated Incidents	Compliance Calculated Late	Contracted Response Time Compliance
EOA 1	2736	2498	238	0	201	2535	238	90.61%	36	1	91.99%	91	88	2447	115	95.30%
EOA 2	4566	4225	341	15	348	4203	340	91.91%	65	2	93.41%	74	69	4134	208	94.97%
EOA 3	10221	9358	863	48	709	9464	856	90.96%	143	0	92.47%	226	222	9242	491	94.69%
EOA 4	16437	15032	1405	59	967	15411	1399	90.92%	235	0	92.45%	146	144	15267	1020	93.32%
EOA 5	8459	7629	830	36	501	7922	828	89.55%	161	0	91.58%	153	152	7770	515	93.37%
EOA 6	21569	19604	1965	10	1326	20233	1956	90.33%	218	1	91.41%	846	842	19391	897	95.37%
EOA 7	15733	14070	1663	3	1499	14231	1660	88.34%	270	0	90.23%	372	366	13865	1024	92.61%

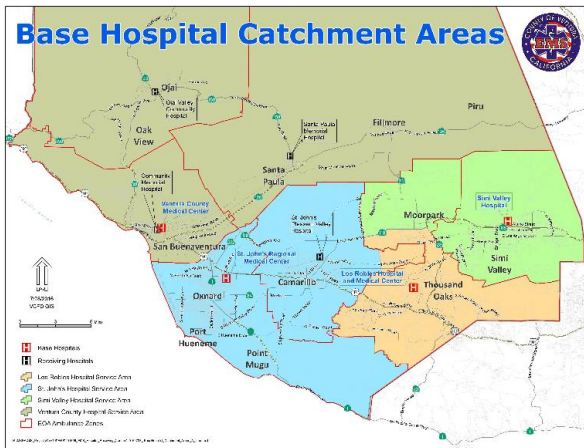
<b>2023 Monthly Response Time Compliance Report</b>								
	GCA 1	AMR 2	AMR 3	AMR 4	AMR 5	GCA 6	AMR 7	Average
<b>JAN</b>	97.59%	93.33%	90.98%	93.39%	93.47%	94.17%	92.74%	<b>93.67%</b>
<b>FEB</b>	93.75%	93.77%	93.51%	92.35%	92.11%	93.65%	93.23%	<b>93.20%</b>
<b>MAR</b>	94.05%	96.95%	93.86%	94.45%	92.39%	95.34%	92.92%	<b>94.28%</b>
<b>APR</b>	93.44%	94.41%	94.50%	92.75%	92.50%	95.66%	95.31%	<b>94.08%</b>
<b>MAY</b>	96.09%	95.67%	94.41%	92.79%	94.38%	95.80%	92.74%	<b>94.55%</b>
<b>JUN</b>	95.19%	93.09%	94.46%	93.66%	95.12%	94.92%	93.06%	<b>94.21%</b>
<b>JUL</b>	95.79%	95.47%	94.86%	93.90%	92.27%	95.02%	91.99%	<b>94.19%</b>
<b>AUG</b>	95.54%	94.56%	95.82%	93.60%	92.88%	95.70%	91.16%	<b>94.18%</b>
<b>SEP</b>	96.94%	94.05%	95.47%	93.39%	93.64%	95.32%	91.91%	<b>94.39%</b>
<b>OCT</b>	95.81%	95.15%	95.29%	94.42%	93.79%	96.00%	92.37%	<b>94.69%</b>
<b>NOV</b>	93.75%	96.11%	95.54%	91.85%	94.95%	95.97%	91.79%	<b>94.28%</b>
<b>DEC</b>	95.34%	96.71%	96.84%	93.07%	93.00%	95.98%	92.67%	<b>94.80%</b>
<b>Average</b>	<b>95.27%</b>	<b>94.94%</b>	<b>94.63%</b>	<b>93.30%</b>	<b>93.38%</b>	<b>95.29%</b>	<b>92.66%</b>	<b>94.21%</b>

# Ventura County Emergency Medical Services Agency Ambulance Service Areas





# Ventura County Base and Receiving Hospitals



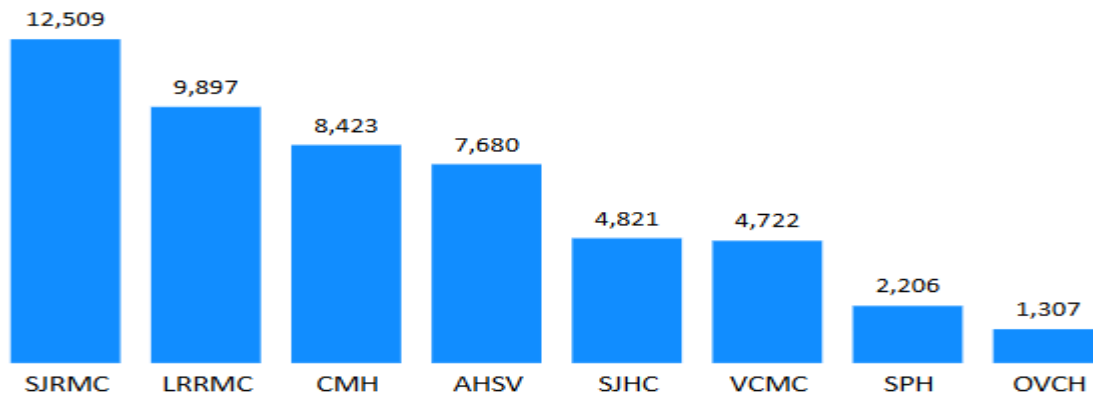
There are eight acute care hospitals in Ventura County, all of whom have emergency departments and receive ambulances with patients involved in prehospital incidents. Four of these hospitals are designated as Base Hospitals, providing oversight and direction to the county’s prehospital providers.

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 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.

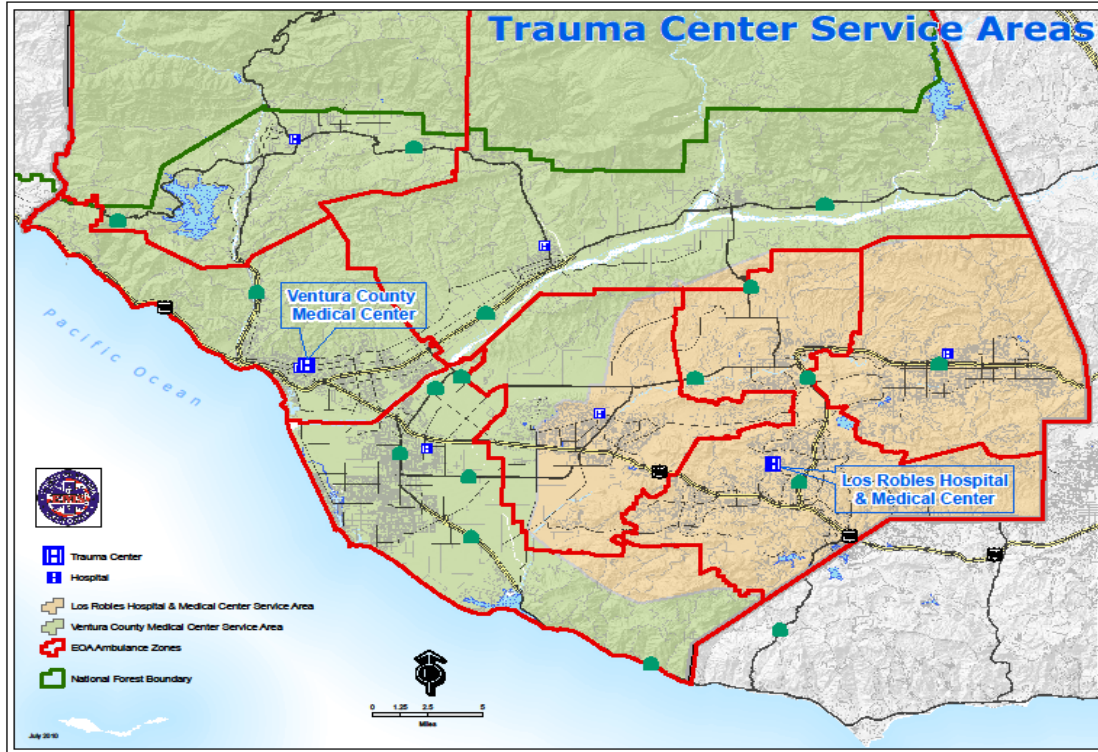
## 911 System Incidents Resulting in Patient Transport

Visualization reflects the number of 911 EMS incidents which resulted in one or more patient(s) being transported to each respective facility. Interfacility transfers, incidents which did not result in one or more patient transports, and incidents where the only resulting patient transports were to an out of county facility, are excluded.



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
LRRMC	X	X	X	X	X	X	X
OVCH	Standby						
SJHC	X			X			
SPH	X						X
AHSV	X	X		X		X	X
SJRMCM	X	X		X	X	X	X
VCMC	X	X	X	X			X

## 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 Regional 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.

2023 Ventura County Trauma Destinations

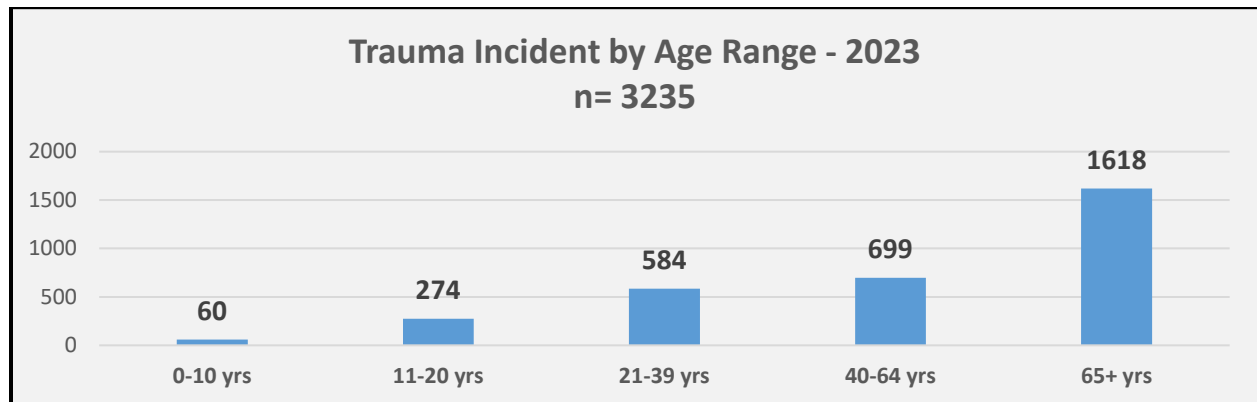
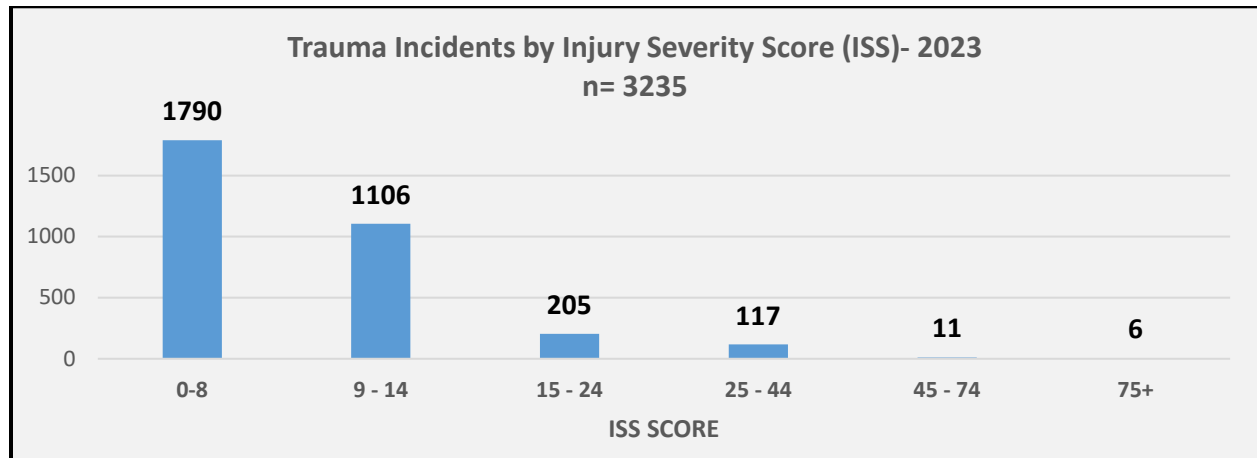
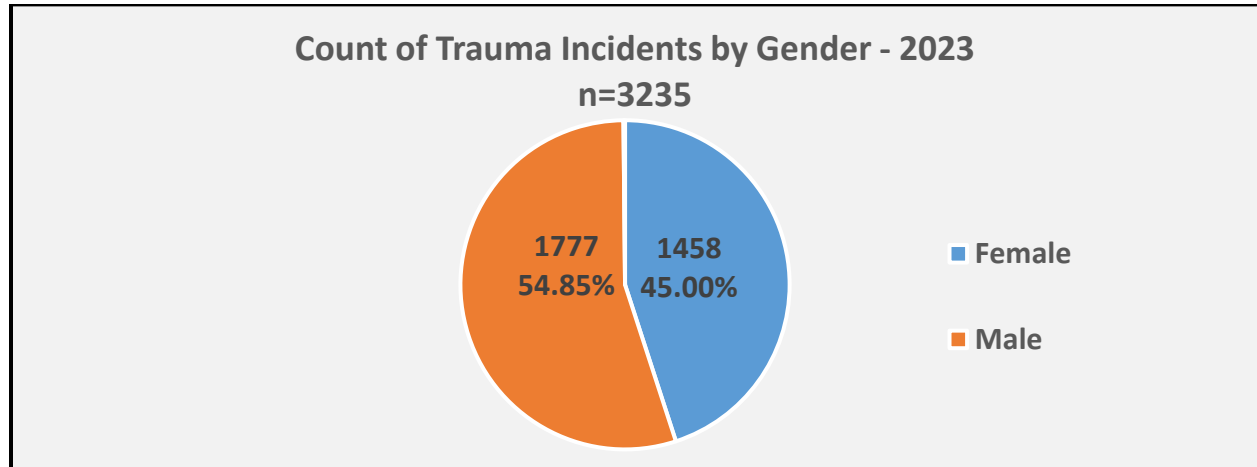
<b>Trauma Catchment Base Hospital</b>		<b>-Trauma Center</b>		
Destination	Step 1 TOTAL 357	Step 2 TOTAL 287	Step 3 TOTAL 462	
<b><u>VCMC Trauma Catchment Calls</u></b>	<b>244</b>	<b>278</b>	<b>365</b>	
Community Memorial Hospital	0	1	4	
<b>-Henry Mayo Newhall Memorial Hospital</b>	<b>2</b>	<b>7</b>	<b>8</b>	
<b>-Los Robles Regional Medical Center</b>	<b>4</b>	<b>7</b>	<b>4</b>	
<b>-Santa Barbara Cottage Hospital</b>	<b>0</b>	<b>0</b>	<b>1</b>	
Santa Paula Hospital	0	0	1	
St. John's Regional Medical Center	2	1	8	
<b>-Ventura County Medical Center</b>	<b>236</b>	<b>262</b>	<b>339</b>	
<b><u>LRHMC Trauma Catchment Calls</u></b>	<b>183</b>	<b>145</b>	<b>211</b>	
Adventist Health Simi Valley	2	0	10	
<b>Henry Mayo Newhall Memorial Hospital</b>	<b>0</b>	<b>0</b>	<b>1</b>	
<b>-Los Robles Regional Medical Center</b>	<b>174</b>	<b>141</b>	<b>194</b>	
<b>-Northridge Medical Center</b>	<b>1</b>	<b>2</b>	<b>1</b>	
<b>-Providence Holy Cross</b>	<b>3</b>	<b>0</b>	<b>2</b>	
St. John's Hospital Camarillo	3	1	2	
<b>-Ventura County Medical Center</b>	<b>0</b>	<b>1</b>	<b>1</b>	

<b>2023 Step 1-3 by Hospital</b>	<b>N</b>
Adventist Health Simi Valley	12
Community Memorial Hospital	5
<b>-Henry Mayo Newhall Memorial Hospital</b>	<b>18</b>
<b>-Los Robles Regional Medical Center</b>	<b>524</b>
<b>-Northridge Medical Center</b>	<b>4</b>
<b>-Providence Holy Cross</b>	<b>5</b>
<b>-Santa Barbara Cottage Hospital</b>	<b>1</b>
Santa Paula Hospital	1
St. John's Hospital Camarillo	6
St. John's Regional Medical Center	11
<b>-Ventura County Medical Center</b>	<b>839</b>
<b>TOTAL</b>	<b>1426</b>

<b>2023 Step 4 by Hospital</b>	<b>N</b>
Adventist Health Simi Valley	589
Community Memorial Hospital	530
<b>-Henry Mayo Newhall Memorial Hospital</b>	<b>3</b>
<b>-Los Robles Regional Medical Center</b>	<b>962</b>
<b>-Northridge Medical Center</b>	<b>1</b>
<b>-Providence Holy Cross</b>	<b>2</b>
<b>-Santa Barbara Cottage Hospital</b>	<b>1</b>
Kaiser WH	5
Ojai Valley Hospital	127
Santa Paula Hospital	85
St. John's Hospital Camarillo	451
St. John's Regional Medical Center	739
<b>-Ventura County Medical Center</b>	<b>644</b>
<b>TOTAL</b>	<b>4139</b>

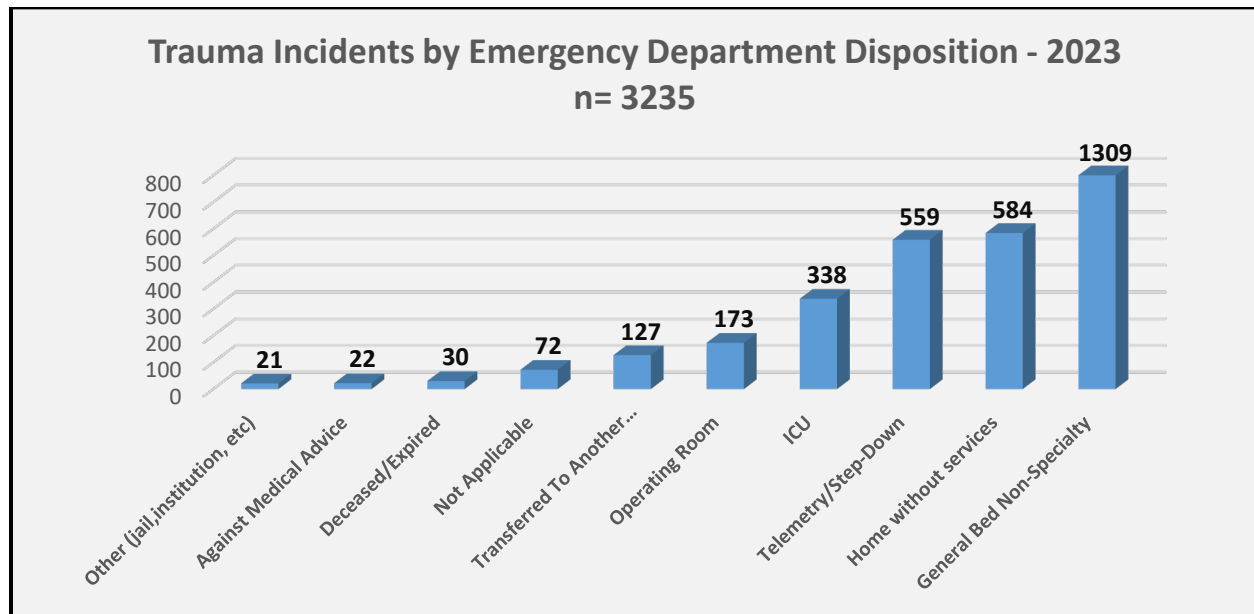
## Ventura County Trauma System Statistics

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. In 2023, we transitioned back to in-person meetings.

**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.

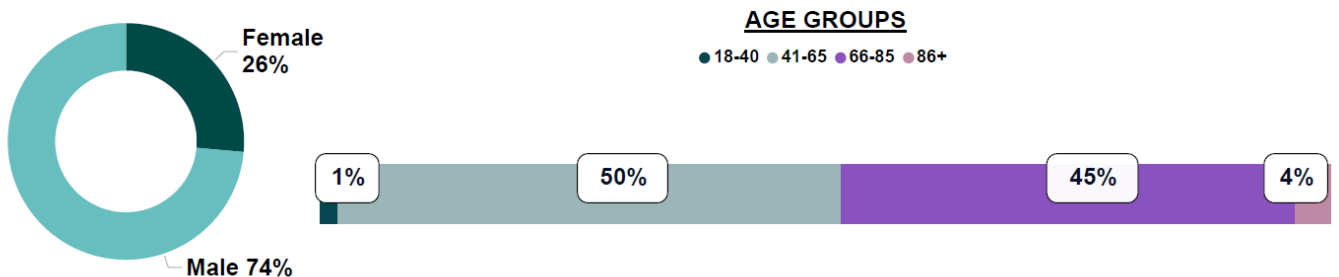
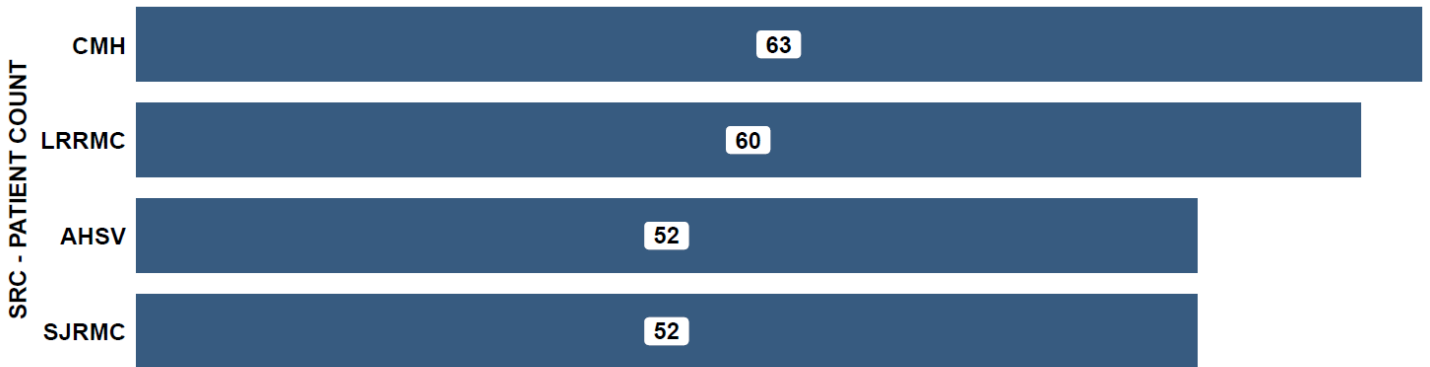
# VCEMS STEMI SYSTEM



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. For 2023 patient care metrics, Ventura County provider agencies received the *Mission Lifeline Gold, Target: Heart Attack Honor Roll* recognition from the American Heart Association. This represents the 8<sup>th</sup> year in a row where Ventura County has attained the Gold level or higher.

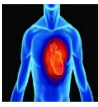


## 2023 PATIENT DATA



\*Does NOT include Cardiac Arrests\*

# VCEMS STEMI SYSTEM



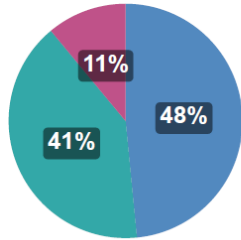
Patients arrive at the SRC by EMS, Walk-In, or by Transfer from a STEMI Referral Hospital (SRH). One of the key measures is early recognition that the patient is having a STEMI. This is accomplished by quickly performing a 12-Lead ECG.

## TIME TO OBTAIN 1ST ECG

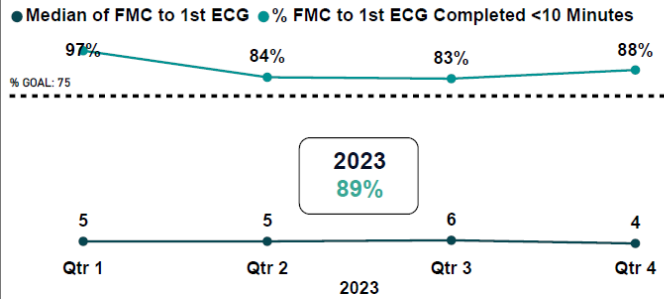
FMC = First Medical Contact

### HOW PATIENTS ARRIVED AT THE SRC

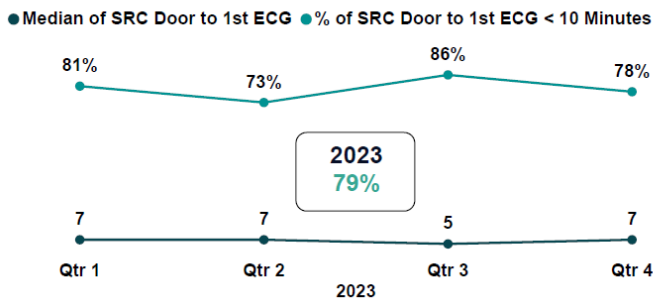
- EMS
- Walk-in
- Transfer



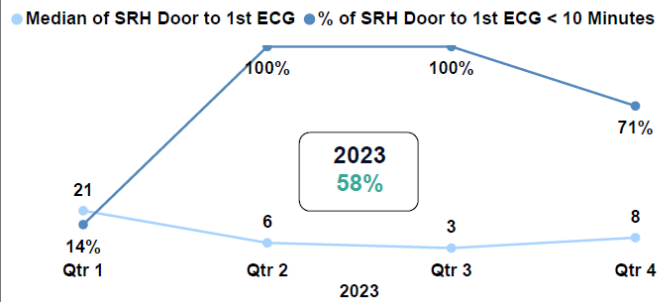
### EMS



### SRC WALK-IN



### SRH WALK-IN

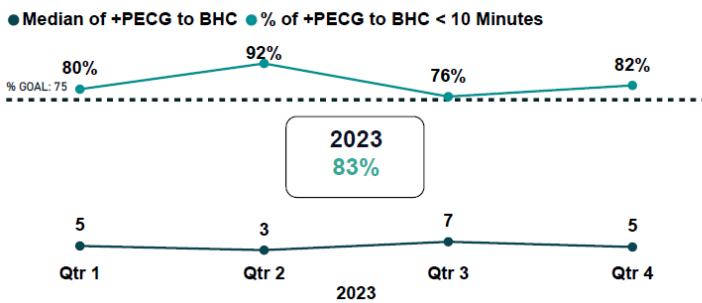


After EMS has identified that the patient is having a STEMI, another key component to the STEMI System is early SRC notification. This is accomplished through a phone call referred to as a Base Hospital Contact. The early notification allows the specialized cardiac team at the SRC to prepare the cardiac catheterization lab prior to patient arrival.

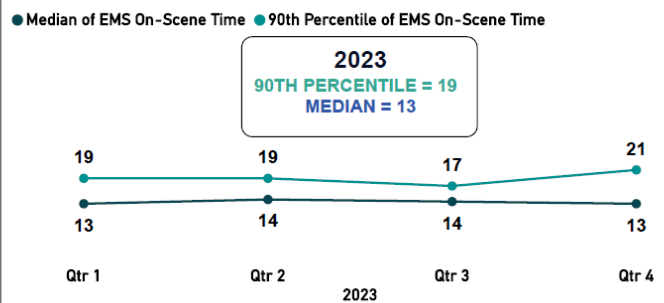
## EMS TIMES

+PECG = PREHOSPITAL ECG  
BHC = BASE HOSPITAL CONTACT

### +PECG TO BHC



### ON-SCENE TIME



When the patient is a Walk-In to an SRH, the patient requires transfer to the SRC. The transfer process goes through the 911 system in order to have the closest ambulance respond and transfer the patient expeditiously to the SRC.

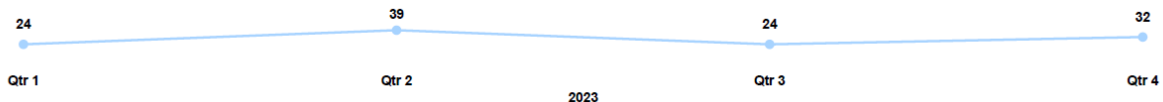
## TRANSFER TIMES

DIDO = DOOR-IN TO DOOR-OUT

2023 DIDO in 30 Minutes  
50%

2023 DIDO in 45 Minutes  
77%

### MEDIAN OF DIDO



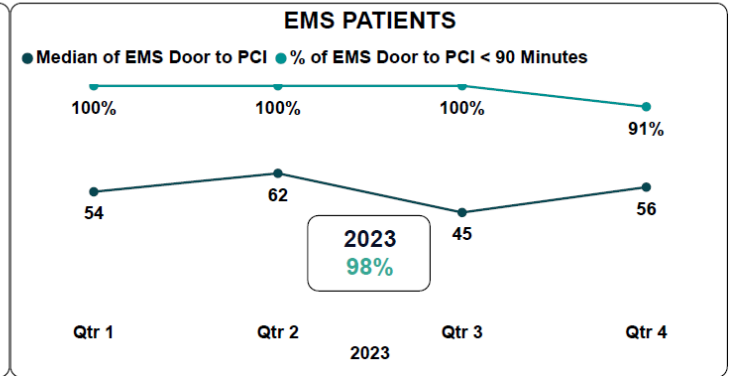
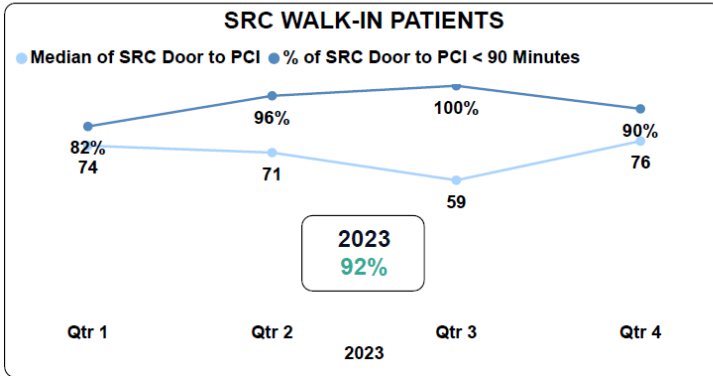
# VCEMS STEMI SYSTEM



Once a STEMI is recognized, the goal is for the patient to receive timely Percutaneous Cardiac Intervention (PCI). PCI is a procedure that helps to restore blood flow to the heart. It is performed in a specialized catheterization lab (cath lab) located at the SRC.

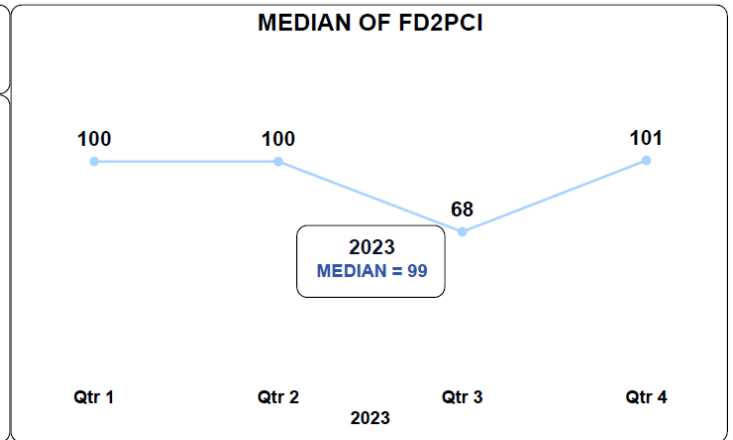
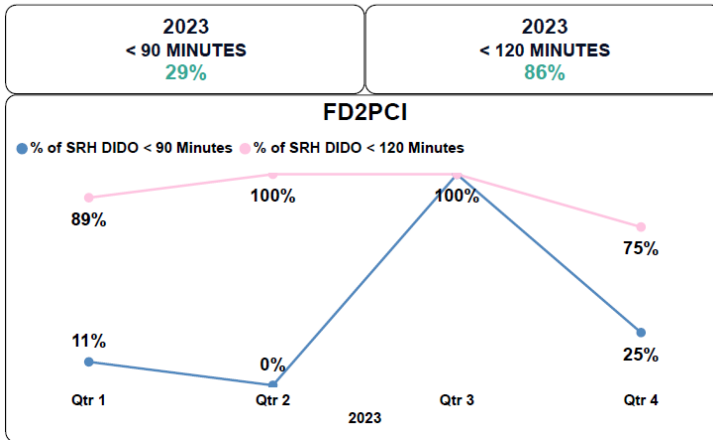
## PCI DATA

PCI = PERCUTANEOUS CARDIAC INTERVENTION



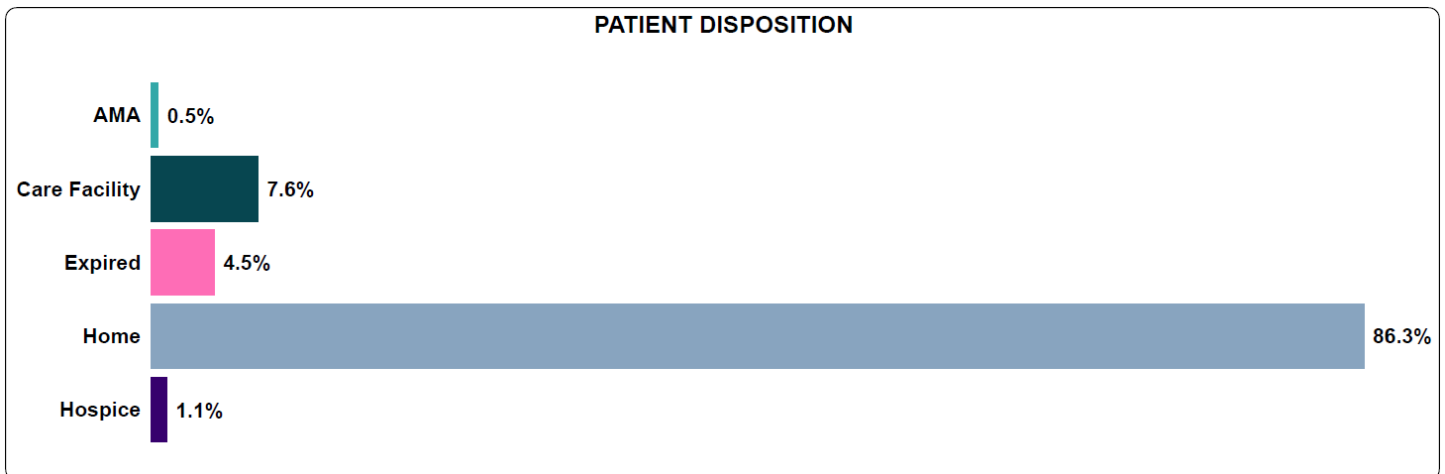
## TRANSFERRED SRH WALK-IN PATIENTS

FD2PCI = FIRST DOOR TO PCI



The ultimate STEMI System goal is that our patients return home after their care.

## PATIENT DISPOSITION



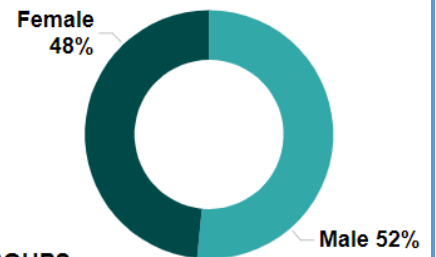
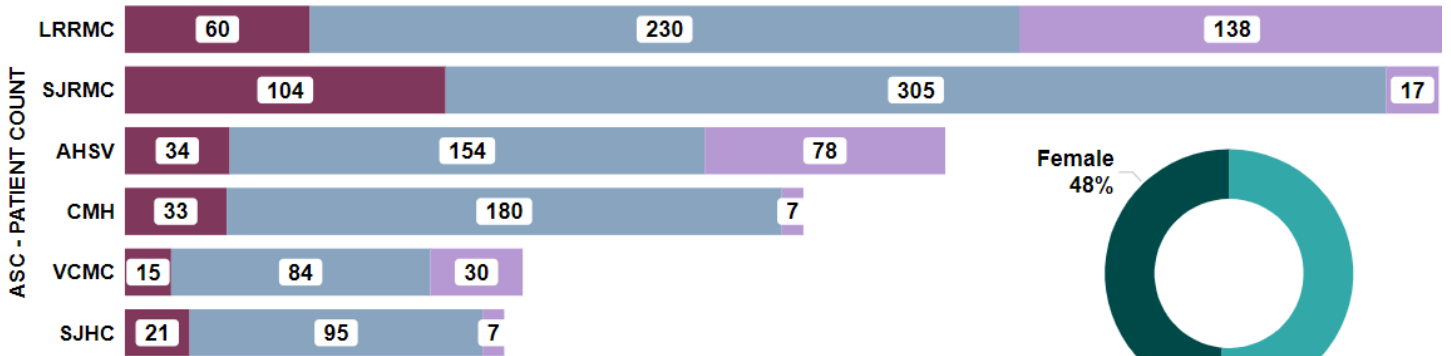




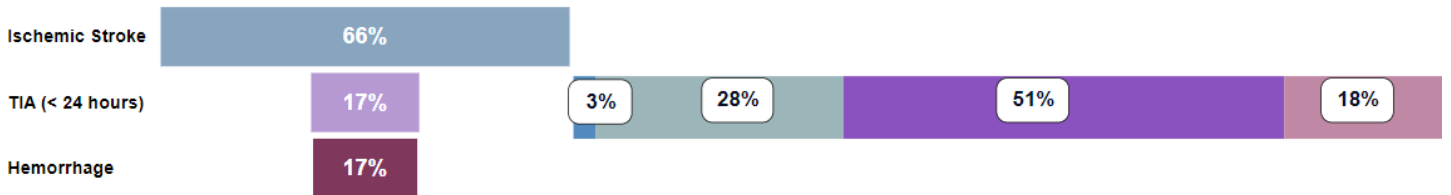
The Ventura County Stroke System is comprised of both pre-hospital providers (Paramedics and EMTs) and Acute Stroke Centers (ASC) who specialize in the treatment of strokes. Including one Comprehensive Stroke Center (CSC) and 2 Thrombectomy Capable Acute Stroke Centers (TCASC). Stroke is a leading cause of serious long-term disability and a leading cause of death for Americans.

## 2023 PATIENT DATA

● Hemorrhage ● Ischemic Stroke ● TIA (< 24 hours)



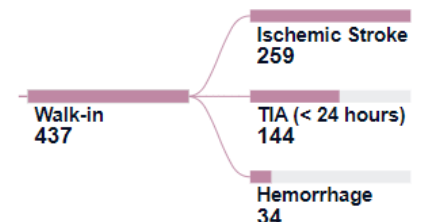
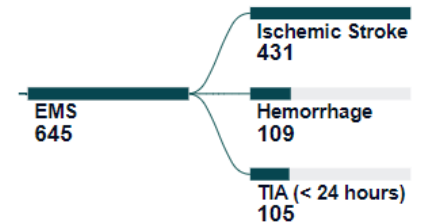
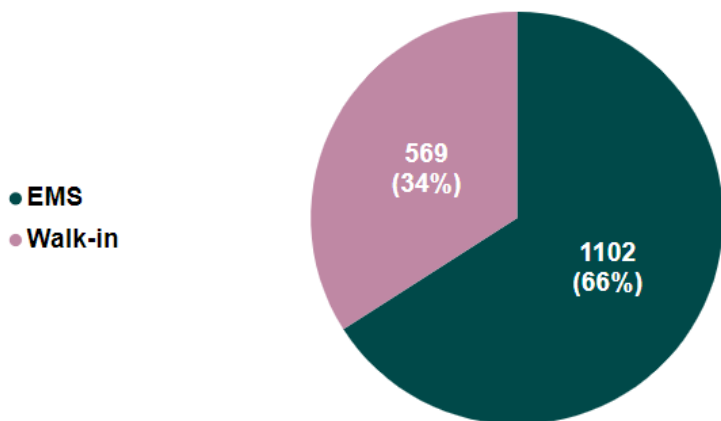
### % BREAKDOWN OF TYPE



The primary objective of the stroke system is to coordinate timely care of patients who have a stroke. Patients are categorized as "Stroke Alerts" or "LVO Alerts" based on results from 2 prehospital screening scales: The Cincinnati Prehospital Stroke Scale and The Ventura LVO Score (VES). When one of these Alerts is identified in the field, EMS provides early notification to the hospital which allows time to mobilize needed resources prior to the patient's arrival.

### HOW STROKE ALERTS ARRIVED AT THE ASC OR TCASC

### STROKE ALERTS DIAGNOSED WITH STROKE

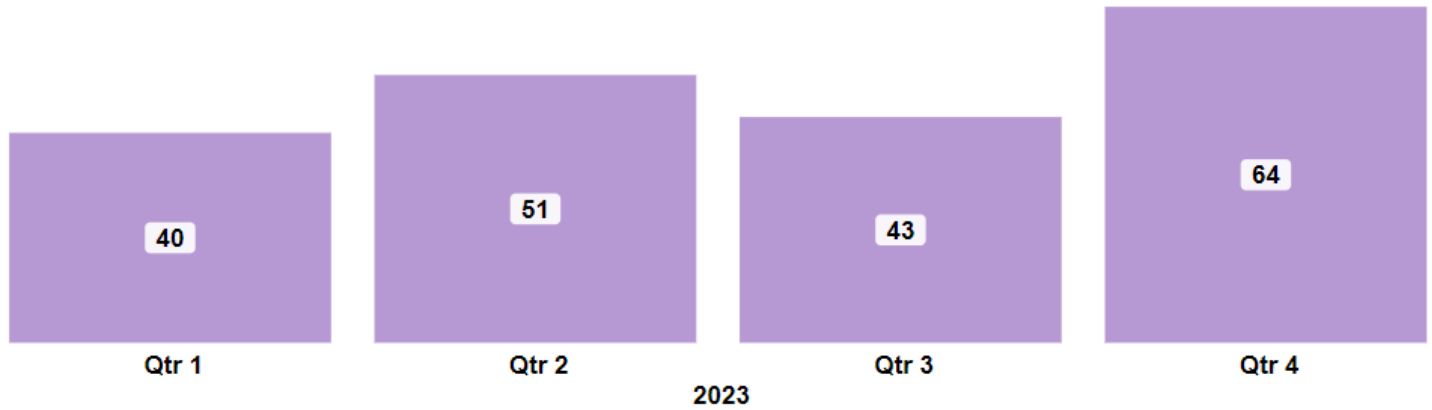


# VCEMS STROKE SYSTEM



Since 2017 Ventura County has been using the VES to help identify patients who may have a Large Vessel Occlusion (LVO) and direct them to one of the TCASCs for possible intervention.

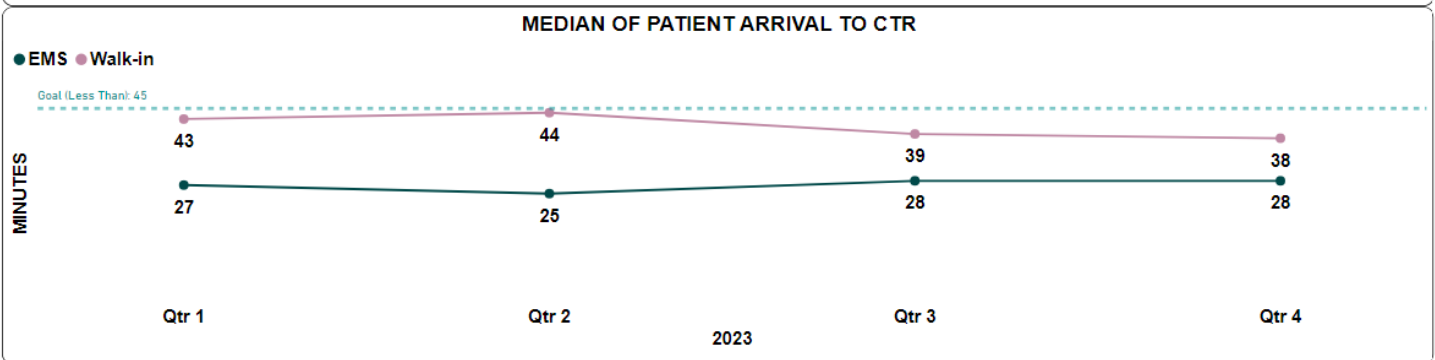
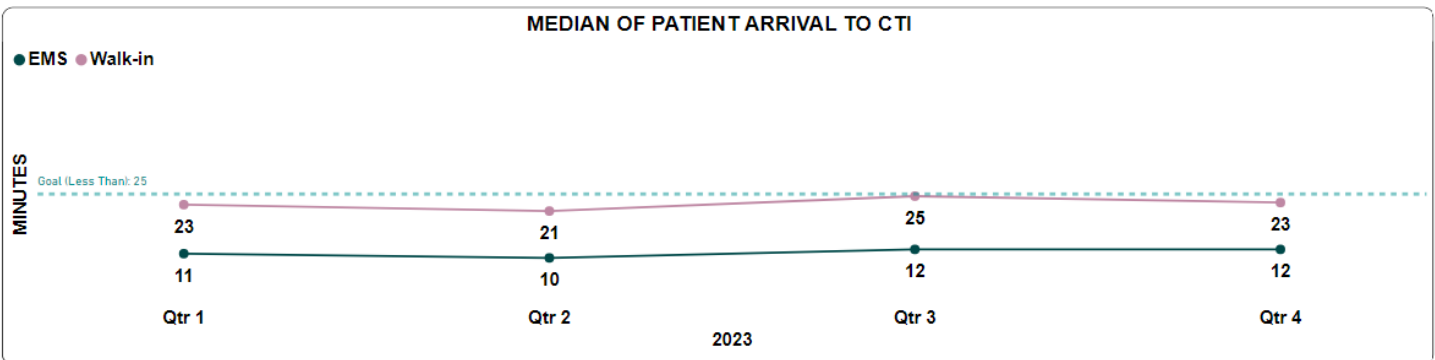
## NUMBER OF LVO ALERT PATIENTS TRANSPORTED DIRECTLY TO A TCASC



With these specialized alerts, patients are often brought directly to the Computed Tomography (CT) Scanner when they arrive. CT Scans help to aid in the identification of patients eligible for time sensitive treatments/interventions. Two important time intervals for CT Scan metrics are the CT Initiated (CTI) and The CT Reported (CTR) times. CTI is the time the patient has their CT Scan begin. CTR is the time when the results of the CT Scan are read by the physician.

### CT TIMES

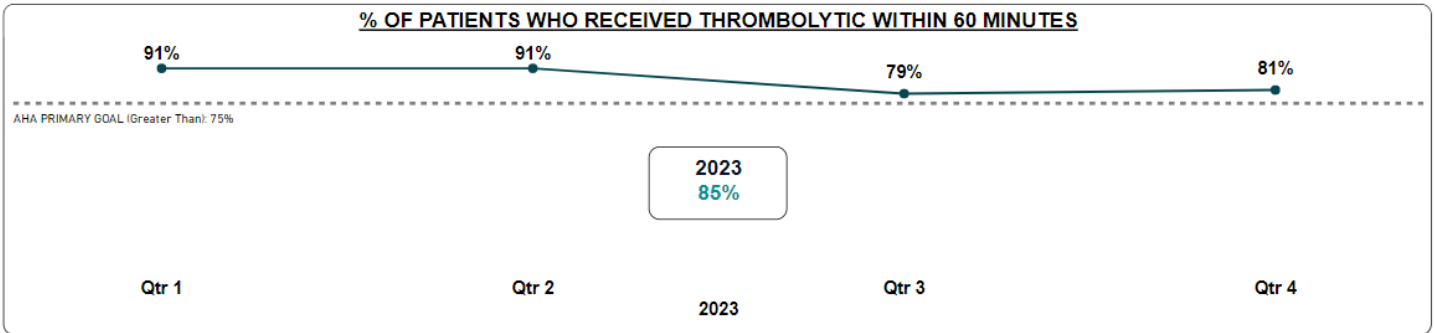
CTI = CT INITIATED  
CTR = CT REPORTED





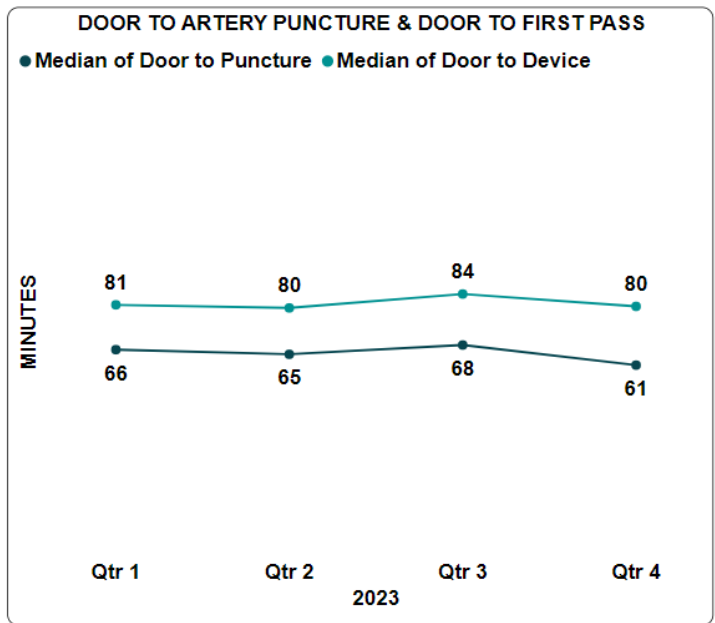
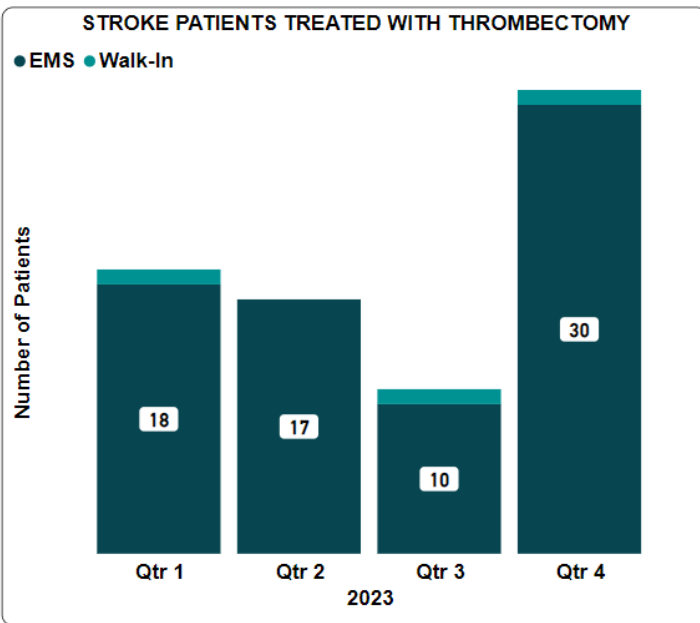
Treatment for strokes is time sensitive. If identified within specific time parameters, there is potential to treat with medication administration (thrombolytic) and/or mechanical thrombectomy (clot removal for LVOs). Early treatment can minimize damage to the brain and help reduce disability.

## STROKE TREATMENT - THROMBOLYTIC



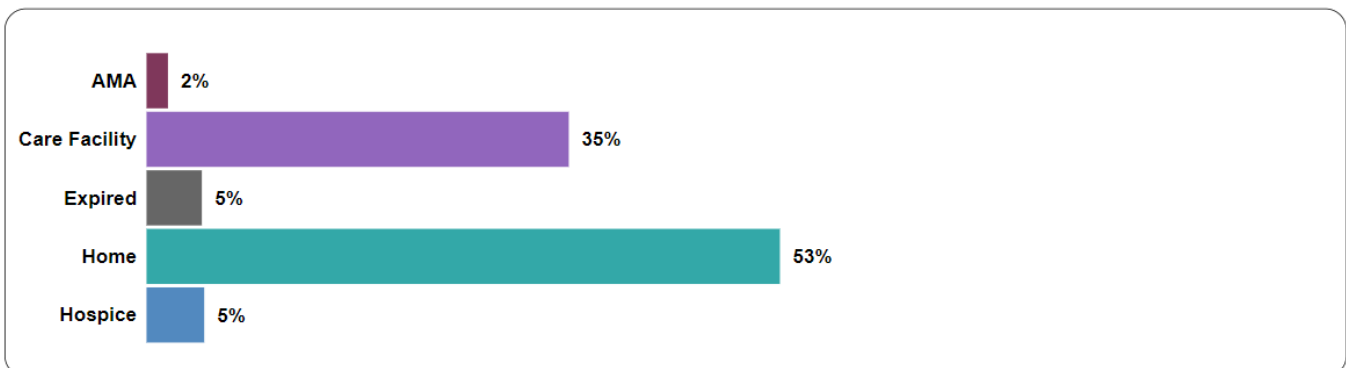
## STROKE TREATMENT - THROMBECTOMY

Puncture = Puncture of the artery  
First Pass = Deployment of clot retrieval device



Where patients are discharged from the hospital is often based on their ongoing needs for rehabilitation and recovery. Most patients are able to return home after their stroke.

## DISPOSITION





# Cardiac Arrest Management (CAM)



**Cardiac Arrest Management (CAM)** represents sixteen 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 in cardiac arrest. For **all presumed cardiac etiology**, we saw a decrease to 6.9% in 2023 from 10.7% in 2022, for patients discharged from the hospital with a cerebral perfusion category (CPC) of a 1 or 2. CPC 1 or 2 means they left the hospital with little to no brain/neurological deficit after surviving a cardiac arrest. For **Utstein** patients, we saw a decrease to 26.2% in 2023 from 43.3% in 2022, for patients discharged from the hospital that survived their cardiac arrest regardless of their CPC status. **Utstein** patients are a category of cardiac arrest patients who had a witnessed cardiac arrest and were found in a shockable rhythm. We continue to utilize the “Pulse Point” application for our cardiac arrest response, which alerts bystanders when there is a cardiac arrest in their vicinity.

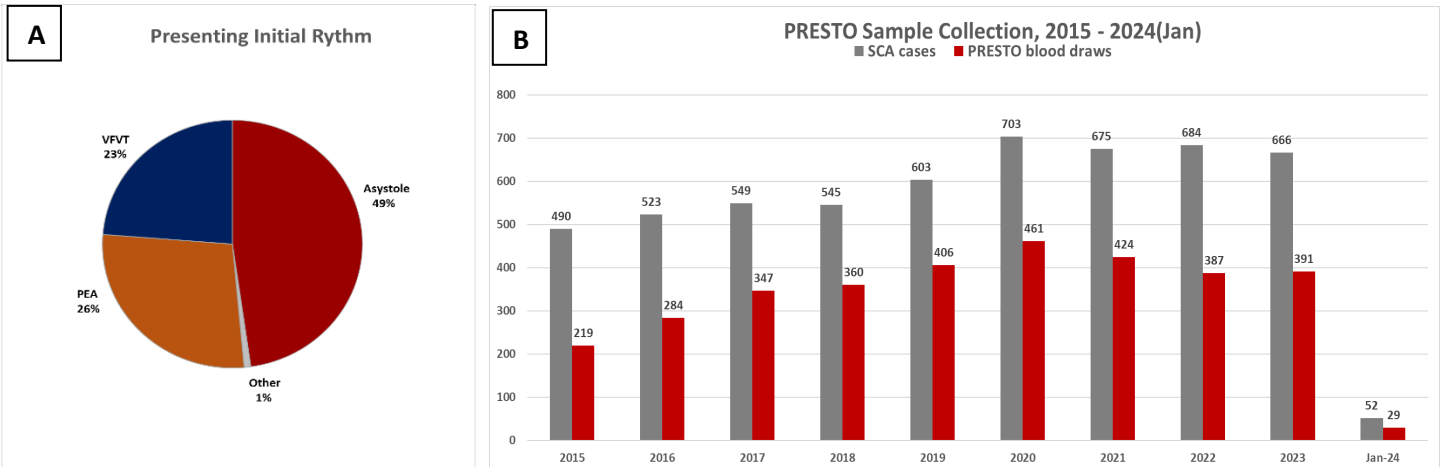
## Performance Data

<b>ALL PRESUMED CARDIAC</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Presumed Cardiac Etiology</b>	<b>469</b>	<b>462</b>	<b>431</b>	<b>478</b>
<b>Bystander CPR Provided</b>	<b>53.5%</b>	<b>53.3%</b>	<b>54.9%</b>	<b>54.7%</b>
<b>Survival to Hospital Discharge</b>	<b>8.7%</b>	<b>9.1%</b>	<b>13.0%</b>	<b>8.4%</b>
<b>CARES National Benchmark for survival to Hospital Discharge</b>	<b>8.0%</b>	<b>8.1%</b>	<b>8.5%</b>	<b>9.2%</b>
<b>Survival to Hospital Discharge for CPC 1 or 2</b>	<b>7.2%</b>	<b>8.4%</b>	<b>10.7%</b>	<b>6.9%</b>
<b>CARES National Benchmark for survival to Hospital Discharge CPC 1 or 2</b>	<b>6.3%</b>	<b>6.4%</b>	<b>6.8%</b>	<b>7.4%</b>
<b>UTSTEIN</b>				
<b>Bystander Witnessed, Shockable Rhythm</b>	<b>54</b>	<b>72</b>	<b>67</b>	<b>61</b>
<b>% of presumed cardiac arrests that are Utstein cases</b>	<b>11.5%</b>	<b>15.6%</b>	<b>15.5%</b>	<b>12.8%</b>
<b>Bystander CPR Provided</b>	<b>64.8%</b>	<b>79.2%</b>	<b>67.2%</b>	<b>78.7%</b>
<b>Survival to Hospital Discharge</b>	<b>22.2%</b>	<b>33.3%</b>	<b>43.3%</b>	<b>26.2%</b>
<b>CARES National Benchmark for survival to Hospital Discharge</b>	<b>28.8%</b>	<b>29.2%</b>	<b>30.9%</b>	<b>32.7%</b>

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

The **PRE**diction of **S**udden death in **mu**lti-ethnic **c**ommunities **S**tudy represents nine 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, 2024



**Bystander CPR: 53%**  
**Response time: 6.4 ± 2.9 min**  
**Response time > 5 min: 71%**  
**Sustained ROSC: 29%**  
**STHD: 13%**

**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 among overall cardiac arrest cases over the past nine years. There is a

steady annual increase in rates of sample collection from 2015 until 2020, reflecting the outstanding efforts of EMS partners in supporting our study. However, the collection rates declined during the COVID-19 pandemic. We remain hopeful to see an increase in the collection rates as conditions continue to improve. These positive performance trends from EMS stakeholders continue to facilitate the PRESTO study goals.

**New PRESTO Research Findings have been published:** At least 17 peer-reviewed scientific papers were published from the PRESTO Study. The highest impact paper was published in the Lancet Digital Health and reported novel findings regarding sex-specific warning symptoms that predict imminent cardiac arrest. Click this link for press release and picture of Ventura EMS leadership ([PRESTO PRESS RELEASE](#)) which was disseminated by >200 news outlets worldwide, including BBC radio news. Other scientific papers published novel findings regarding 1) Determinants of survival in sudden cardiac arrest 2) Cardiac arrest during the COVID pandemic 3) sudden cardiac arrest during sports activity in the elderly 4) unique biomarkers and ECG-based artificial intelligence that are specific for predicting cardiac arrest 5) mechanisms and management of pulseless electrical activity and ventricular fibrillation. Several other papers are currently in progress, under review or awaiting publication.

# Ventura County Health Care Coalition



The Ventura County Health Care Coalition (VCHCC) experienced a transformative year in 2023 marked by significant transition and growth.

We extend our deepest gratitude to Janelle Hahn and Diane Gilman for their invaluable contributions and visionary leadership, which established a strong foundation for our coalition and created an example nationally. Their dedication to uniting the county's healthcare system has been instrumental in our success.



Ushering in a fresh era for 2023, we welcomed a new health care coalition coordinator and all new officers! This dynamic group, composed of healthcare professionals with diverse backgrounds and expertise in emergency and disaster preparedness, has fostered exceptional collaboration and ensured a smooth leadership transition. Our membership has seen retention and grown, welcoming new members from various fields and re-engaging those recovering from the pandemic strain placed on the healthcare system.

We were excited to see everyone's smiling faces with a return to in-person meetings. In-person meetings revitalized our coalition, and we were privileged to receive essential training in active shooter response from the Ventura County Sheriff's Office and hands-on training with a comprehensive class on Stop-the-Bleed. We plan to host two in-person meetings and two virtual meetings every year to keep meetings accessible. In-person meetings will be hosted at various VCHCC partners facilities throughout the county.





This year's Hazard and Vulnerability Assessment (HVA) was expanded to include three new hazard choices with: communicable disease within facilities, epidemic and wildfire- reflecting the evolving landscape of potential threats. These risks are not new to the county and This comprehensive approach underscores our commitment to addressing emerging challenges and building a resilient community. Additionally, wildfire leads into questions regarding local climate and environmental stressors. As we look forward, we aim to address emerging threats to our community and prepare our community for risks that uniquely relevant to our needs.



The medical response and surge exercise (MRSE) brought together the VCHCC to test the pediatric surge annex and our redundant communications with a simulated school bus crash. The information gathered helped us to gain better understanding on available resources for pediatric patents, opportunities for communication and resource growth, and strengthened professional partnerships. The next MRSE will be based on the newest surge annex written this year focusing on the possibility of a mass chemical exposure.

The future looks bright for the Ventura County Health Care Coalition! As we look ahead, the VCHCC is poised for continued growth and impact. We are dedicated to streamlining administrative processes, expanding access to educational materials, and adopting a whole-community approach to engaging in preparedness. Planned 2024 updates to our website, bylaws, membership agreement, and preparedness and response plan will enhance efficiency and transparency. Other proposed pages to the website include a password protected bank of surge response plans, a forum or dynamic question/answer page and a linkable calendar of meetings/activities. We also hope to branch into new avenues such as podcasts, regional meetings, and additional workgroup initiatives. By fostering collaboration, sharing knowledge, and anticipating emerging threats, the VCHCC remains committed to safeguarding the health and well-being of our community.





## 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 five first responder agencies, the 2023 Mission Lifeline Gold Plus Level Award for outstanding performance in STEMI/Stroke data measures. In reviewing our Sudden Cardiac Arrest data, we saw an increase in our bystander CPR from 67% in 2022 to 79% in 2023, we believe due to having “Hands Only” CPR classes in-person and no longer virtually.

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. A Fall Prevention Symposium was held in-person on September 29, 2023. The event included prevention presentations by local physicians, nurses, physical therapists, social workers, and other experts in elderly trauma prevention. This was our first year to return to an in-person event since COVID-19. We had a very good turnout of approximately 450 people.

We continue to use a platform for our First Responders to distribute training, education, and EMS update through a system called Prodigy Learning Management System. Various critical procedures are monitored regularly through weekly Image Trend reports. Skills monitored through this method are Advanced Airway, TXA administration, cardiac transcutaneous pacing, along with needle thoracostomies and tourniquet use.

We instituted an on-line tool to report any “safety event” electronically by following a link or using a QR Code. These reports are collected and monitored for educational opportunities and assist with the quality improvement process.

Ventura County’s two Trauma Centers actively participate in data collection, which helps to identify severity index scores on EMS trauma patients. We can analyze this data and use it for community injury prevention education.

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
- Heather Padilla – Representing District 2 Supervisor Jeff Gorell
- Craig Stevens – Representing District 3 Supervisor Kelly Long
- Bob Brooks – Representing District 4 Supervisor Janice Parvin
- Michael O’Malia – Representing District 5 Supervisor Vianey Lopez
- Audra Strickland – EMS Agency Appointed Representative
- Daniel Shepherd, MD – EMS Agency Appointed Representative



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

A Department of Ventura County Health Care Agency