

EM2 Administration

January 2024

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Provides overall operational and medical leadership for the agency and the emergency medical system.



Richard Tadeo, RN Director



Nichole Bosson, MD **Medical Director**

Section Summary I

Provides overall operational and medical leadership and management of the agency and the emergency medical services system.

Coordinates the meetings and activities of the EMS Commission, which is an advisory board to the Department of Health Services and the County Board of Supervisors.

Medical and Health Operational Area Coordinator (MHOAC)

Region 1 (Los Angeles, Orange, San Luis Obispo, Santa Barbara, Ventura Counties) Regional Medical and Health Coordinator (RDMHC)

Section Statistics

- 190 employees
- EMS Commissioners: 19
- LA County's EMS System 4,082 square miles 88 cities 10,004,300 (2020 US Census Bureau) 814.002 EMS responses (2022) 561,359 patient transports (2022) 25,574 major trauma patients (2022)

2022 System Demographics

3,976,444 ED visits (2022)

- 69 9-1-1 Receiving Hospitals
- for Pediatrics (EDAP)
- **Pediatric Medical Centers**
- **Pediatric Trauma Centers**
- 15 Trauma Centers
- 21 Paramedic Base Hospitals
- 34 STEMI Receiving Centers
- 24 Comprehensive Stroke Centers
- 43 Perinatal Centers
- 40 Hospitals with Neonatal ICU
- 13 SART (Sexual Assault Response Team) Center
- 13 Disaster Resource Centers
- **Sobering Center**
- **Psychiatric Urgent Care Centers**

EMS Provider Agencies

- 31 Public Safety EMS Provider Agencies
- 34 Licensed Basic Life Support **Ambulance Operator**
- 17 Licensed Advanced Life Support Ambulance Operator
- 18 Licensed Critical Care **Transport Providers**
- 5 Licensed Ambulette Operators

EMS Practitioners

4,503 Accredited Paramedics

- 37 Emergency Department Approved 8,457 Certified EMTs by LA County **EMS Agency**
 - **763 Certified Mobile Intensive Care Nurses**

- Los Angeles County has the largest multi-jurisdictional EMS system in the nation and was among the first to be developed in the world.
- The development of the paramedic system was spearheaded for forward thinkers who decided to take firefighters and train them to be paramedics.
- Los Angeles County helped initiate legislation that would permit paramedics to provide advanced medical life support. It was enacted on July 14, 1970, making California the first state with paramedics.





Office of the Medical Director

September 2023

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The Office of the Medical Director is responsible for the medical management and oversight of the EMS system in Los Angeles County.





Section Summary I

Medical Management/ Oversight consists of three components:

Prospective: Prior to delivery of patient care – off-line medical direction or oversight that utilizes scientific principles and practice standards to establish training objectives, and curriculum development for the standardization of patient care.

Concurrent: During delivery of patient care – on-line medical direction or oversight of prehospital personnel caring for patients in the field. This allows for individualization of patient care and the ability to quickly intervene to ensure optimal use of system resources through direct communication or observation.

Retrospective: Following delivery of patient care – off-line medical direction or oversight composed of field care audits and case reviews for the purpose of ensuring quality improvement.

Section Activities

- Medical Control: Develop, implement, and evaluate Treatment Protocols, Medical Control Guidelines, Base Hospital Contact and Transport Criteria, Local Scope of Practice, and other medical guidance related to Dispatch, EMS, and Disaster policies.
- **Continuing Education:** Develop monthly *Emergi-Press*, with patient cases, ECG reviews and videos on various topics in EMS pertinent to the system; Hold the Annual EMS Update Systemwide Training.
- Quality Improvement and Research: Conduct quality improvement and research, informed by groups of subject-matter experts who provide specialized advice to the EMS Agency Medical Director(s) on research, data collection, and quality of care projects related to the various systems of care (Trauma, STEMI, Stroke, Pediatrics) in LA County.
- Medical Council: A multidisciplinary group of medical and EMS experts who provide specialized advice to the EMS Agency Medical Director in carrying out his/her statutory responsibilities to maintain medical control of the local EMS system.
- Innovation, Technology and Advancement Committee (ITAC): A multidisciplinary group of stakeholders who provide operational and medical expertise regarding implementation of new innovations, technologies, and products in LA County informed by evidence-based literature reviews and consideration of the logistical implications.

Unique Facts or Interesting History

The Office of the Medical Director includes five physicians all trained in emergency medicine and/or EMS and pediatric emergency medicine.

Our physicians are leaders in emergency medicine and also provide support for California Task Force 2 Urban Search and Rescue Team, medical support for the Hospital Preparedness Program, and Hospital Emergency Response Teams.





EMS Commission

September 2023

The EMS Commission is an advisory board to the Board of

Supervisors and the Department of Health

Services. "

Section Statistics

There are 19 members of the Commission, which represent the following organizations:

Los Angeles County Ambulance Association

Emergency Nurses Association

Hospital Association of Southern California

Los Angeles Area Fire Chiefs Association

American College of Surgeons

American Heart Association, Western States Affiliate

California State Firefighters Association

California Chapter-American College of Emergency Physicians

Southern California Psychiatric Society

Los Angeles County Medical Association

Los Angeles County Police Chiefs Association

Peace Officers Association of LA County

Southern California Public Health Association

League of California Cities

Five public members, one nominated by each Board of Supervisor

Section Summary I

The EMS Commission is an advisory board to the Board of Supervisors and the Director of the Department of Health Services regarding County policies, programs, and standards for emergency medical care services throughout the County.

Their responsibilities include:

- Establishing criteria for the evaluation of the impact and quality of emergency medical care services throughout Los Angeles County
- Conducting studies of the emergency medical care system, delineating problems and deficiencies, and recommending appropriate solutions
- Acquiring and analyzing the information necessary for measuring the impact and the quality of emergency medical care services
- Reporting its findings, conclusions, and recommendations to the Board of Supervisors at least every twelve months
- Reviewing and commenting on plans and proposals for emergency medical care services prepared by County departments
- Advising the Director and the Department of Health Services on the following:
 - Policies, procedures, and standards to control the certification of mobile intensive care nurses and paramedics
 - Proposals of any public or private organization to initiate or modify a program of paramedic services or training
 - Paramedic services and training in all sectors of the community, including County agencies, community colleges, hospitals, and private companies

Unique Facts or Interesting History

• The EMS Commission was established by County Ordinance in 1979.







Prehospital Care Operations

January 2024

Operations staff have highly specialized knowledge about EMS system and serve as a resource to paramedic providers and hospitals.







Section Summary

Prehospital Care Operations staff have highly specialized knowledge about the EMS system and serve as a resource to paramedic providers and hospitals.

Coordinates and conducts advance life support (ALS) program review of public and private provider agencies to evaluate compliance with policies, procedures, protocols, and applicable regulations.

Approves private provider agencies as specialty care transport programs (RN/RT) and conducts routine audits and program reviews to verify compliance with established standards.

Assists with the development and revision of treatment protocols and medical control guidelines for emergency field care of the 9-1-1 patient.

Coordinated the Commission on Accreditation for Air Medical Transport (CAMTS) surveys for the Los Angeles County Public Air Operations providers.

Approves and oversee EMT and public safety AED programs.

Coordinates data capture of annual AED utilization by EMT and public safety AED programs.

Approves pilot projects and trials studies of EMS provider agencies.

Approves, reviews and monitors expanded scope of practice requests.

Liaisons and oversee 9-1-1 emergency dispatch centers.

Staffs the Provider Agency Advisory Committee.

Staffs the Medical Advisory Council.

Staffs the provider and base hospital Quality Improvement Committees.

Section Statistics

- 1 Law Enforcement Agency approved for ALS level of care
- 5 Helicopter Emergency Medical Service Providers
- 11 Public Dispatch Centers
- 69 Approved EMT/Public Safety AED Providers
- 17 ALS approved Private Ambulance Companies
- 16 Approved 1:1 Alternate Staffing Configuration for Interfacility Transfers
- 18 Approved Specialty Care Transport Programs (RN/RT)





Ambulance Programs

January 2024

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Ambulance Programs oversees the private ambulance system in Los Angeles County.







Section Summary I

Licenses private ambulance operators, private ambulance vehicles and ambulette (wheelchair or medical transportation vans) vehicles.

Continually monitors all ambulance operators to ensure compliance with the Los Angeles County Ambulance Ordinance.

Administers and monitors the 9-1-1 Emergency Ambulance Transportation Agreements for the Exclusive Operating Area ambulance contractors. Conducts monthly 9-1-1 response time audits to ensure contractual compliance.

Administers and monitors the Transportation Overflow Agreements for the nonemergency transportation of County responsible patients.

As per County Code, establish the annual general public ambulance rates for licensed ambulance operators. Modifications to the rates are based on the Consumer Price Index or statewide surveys.

Investigates all complaints related to every ambulance company providing service in the County.

Section Statistics

- 34 Licensed Basic Life Support Ambulance Operators
- 17 Licensed Advanced Life Support Ambulance Operators
- 18 Licensed Critical Care Transport Operators
- 5 Licensed Ambulette Operators

- The first Los Angeles County Ambulance Ordinance was published in 1951.
- In 1987, the Board of Supervisors approved a new emergency ambulance transportation program which was developed to comply with a ruling by the Court of Appeals in City of Lomita, et all V. County of Los Angeles (1986) which held the County responsible for emergency ambulance On July 28, 2011, the Los Angeles County Ambulance Ordinance was significantly revised. All ground and air ambulance operators that transport patients originating anywhere in Los Angeles County (both incorporated and unincorporated areas) are now required to obtain a Los Angeles County Ambulance Operator Business license.



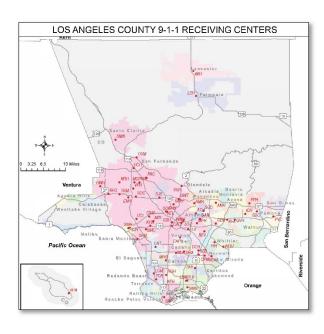


Hospital Programs

January 2024

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The Hospital Programs
Section conducts
contract monitoring,
site visits, data
validation, and develop
and distribute various
system reports.



Section Summary I

Coordinate and conduct contract monitoring, site visits, data validation and evaluation of quality improvement programs for each hospital specialty program, as well as staffing, attending, and completing assignments for the various associated committees.

| Section Statistics |

- 69 9-1-1 Receiving Hospitals
- 15 Trauma Centers / 7 Pediatric Trauma Centers
 Trauma Hospital Advisory Committee (THAC)
 THAC Quality Improvement (QI)
 THAC Data Committee
- 21 Base Hospitals

 Base Hospital Advisory Committee (BHAD)
- 37 Emergency Department Approved for Pediatrics (EDAP)
- Pediatric Medical Centers (PMC)
 Pediatric Advisory Committee (PedAC)
 Pediatric Liaison Nurses (PdLN)
 Interagency Council on Child Abuse and Neglect (ICAN)
 Committee on Pediatric Emergency Medicine (COPEM)
 Emergency Medical Services for Children (EMSC)
- 13 Sexual Assault Response Team (SART) Centers SART Committee
- 34 ST-Elevation Myocardial Infarction (STEMI) Receiving Centers (SRC) SRC Advisory Committee
- 28 Primary Stroke Centers
- 16 Comprehensive Stroke Centers Level I
- 8 Comprehensive Stroke Centers Level II (Thrombectomy Capable) Stroke Advisory Committee









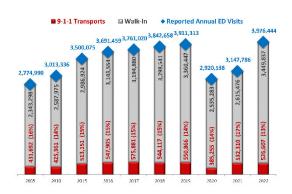


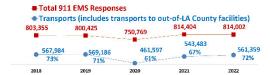
Data Management and Research Division

January 2024

The Data Management and Research Division is responsible for all of the EMS Agency's data collection, analysis and management obligations.

ED Visits:





Section Summary I

This was developed in 2015 to ensure that data management is well-coordinated, comprehensive and allows for system analysis. Efforts to integrate all the various databases continue to reduce redundancy. This unit will ensure that collected data elements and the associated definitions will be standardized across all databases as most EMS related data are interrelated between EMS providers and hospitals.

This unit of the EMS Agency will support the reporting responsibilities of the other EMS units such as the Ambulance Licensing and Monitoring Sections, EMS Provider Programs, Hospital Programs, Office of Certification and Program Approvals, and Disaster Management and Response.

Current Data Bases

- Trauma and Emergency Medicine Information System (TEMIS)
 - EMS Registry (9-1-1 responses and transports)
 - Paramedic Base Hospital Registry (On-Line Medical Direction)
 - Trauma Registry (Critically Injured Patients)
- STEMI Receiving Center Data
- LA Stroke Database

Unique Facts or Interesting History

EMS providers have all converted their paper-based medical records to electronic patient care records (ePCR) due to the implementation of the Affordable Care Act (ACA). The ACA has also brought to the forefront the need for integration of EMS data systems and hospital data systems. In fact, the Office of the National Coordinator for Health Information Technology of the U.S. Department of Health and Human Services continues to work collaboratively with the State EMS Authority and the local EMS Agencies to address the need to implement Health Information Exchange (HIE) systems. This has been identified as a critical need to comply with the ACA and address disaster management needs such as patient tracking, mass casualty management, family reunification, etc. This section is responsible for seeking solutions, funding sources (i.e., grants), planning and implementation to support these initiatives.

State and Federal data reporting and submission requirements continue to increase and data collection requirements related to disease specific Specialty Care Centers continue to increase in complexity, all of which require the local EMS Agencies to provide complex patient level data reports. Specific functions of this unit include the following:

- Prepare and develop reports, and datasets in response to requests from the Board of Supervisors, hospitals, EMS providers and the public
- Provide technical assistance and consultation to hospital and EMS personnel regarding timely and accurate data collection and submission
- Support hospital and EMS provider reporting requirements
- Assist with research
- Support system wide quality improvement and performance monitoring activities





Disaster Programs

September 2023

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Coordinates medical and health disaster response for Region I (San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange Counties).





Section Summary I

Hospital Preparedness Program (HPP) – Manages the US Department of Health and Human Services' HPP grant. The program aims to enhance LA County's healthcare system's capacities and capabilities to respond to an incident based on an all-hazards approach. Provides funding, consultation, and coordination of activities for 80 participating hospitals and other healthcare entities to enhance emergency preparedness. This program includes the Disaster Healthcare Volunteer (DNV) registry.

Emergency Coordination Program — Responsible for coordinating emergency preparedness activities for all Department of Health Services (DHS) facilities. Also responsible for the Medical and Health Operational Area Coordination (MHOAC) Program which supports all disaster medical health preparedness and response. This section is also responsible for training and preparing staff that support the Medical Coordination Center (MCC) that coordinates all medical response activities in healthcare facilities/agencies during a disaster. The Region I Disaster Medical and Health Coordination program is also based in this section responsible for information and resource sharing within the Region I (San Luis Obispo, Santa Barbara, Ventura, Los Angeles and Orange counties) and to/from the State. The EMS Agency's representative to the local law enforcement fusion center (Joint Regional Information Center or JRIC) is also in this section.

Disaster Training Unit – Provides disaster preparedness and response training courses to healthcare personnel. These courses are offered free of charge.

Homeland Security Grants – Manages the Urban Area Security Initiative (UASI) and State Homeland Security Program (SHSGP) grant programs for DHS. Collaboratively works with multijurisdictional and multidisciplinary agencies to enhance LA County's emergency preparedness. Maintains a presence at the Joint Regional Intelligence Center to ensure that vital information is obtained in a secure and efficient manner.

Response Resources – Over 45,000 sq. ft. of medical and health resources including 50 licensed vehicles.

Section Statistics

HPP participants – 80 hospitals and 200 plus community clinic sites in LA County.

Disaster Training Unit – 32,055 people trained in emergency preparedness and response courses since 2002.

Hospital Disaster Management Training – trained 2,429 students on Hospital Disaster preparedness training which identifies roles and responsibilities of Command Center staff with a focus on hands-on training and simulated disaster exercises since September 2007.

Countywide Blood Drives – Coordinates collection of approximately 3,000 units annually for the American Red Cross (ARC). LA County is ARC's largest account in Southern California.

Unique Facts or Interesting History

Disaster Programs has received multiple awards for excellence including the California Emergency services Association (1 Gold Award, 2 Silver Awards), and County of Los Angeles Productivity and Quality Golden Eagle Award, and Workforce Excellence SuperStar award. Additionally, the Department of Health and Human Services, Assistant Secretary of Preparedness and Response has posted over 20 best-practice publications on their best practices website ASPR TRACIE.





Medical Alert Center

September 2023

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The Medical Alert Center (MAC) coordinates the transfer of patients between Countyoperated facilities, and transfers from private hospitals to Countyoperated hospitals. **MAC** tracks hospital bed availability, ambulance diversion status, and ambulance patient offload times (APOT) of 9-1-1 Receiving Hospitals 24 hours a day.

Section Summary I

Coordinates patient transfer activities to all licensed acute care hospitals operated by the Los Angeles County Department of Health Services.

Manage multiple casualty incidents. Assist EMS providers with patient destinations during multiple casualty incidents (MCI).

Coordinate the placement of burn patients.

Coordinate interfacility helicopter transfers requiring use of public EMS providers.

Serve as the control point for the Hospital Emergency Administrative Radio (VMED 28), Rapid Emergency Digital Data Interface Network (ReddiNet), and FirstWatch.

Monitor, coordinate and document hospital and ambulance diversion requests.

| Section Statistics |

- Number of patients presented for transfer per month: 635 avg
- Number of patients presented for transfer per year: 7,624
- Number of patients transferred per month: 280
- Number of patients transferred per year: 3,324
- Number of MCI Drills per month: 8-12
- Number of MCI Drills per year: 123
- Number of Actual MCIs per month: 6-10
- Number of Actual MCIs per year: 75

- MAC is operational 24/7.
- It was created in 1971 in response to a physician strike-action that was pending at LAC+USC Medical Center and created a need to divert patients from the County hospital. It was soon given the responsibility of making arrangements for all patient transfers from private hospitals into County hospitals.
- In 1972, Lockhead donated a hyperbaric chamber to LAC+USC located at Catalina Island and MAC was assigned the task of coordinating transportation and physician coverage.
- Coordinates the mobilization of Hospital Emergency Response Teams (H.E.R.T) for MCIs and difficult patient extrications in the out of hospital setting.





Ambulance Services

September 2023

The oldest operating ambulance provider in the County.





Section Summary I

The County of Los Angeles has provided ambulance services to the Department of Health Services (DHS) patients since 1890. Starting with a horse drawn vehicle, this is one of the oldest ambulance services in the State. Today, DHS operates a modern ambulance fleet, staffed with Emergency Medical Technicians (EMTs) to provide care and transportation to medically indigent patients, to and from County facilities.

The Department's Ambulance Services section is managed by the EMS Agency and handles 2,500-3,000 transports per month through our Central Dispatch Office (CDO). In addition to transporting patients to and from healthcare facilities, our EMT teams:

- Meet the emergency flight teams and their critical patient passengers arriving by helicopter from the helipad at LAC+USC Medical Center to the Emergency Department.
- Respond to man-down calls on the campus of LAC+USC Medical Center and Harbor-UCLA Medical Center to provide care and transport to the emergency department.
- Provide transport on in-custody patients between the jails and health facilities.
- Transport specialized neonatal teams to infants in need of transfer to Neonatal Intensive Care Units at County facilities.
- Assist in special or unforeseen events such as responding to the needs of the community during disasters.

Any calls that cannot be handled by the Ambulance Services are contracted out to private ambulance companies, including calls that require paramedic or Office staff provide an invaluable service to County patients and hospitals. By efficiently moving patients, they help to decrease the congestion at DHS facilities and emergency departments.

Unique Facts or Interesting History

Oldest operating ambulance provider in the County.





Certification and Program Approvals

September 2023

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The Prehospital
Certification Section is
responsible for the
certification and
accreditation of EMS
personnel.





Section Summary I

Certification activities include issuing certification to EMTs on behalf of the state of California and accreditation of Paramedics and Mobile Intensive Care Nurses (MICNs) in accordance with California State requirements and EMS Agency policies. We develop and administer the MICN certification and Paramedic accreditation exams for ALS personnel.

The Prehospital Emergency Personnel System Information (PEPSI) is the database used to keep track of EMS personnel certified by the EMS Agency.

Program Approval activities involve the review, approval and monitoring of EMS training programs for Paramedics, EMTs, MICNs, Public Safety-First Aid, Tactical Casualty Care and Continuing Education. Based on national standards, State regulations and local policies, we ensure that quality education and training programs are available.

Other section responsibilities include the investigation and discipline of EMTs in all of Los Angeles County.

| Section Statistics |

- Certified EMS Personnel EMTs 8,439
 Paramedics 4,548
 MICNs 808
- Approved EMS Training Programs
 EMT Programs 31

 EMT Skills Competency Verification Programs 22
 Paramedic Programs 4
 Public Safety-First Aid/Tactical Casualty Care 3

Unique Facts or Interesting History

Persons currently active in LA County with longest running certification in our databases are:

- Paramedics
 P1366 Los Angeles Fire Department first accredited Feb. 1, 1977
- MICN
 N1043 Los Angeles County Sheriff Department first accredited July 21, 1978
- EMT E000353 – first licensed August 10, 2005





Paramedic Training Institute (PTI)

January 2024

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To provide paramedic students with the cognitive psychomotor and affective skills necessary to provide the highest quality care to patients in the prehospital setting.





Section Summary

PTI provides advanced life support training to paramedic students.

| Section Statistics |

Total paramedics trained since 1970: Approx 5,576 graduates

• Number of students per class: 20-30

Number of classes per year: 3

• Total hours of training: 1,094 hours

• Length of class: Approximate 5.5 months

Unique Facts or Interesting History

The Paramedic Training institute was one of the first paramedic training programs in the country. It started in 1969 as a pilot program at Harbor General Hospital under the direction of Dr. J. Michael Criley.

With the help of CCU nurse Carol Bebout, Dr. Criley began training fire-fighters to provide a wide range of medical care services at the scene of an emergency. The first class at PTI was composed of six Los Angeles Fire Department firefighters. Their training focused on the care of the cardiac patient and encompassed 192 hours of classroom training and experience in the emergency department.

By 1972, the hours required for certification rose to 1000.

In 1974, Dr. Ron Stewart was appointed as the director of PTI and his first objective was the modification of the training curriculum and materials. The resulting four-volume book, called the Paramedic Training Manuals, focused on specific field care, using pictures, terminology and examples that were suitable to the firefighters' background. This text was soon used as the basis of the core paramedic curriculum in paramedic programs nationwide.

In 1995, PTI affiliated with El Camino Community College District and enhanced its standing as an academic program. Through this new partnership, PTI was able to provide college units to each graduate, accept private students sponsored by El Camino College, reduce the cost of tuition to the student/employer, and offset program costs.

PTI continues to be one of the most innovative and recognized EMS training programs in the world and helped establish paramedic training programs in India, China and has visitors from all over the world.

It is nationally accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).





Administrative Services

September 2023

The little engine that keeps the EMS Agency going.





Section Summary I

Fiscal Services

- Expenditure Management
- Procurement
- Revenue Management
- Ambulance Licensing Financial Review
- Review & approval of 1,000 claims monthly for payment of 28 overflow transportation providers.

Grant Management

- Hospital Preparedness Program (\$9 million annually)
- Homeland Security (\$1 to \$1.5 million annually)
- Regional Disaster Medical and Health Coordination (RDMHC) Program

Reimbursement Program

• Liaison for other DHS reimbursement programs (Measure B)

Program Financial Auditing

- Over 4,000 enrolled physicians in the Physician Services for Indigents Program
- 20 contracts with 225 providers (mostly hospitals and fire departments)
- Oversight of annual contract monitoring of all providers

Front Desk / Reception

- General information to the public and prospective paramedic students and persons obtaining EMT certification (over 2,000 visitors a year)
- · Over \$2 million in revenue collected

Personal Management

202 budgeted position 190 filled

Facilities Management





Information Technology

September 2023

The IT Section provides communications, technical support, software development and geographical information systems support for the EMS Agency.



Section Summary I

The IT Section is responsible for developing and maintaining all application software, phases of electronic map development and map-based software application. Additionally, the section helps support and evaluate vendor-based systems and Web-site development and maintenance. It is also responsible for: Radio Communications (Paramedic Communications, VMed28, ReddiNet, CWIRS, remote radio sites), Telecommunications (telephones, cellular, pagers, WiFi and Broadband), Computer Support, Network Support, HIPAA Compliance and IT Security.

Section Statistics

- Supports 90/90 communications for providers
- Maintains 15 remote mountain top transceivers
- Supports 130 computer users in three locations
- Supports 21 servers
- Supports a Computer Aided Dispatch System
- The conversion of traditional client server applications into web-based applications into web-based applications is quickly becoming the focus of many of the development efforts
- The Software Development Section also manages and maintains all databases throughout the EMS Agency.

- The Patient Transfer Information System (PTIS-Online) is a web-based application that collects data used to facilitate the transfer of patients from private medical facilities into County-operated medical facilities. Transfer Coordinators at the Medical Alert Center (MAC) use an abundance of medical and patient demographic data to assure that patients, that are often indigent, are able to be cared for by a facility and staff that are best equipped to handle their individual needs.
- The STEMI/Stroke applications were developed by EMS-IT staff to capture, manage, and analyze a tremendous amount of data associated with the treatment of a STEMI or stroke patient.

